

**BID DOCUMENT
FOR
CONSTRUCTION OF 80 TWO
ROOM FLATS (EWS) (S+4) FOR
GENERAL HOUSING SCHEME
(COMPOSITE WORK) IN
SECTOR 53, CHANDIGARH**

Date of release /publishing of Tender _____.



Last Date of Submission of tender (on-line): _____ .2023

Website: <http://chandigarh.gov.co.in>

Tel: 0172-2511121

EE-I

EE-VII(PH)

EE-V(Elect)

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CHANDIGARH HOUSING BOARD
TERDER NOTICE

Notice Inviting e-Tenders

Chandigarh Housing Board intends to invite tenders for construction of 372 flats of various categories at Sector 53, Chandigarh as detailed below: -

Sr. No.	Name of work
1.	Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite work) in Sector 53, Chandigarh.
2.	Construction of 96 3BHK Twin Basement & G+5) Group-I for General Housing Scheme in Sector 53, Chandigarh (Composite work).
3.	Construction of 96 3BHK Twin Basement & G+5) Group-II for General Housing Scheme in Sector 53, Chandigarh (Composite work).
4.	Construction of 100 Two Bed Room (MIG) (Basement & S+5) Flats for General Housing Scheme in Sector-53 Chandigarh (Composite work).

Out of above, Executive Engineer-I on behalf of the Chairman, Chandigarh Housing Board, Chandigarh invites sealed Percentage rate bids through e-Procurement process from the enlisted Agencies/Firms/Contractors/Tenderer having valid enlistment certificate issued by any one of the specified departments i.e. **UT Engineering Department/ Municipal Corporation Chandigarh/ CPWD / MES / Punjab PWD/ Haryana PWD & Himachal PWD and other State Government Departments, Board/ Corporations and Public Sector Undertakings** for the work of 'Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.

Estimated Cost:- Rs.18,64,59,376/- (Composite) Earnest Money:- Rs.28.65 Lakh ,
Period of Completion:- 20 Months, Last date of submission of bid is __/__/2023 & date of opening of bid is __/__/2023. **Time and Date of Pre-bid meeting at 11:00 AM on __/__/2023**

For detail Milestone dates of Electronic Tendering are given at the website <http://etenders.chd.nic.in/nicgp>.

Executive Engineer-I
for & on behalf of Chairman
Chandigarh Housing Board,
Chandigarh

Detail Regarding Tendering Process

Name of work	Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector - 53, Chandigarh.	
Estimated composite cost	1. Civil Component	Rs.1419.02 Lakh
	2. PH Component	Rs. 147.55 Lakh
	3. Elect. Component	Rs. 298.02 Lakh
	Total Cost:	Rs. 1864.59 Lakh
Period of completion	20 months	
Name of the Employer	Chandigarh Housing Board	
Address of the Employer	Sector 9 D, Chandigarh	
Mode	E-Tendering	
Website	https://etenders.chd.nic.in/nicgp/app	
Integrity Pact duly filled, signed & stamped	The bidder must upload the copy of Integrity Pact duly filled, signed & stamped in the presence of witness along with other bid documents on the web site.	
Milestone Dates		
Downloading of e-tender document	Start date:	
	End date:	
Clarification regarding plans specifications schedule of quantities & set of terms	Start date:	
	End date:	
Pre-bid meeting to be held on		
Date of submission of e-tender	Start date:	
	End date:	
Opening of technical bid (Online)		
Opening of price bid (Online)	To be intimated separately to all qualified bidders	
Bid validity period		
Earnest Money Deposit	Earnest money Deposit of Rs.28.65 Lakh may be deposited by bank-to-bank transfer using SBI MOPS or RTGS/NEFT transfer through https://etenders.chd.nic.in portal. Bidder can submit their bid only after depositing Earnest	

	<p>money Deposit online. The amount of Earnest money Deposit is refundable and adjustable. The Earnest money Deposit shall be refunded online to the bidder account in case of all unsuccessful e-bids, provided it is not forfeited. The bidder must upload the copy of UTR No/ Transaction slip on the web site.</p>
<p>Proformance Security</p>	<p>The contractor, whose bid is accepted, will be required to furnish performance guarantee at specified percentage of the tendered amount as mentioned in Schedule E and within the period specified in Schedule F: This guarantee shall be in form of Insurance Surety, Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period specified in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.</p>

LIST OF DOCUMENT TO BE UPLOADED BY THE BIDDERS

1.	Fee
	i) EMD
2.	Post Qualification /Technical
	i. Check List
	ii. Integrity Pact Annexure-IV duly filled signed & stamped in the presence of a witness.
	iii. Letter of Transmittal as per attached proforma in Section-II.
	iv. Valid Enlistment certificate.
	v. Form 'A' Financial Information.
	vi. Form 'B' Similar works during the last seven years
	vii. Form 'C' Performance Report of works given in Form 'B'.
	viii. Form 'D' Undertaking on structural stability and soundness of already completed buildings and infrastructure Projects.
	ix. TDS Certificate of works given in Form 'B'.
	x. Income tax returns
	xi. Balance sheets duly audited/verified by the Chartered Accountant & Profit/Loss statement during the last three years ending 31 st March of the previous year duly signed by the CA.
	xii. Affidavit as per Annexure-I regarding no criminal proceedings and confirmation that eligible similar works have not been got executed on back to back basis
	xiii. Certified copy of the power of attorney by the applicant in case of Non Consortium member as per Annexure-II
	xiv. Certificate of Registration under GST.
	xv. Copy of PAN
	xvi. Certificate of registration with EPFO, ESIC (if available).
	xvii. Any other document as specified in the bid document.
3.	Finance
	i. Financial Bid

NOTE: - Hard copies duly self attested of the documents except Financial Bid listed at Sr. No.3 above shall be submitted by the lowest bidder (L-1) to the Executive Engineer-I.

CHECK LIST TO ACCOMPANY THE 'ELIGIBILITY DOCUMENTS'

S. No.	Description	Remarks
1.	Whether the Earnest Money as per the Tender Notice has been deposited?	Yes / No
2.	Whether the Integrity Pact duly filled, signed & stamped in the presence of a witness has been uploaded?	Yes / No
3.	Whether valid Enlistment certificate issued by any one of the specified departments as per Tender Notice has been uploaded?	Yes / No
4.	Whether definite proof from appropriate authority of having completed satisfactorily Similar during the last seven years ending last day of the month previous to the one in which tender are invited has been uploaded?	Yes / No
5.	Whether the Letter of Transmittal as per attached proforma in Section-II has been uploaded?	Yes / No
6.	Whether the Form 'A' Financial information has been uploaded?	Yes / No
7.	Whether the Form 'B' – Details of similar works completed during last 7 years has been uploaded?	Yes / No
8.	Whether the Form 'C' – Performance Report of works referred to in Form-B has been uploaded?	Yes / No
9.	Whether Form 'D' Undertaking on structural stability and soundness of already completed buildings and infrastructure Projects has been uploaded?	Yes / No
10.	Whether the Affidavit as per Annexure-I have been uploaded?	Yes / No
11.	Whether the Power of Attorney as per Annexure-II has been uploaded?	Yes / No
12.	Whether the balance sheets duly audited/verified by the CA and profit/loss statement during the last three years ending 31st March of the previous year duly signed by the CA. has been uploaded?	Yes / No
13.	Whether any additional condition in tender has been quoted?	Yes / No
14.	Whether the Scanned copies of self attested documents related to E.M.D. & other eligibility document has been uploaded along with the Bid?	Yes / No
15.	Whether all the statements, documents, certificates, uploaded owning responsibility for their correctness/ authenticity have been signed?	Yes / No

16.	Whether the Copy of PAN has been uploaded?	Yes / No
17.	Whether the Certificate of registration with EPFO and ESIC has been uploaded?	Yes / No

DECLARATION

1. I/We _____ have carefully gone through all the conditions mentioned in the Bid Document and solemnly declare and affirm that I/we will abide by any penal action of CHB for disqualification or of black listing or determination of contract or any other action as deemed fit, taken by, the Department against me/us, in the event of any of the contents of our this application, the statements, documents, and certificates produced by me/us have been found/declared to be false/fabricated without any liability on CHB.

2. I/We hereby further declare that the Tender has been completed and submitted by us in the manner prescribed in the document and consider myself/ourselves eligible and in possession of all the documents required.

3. I/We hereby also declare that, I/We have not been blacklisted/ debarred/ Suspended/ demoted by any department of Chandigarh Administration or in of any state/Union Territory of the Republic of India for any reasons what so ever.

Date

Signature of the Bidder (s)
(Full name in capitals)
Designation

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**CHANDIGARH HOUSING BOARD
NOTICE INVITING TENDER**

(To be uploaded on website as Press Notice also)

Chandigarh Housing Board intends to invite tenders for construction of 372 flats of various categories at Sector-53, Chandigarh as detailed below:-

Sr. No.	Name of Work
1	'Construction of 80 Nos. Two Room Flats (S+4) for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
2	'Construction of 96 Nos. 3BHK (Twin Basement & G+5), Group-I, for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
3	'Construction of 96 Nos. 3BHK (Twin Basement & G+5), Group-II, for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
4	'Construction of 100 Nos. Two Bed Room (MIG) (Basement & S+5) for General Housing Scheme in Sector-53, Chandigarh. (Composite work).

1. Out of the above, Executive Engineer-I on behalf of the Chairman, Chandigarh Housing Board, Chandigarh invites sealed Percentage rate bids through e-Procurement process from the enlisted Agencies/ Firms/ Contractors/ Tenderer having valid enlistment certificate issued by any one of the specified departments i.e. **UT Engineering Department/ Municipal Corporation Chandigarh/ CPWD / MES / Punjab PWD/ Haryana PWD & Himachal PWD and other State Government Departments, Board/Corporations and Public Sector Undertakings** for the following work:-

Name of work and location.	Estimated cost put to Bid (in Lakh)	Earnest Money (in Lakh)	Period of completion	Last date & time of submission of Bid, copy of receipt of deposition of original EMD & other documents as specified in the NIT	Time & date of opening of Technical Bid.
Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite					

Work) in Sector - 53, handigarh.					
Building Work	Rs.1419.02	Rs. 28.65	20 Months	Refer Detail regarding tendering process of Bid Document on website*.	Refer Detail regarding tendering process of Bid Document on website*.
Civil	Lakh				
PH	Rs.147.55				
Elect	Rs.298.02				
(Including specialized works such as Lifts, SPV, Fire fighting & CCTV etc.)	Lakh				
Total	Rs.1864.59				

*Website for detail of Milestones dates of Electronic Tendering please refer <http://etenders.chd.nic.in/nicgep>

Initial criteria for Eligibility for tender.

1.1. Applicants who fulfill the following requirements shall only be eligible to apply.

- a. Should have valid Enlistment certificate issued by any one of the above specified departments on the last date of submission of the Bids.
- b. Should have satisfactorily completed during the last seven years ending last day of the month previous to the one in which tender is invited.

Three similar works each costing not less than Rs.745.84 Lakh or two similar works each of costing not less than Rs.1118.76 Lakh or one similar work of costing not less than Rs.1491.68 Lakh

'Similar work shall mean 'Composite work of four storey building and above which should include Civil, Public Health and Electrical work all executed under one agreement'.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to the last date of submission of bid.

- c. At the time of submission of bid, contractor uploads Income tax returns and balance sheets duly audited/verified by the Chartered Accountant & Profit/Loss statement during the last three years ending 31st March of the previous year duly signed by the CA.
- d. Firm(s)/Contractors against whom any criminal proceedings are pending in any court of law relating to any project

executed by the firm, shall not be considered for post-qualification.

To become eligible, for e- tendering, the tenderer shall have to furnish an affidavit as per Annexure-I. All the documents shall be duly attested & counter signed by the Bidders.

e. GST registration Certificate, if already obtained by the bidder.

If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking along with other bid documents.

"If work is awarded to me, I/we shall obtain GST registration Certificate as applicable within one month from the date of receipt of award letter or before release of any payment by CHB, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by CHB or GST department in this regard".

For components of Electrical (E&M) works, the eligibility criteria for specialized agencies to be associated by the main contractor after award of work will be as detailed below:

S. No.	Component of Electrical (E &M) Specialized work	Estimated cost	Eligibility(**The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to the last date of submission of tender).
1.	Passenger lift	Rs.81,00,705/-	Should have successfully completed the works as mentioned below during the last seven years ending previous day of last date of submission of bids: Three similar works each **costing not less than Rs.32.04 Lakh 40% of the estimated cost put to tender (minor component of work) Or Two similar works each **costing not less than Rs.48.60 Lakh 60% of the estimated cost put to tender (minor component of work) Or One similar work **costing not less than Rs.64.81 Lakh 80% of the estimated cost put to tender (minor

			component of work)
2.	SPV System	Rs.6,65590/-	Should have successfully completed the works as mentioned below during the last seven years ending previous day of last date of submission of bids: Three similar works each **costing not less than Rs.2.66 Lakh 40% of the estimated cost put to tender (minor component of work) Or Two similar works each **costing not less than Rs.3.99 Lakh 60% of the estimated cost put to tender (minor component of work) Or One similar work **costing not less than Rs.5.32 Lakh 80% of the estimated cost put to tender (minor component of work)
3.	Fire Fighting system and Alarm system	Rs.36,61,594/-	Should have successfully completed the works as mentioned below during the last seven years ending previous day of last date of submission of bids: Three similar works each **costing not less than Rs.14.65 Lakh 40% of the estimated cost put to tender (minor component of work) Or Two similar works each **costing not less than Rs.21.97 Lakh 60% of the estimated cost put to tender (minor component of work) Or One similar work **costing not less than Rs.29.29 Lakh 80% of the estimated cost put to tender (minor component of work)
4.	CCTV Camera	Rs.697122/-	Should have successfully completed the works as mentioned below during the last seven years ending previous day of last date of submission of bids: Three similar works each **costing not less than Rs.2.79 Lakh 40% of the estimated cost put to tender (minor component of work) Or Two similar works each **costing not less than Rs.4.18 Lakh 60% of the

			<p>estimated cost put to tender (minor component of work) Or One similar work **costing not less than Rs.5.58 Lakh 80% of the estimated cost put to tender (minor component of work)</p>
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- i. The main contractor should either himself meet the eligibility criteria as defined in the bid document or he will have to associate with an agency for specialized work and has to submit details of such agencies confirming to the eligibility condition as defined in the bid document in Part C Schedule A,D,E,F along with M.O.U. to Engineer-in-charge of minor component within 60 days from the date of commencement of work. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of minor component within 10 days after submission of complete documents within 10 days of approval by the Engineer-in-Charge of the minor component, the contractor shall enter into a tripartite agreement with the associate agency and the Engineer-in-Charge (minor component) failing which a penalty of Rs. 5000/- per day for each day of delay shall be levied and deducted from the dues of the main contractor.
- ii. In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-Charge of minor component. The new agency/ agencies shall have also to satisfy the laid down eligibility criteria. In case Engineer-in-Charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.
- iii. The main contractor has to enter in to agreement with the contractor(s) associated by him for execution of minor component(s)/ specialized work. Copy of such agreement shall be submitted to EEs in charge of minor component as well as to EEs in charge of. Major component. In case of change of associated contractor, the main contractor has to enter into agreement with the new contractor associated by him.
- iv. Verifiable completion certificates of the work of registration/ approval documents as the case may be, duly attested by the applicant shall be submitted. Valid Electrical Contractor's license, as the case may be, duly attested by the applicant shall also be submitted.

- v. Self attested **GST REGISTRATION** documents as applicable in respect of the associated agencies shall be submitted.
2. Agreement shall be drawn with the successful Tenderer on the prescribed Format of CPWD Form 7, which is available for sale in the market. Tenderers shall quote their rates as per various terms and conditions of the said form which will form part of the agreement. However the definitions contained therein with regard to CPWD Department and other designated authorities may be read as under:-

As per General Conditions of Contract for Central P.W.D Works	To be read as
CPWD	CHB
President of India	Chairman, CHB
Govt. of India	Chandigarh Housing Board
Director General	Chairman, CHB
Additional Director General	Chief Executive Officer, CHB
Department	Chandigarh Housing Board

3. In this document the following words and expressions have the meaning hereby assigned to them:

EMPLOYER means the Chairman, Chandigarh Housing Board, acting through the Executive Engineer.

BIDDER/TENDERER/FIRM/ AGENCY/CONTRACTOR/APPLICANT means the individual, proprietary firm, firm in partnership, limited company private or public or corporation or Joint Venture Company.

"Year" means "Financial Year" unless stated otherwise.

CHB/ Board means "Chandigarh Housing Board"

4. The time allowed for carrying out the work will be 20 Months from the date of start as defined in Schedule 'F' of Financial Bid in Part-III of this document or from the first day of handing over of the site, whichever is later in accordance with the phasing, if any, indicated in the Tender Document. In case of non-handing over of any part of site, the extension in time limit for the proportional delay shall be allowed as per the agreement.
5. (i) The Site for the work is available.
(ii) The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.
6. Bid document consisting of plans, specifications, the schedule of quantities of the various classes of work to be done and the set of terms and conditions of the contract to be complied with by the Contractor whose bid may be accepted and other necessary documents, can be seen in the office of the Executive Engineer-I between

11.00 AM. & 3.00 PM from _____ 2023 to _____ 2023 everyday except on Saturdays, Sundays and Public Holidays.

7. Downloading and submission of Tender including Financial Bid will be done by e-Procurement process through the Chandigarh Administration web site: <http://etenders.chd.nic.in/nicgep>.

The agency shall upload Scanned copy of documents (duly attested and counter signed by agency) related to "Earnest Money Deposit" and 'Eligibility Documents'. After submission of the bid the contractor can re-submit revised bid any number of times but before stipulated time and date of submission of bid as notified.

8. Notice Inviting Tender excluding 'General Condition of Contract for Central PWD Works' with latest amendments (available in market for sale & available on official website of CPWD <http://cpwd.gov.in>) for execution of this work, can be downloaded from Chandigarh Administration web site <http://chandigarh.gov.in>. Bid document shall not be available on Chandigarh Administration website after the stipulated date & time for downloading.
9. Earnest money amount will have to be deposited as mentioned in Detail Regarding Tendering Process in shape as prescribed.
10. The bid submitted shall become invalid if:
- The bidder is found ineligible.
 - The bidder does not upload scanned copies of all the documents stipulated in the bid document.
 - Any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
 - A tenderer does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
11. Pre-Bid Conference shall be held on the date mentioned in Detail Regarding Tendering Process in the CHB Board Room in Block-'B', CHB Office Building Complex at 8 Jan Marg, Sector 9, Chandigarh.
12. The department reserves the right to reject any or all the prospective applications without assigning any reason and/or to restrict the list of qualified contractors to any number as deemed suitable by it, if too many bids satisfying the laid down criteria have been received.
13. The bidder, whose tender has been accepted, will be required to furnish 'Performance Guarantee' as mentioned in Detail Regarding Tendering Process.
14. The description of the work is as follows:

Construction of 80 Nos. Two Room Flats (EWS) (S+4) [Composite work].
with Civil, PH, Elect. (E & M) including specialized works such as Lifts,

SPV, Fire fighting & CCTV etc. component including boundary wall at GHS Sector 53 Chandigarh.

Copies of other drawings and documents pertaining to the works will be open for inspection by the Tenderers at the office of the concerned EE of CHB. Tenderers are also advised to carefully 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. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not. CHB will not accept any liability arising later on consequent to any misunderstanding or otherwise on the part of the tenderer. The tenderer shall be responsible for arranging and maintaining, at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for execution of the work unless otherwise specifically provided for in the contract document. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. if any are issued to him by the CHB and local conditions and other factors having a bearing on the execution of the work.

15. The competent authority on behalf of the Chairman, CHB does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without assigning any reason. **All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer, the same shall be summarily rejected.**
16. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
17. The competent authority on behalf of the Chairman, Chandigarh Housing Board reserves with himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
18. The contractor shall not be permitted to tender for works in the CHB. (responsible for award and execution of contracts) in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Chandigarh Housing Board. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
19. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Chairman, CHB in writing. This contract is liable to be cancelled if either the contractor or any of his employees is

- found any time to be such a person who had not obtained the permission of the Chairman, CHB as aforesaid before submission of the bid or engagement in the contractor's service.
20. The tenders for the work shall remain open for acceptance for a period of 75 days from the last date of opening of bids.
- i. If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date of submission of bids, then the CHB shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
 - ii. If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date of submission of bids, then the CHB shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
 - iii. In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work.
21. This '**Bid Document**' shall form a part of the contract document. The successful tenderer/Bidder/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:
- a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as up loaded at the time of invitation of tender and the rates quoted on line at the time of submission of the Bid and acceptance thereof together with any correspondence leading there to.
 - b) General condition of contract for Central PWD works 2020, tender form of CPWD 7, as amended from time to time issued up to the last date of receipt of tender or other Standard C.P.W.D. Form as applicable.
22. **For Composite Tenders:**
- a) The Executive Engineer- in- charge of the major component of the work will call tenders for the composite work. The cost of tender document and Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite tender.
 - b) The tender document includes following three components:
Part A:- CPWD form-6, CPWD form-7 including schedule A to F for major component of the work, standard General Conditions of Contract for CPWD 2020 or latest addition as applicable with all amendments/ modifications up to last date of submission of Bid.

Part B: - General/ specific conditions for major & minor component, specifications and schedule of quantities applicable to major component of the work.

Part C:- Schedule A to F for minor component of the work, (SE/EE in charge of major component shall also be competent authority under clause 2 and clause 5 as mentioned in schedule A to F for major components) General/ specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

The bidders must associate himself, with agencies as per NIT conditions.

- c) The eligible tenderers for major component will quote rates for various items of minor components of work also. It will be obligatory on the part of the tenderer to sign the tender document for all the components (The schedule of quantities, conditions and special conditions etc.).
- d) After acceptance of the bid by competent authority, the EE in charge of major component of the work shall issue letter of award on behalf of the Chairman CHB. After the work is awarded, the main contractor will have to enter into one agreement with EE incharge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH incharge of minor components. One such signed set of agreement shall be handed over to EE/DDH incharge of minor component(s).
- EE of major component will operate Part A and Part B of the agreement. EE/DDH incharge of minor component(s) shall operate Part- C alongwith Part A of the agreement.
- e) The work in General shall be carried out as per CPWD Specifications and other systems and procedures being followed in CPWD with respect to the provisions contained in DSR and CPWD Works Manuals etc.
- f) Entire work under the scope of composite tender including major and all minor components shall be executed under one agreement.
- g) Security deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works. It is further clarified that during the payments of running bills to the agency, respective Divisions of major component & minor component would deduct the stipulated security from the running bills for their component of work done and would maintain books of account in their divisions for management of security deposit as per the condition laid down in the Bid Document till final bill.
- h) Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the EE-in-charge of the discipline of minor components

- directly to the main contractor. The record shall be maintained independently by Engineer-in Charge of major and minor components.
- i) The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-Charge of major component after record of completion certificate of all other components.
 - j) Final bill of whole work shall be finalized and paid by the EE of major component.
 - k) Engineer(s) in charge of the minor components will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.
23. The intending bidders are required to update their profile in Chandigarh Administration e- tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile/uploading tender can be resolved through the concerned Executive Engineer/ Assistant Engineer (Phone no *0172-2511121(EE-I),126(EE-PH),125(EE-Elect),201 (Supdt-I),206(Supdt-PH),205(Supdt-Elect), 213(HDM-I), 219(HDM-PH) 217 (HDM-Elect) e- mail Id info@chbonline. or NIC helpline no. 0120-4711508, 0120-4001002 for technical issue. The e-tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.
 24. In case any discrepancy is noticed between the documents as uploaded at the time of submission of the bid online and hard copies as submitted physically in the office of Executive Engineer, then the bid submitted shall become invalid and the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said Earnest Money as aforesaid. Further the tenderer shall not be allowed to participate in the re-tendering process of the work.
 25. Any incorrectness/ deviation if noticed in the documents submitted by the agency, the same shall be viewed seriously and apart from cancellation of the work/tender, forfeiture of EMD, Criminal action will be initiated including suspension of business.
 26. The tenderer is liable to be blacklisted as per policy of Chandigarh Administration 2009 and the EMD will be forfeited if he has been found to have misled or has furnished false information in the forms / statements / certificates/online information submitted by him as proof in support of qualification requirements or record of performance such as abandoning of work not properly completed in earlier contracts, inordinate delays in completion of the works etc. etc. Further, if this contract has been awarded, the same shall be rescinded including forfeiture of EMD and Performance Guarantee.
 27. Any contractor offering lower rates after the opening of tenders shall be liable to be black-listed.
 28. All disputes concerning in any way with this work are subject to Chandigarh jurisdiction only.
 29. Before the last date for submission of Tenders, the Tender Inviting Officer may modify any of the Contents of the Tender Notice, Tender documents by issuing amendment/ Addendum.

30. Any addendum/ amendments issued by the Tender Inviting Officer shall be part of the Tender Document.
31. To give prospective Tenderer reasonable time to take an addendum into account in preparing their bids, the Tender Inviting Officer may extend if necessary, the last date for submission of tenders.
32. The Executive Engineer will evaluate whether each Tenderer is satisfying the eligibility criteria prescribed in the tender document and declares them as a qualified Tenderer and selected for next stage of opening of Price Bid.
33. If the technical bid of a Bidder is not satisfying any of the eligibility criteria it will be rejected by the Executive Engineer.
34. If any alteration is made by the Bidder in the Bid documents, the conditions of the contract, the drawings, specifications or statements/ formats or quantities the tender will be rejected.
35. Bidder shall be scrutinized in accordance with the conditions stipulated in the Tender document. In case of any discrepancy of non-adherence Conditions the Tender accepting authority shall communicate the same which will be binding both on the tender Opening authority and the tenderer. In case of any ambiguity, the decision taken by the Tender Accepting Authority on tenders shall be final.
36. The Executive Engineer will evaluate and compare the price bids of all the qualified Tenderer.
37. The Bidder is advised to attach any additional information, which he thinks to be necessary in regard to his capabilities. No further information will be entertained after submission of application unless it is called for by the Board. The Board reserves the right to call for additional information & clarification of information submitted by the Tenderer.
38. The cost incurred by the Bidder in preparing this application, in providing clarifications or attending discussions/ conferences in connection with this document shall be borne by the Tenderer and the Board in no case will be responsible or liable for these costs, regardless of the conduct or out come of the process.
39. During execution of the work, if found that the contractor had produced false/ fake certificates of experience he will be black listed and the contract will be terminated
40. The department reserves the right to reject any prospective application without assigning any reason.

Executive Engineer-I,
Chandigarh Housing Board
Chandigarh.

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PART-II

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PART-II

DOCUMENT RELATED TO ELIGIBILITY CRITERIA AND OTHER RELATED DOCUMENTS



LETTER OF TRANSMITTAL

From:
(agency name & address)

To

Executive Engineer-I,
Chandigarh Housing Board,
Chandigarh.

Sub: Submission of Bid for the work of Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.

Sir/Madam

Having examined the details given in the bid document for the above work, I/we hereby submit the relevant information.

1. I/ we hereby certify that all the statements made and information supplied in the enclosed Forms A to D and accompanying statement are true and correct.
2. I/ we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I / We submit the Following certificates in support of our suitability, technical know how and capability for having successfully completed the following eligible similar works:-

Sr. No.	Name of work/Project and location	Certificate from
1		
2		
3		

Certificate:-

It is certified that the information given in the enclosed eligibility bids are correct. It is also certified that I/we shall be liable to be debarred, disqualified/ cancellation of enlistment in case of any information furnished by me /us found to be incorrect.

Enclosures:

Seal of bidder

Date of submission

SIGNATURE(S) OF BIDDER(S)

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FORM 'A'

FINANCIAL INFORMATION

- I. Financial Analysis - Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last five financial years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

	YEARS				
	2018-19	2019-20	2020-21	2021-22	2022-23
i) Gross Annual Turn Over on construction works.					
ii) Profit/ Loss (standalone financial statement and consolidated financial statement both).					
Financial arrangements for carrying out the proposed work.					

Signature of Chartered Accountant with Seal

SIGNATURE OF BIDDERS (S)

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FORM 'B'

Details of Eligible Similar nature of works completed during the last seven years ending previous day of last date of submission of bid.

S. No.	Name of work/ project and location	Owner or sponsoring organisation	Cost of work in crores of rupees	Date of commencement per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration cases pending / in progress with details*	Name and address/ telephone number of officer to whom reference may be made
1	2	3	4	5	6	7	8.	9

*Indicate gross amount claimed and amount awarded by the Arbitrator. For details attached separate sheet.

SIGNATURE OF BIDDER(S)

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FORM 'C'

PERFORMANCE REPORT OF WORKS REFERRED TO IN FORM "B"

1.	Name of work/Project & Location		
2.	Owner or sponsoring organization		
3.	Agreement No.		
4.	Estimated Cost		
5.	Tendered Cost		
	i. Allotted Amount		
	ii. Actual completed cost		
6.	Date of Start		
7.	Date of completion		
(i)	Stipulated date of completion		
(ii)	Actual date of completion.		
8.	a) Whether case of levy of compensation for delayed has been decided or not.		
	b) if decided, amount of compensation levied for delayed completion if any.		
	c) Litigation/arbitration cases Pending/in progress with details		
9.	Whether the work was done on back to back basis (yes / no)		
10.	Performance Report		
	1)	Quality of Work	Outstanding/Very Good/ Good / Poor
	2)	Financial soundness	Outstanding/Very Good/ Good / Poor
	3)	Technical Proficiency	Outstanding/Very Good/ Good / Poor
	4)	Resourcefulness	Outstanding/Very Good/ Good / Poor
	5)	General behavior	Outstanding/Very Good/ Good / Poor

Certified that M/s has completed the above work with as per details mentioned above.

Dated:

Executive Engineer or Equivalent

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FORM 'D'

Undertaking on structural stability and soundness of already completed buildings and infrastructure Drojects.

I/we undertake and confirm that any building / infrastructure constructed by our firm /partnership firm/ company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason during the last 25 (trrventy five) years.

I/we, further, undertake that if such information comes to the notice of CHB, then Engineer-in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.

I/we, also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CHB.

The decision of Engineer-in-Charge or any higher authority shall be final and binding.

Signature of notary with seal

Signature of bidder or an authorized person of the firm with stamp

Note: Affidavit to be furnished on a 'Non-judicial' stamp paper of Rs. 200/- (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid).

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ANNEXURE-I

SPECIMEN PROFORMA FOR THE AFFIDAVIT TO BE SUBMITTED BY THE APPLICANT ALONGWITH OTHER DOCUMENTS.

(On Judicial Stamp paper duly attested by 1st class Magistrate or Notary Public)

I, _____ S/o Sh. _____ authorized representative of _____ with its office at _____ solemnly affirm and declare as under on behalf of the firm:-

- 1) I/We in the name and style of _____ had applied for the work **Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.**
- 2) The undersigned hereby certify that there is no criminal proceedings pending/ ongoing in any court of law regarding any construction project executed by me/us.
- 3) The undersigned hereby certify that all the documents and information submitted with the tender/Bid are 'True' & I/We stands fully responsible as per law for their genuineness and correctness.
- 4) I/we undertake and confirm that the eligible similar works has/have not been got executed through another contractor on back to back basis. Further that if such a violation comes to the notice of the department then I/we shall be debarred for tendering in CHB in future forever. Also if, such a violation comes to the notice of the department before the date of start of work then the CHB shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee deposited.

Place: _____
Dated: _____

Authorized Signatory of
firm/Deponent

VERIFICATION:

I the above named signatory/deponent do hereby solemnly affirm & declare that the contents of this affidavit are true to the best of my knowledge & nothing has been concealed therein.

Place: _____
Dated: _____

Authorized Signatory of
firm/Deponent

ANNEXURE-II

FORMAT FOR POWER OF ATTORNEY- by all individual Applicants

(on judicial Stamp paper duly attested by First Class Magistrate/Notary)

Dated: _____

To whomsoever it may Concern

Know all men by these presents, we _____ (name and registered office address of the Applicant) do hereby constitute, appoint and authorize Mr. _____ (Name of the Person(s)), domiciled at _____ (Address), acting as _____ (Designation and the name of the firm), as Authorized Signatory and whose signature is attested below, as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our request for prequalification work of _____, including signing and submission of all documents and providing information and responses to clarifications/enquiries etc. as may be required by CHB and signing of agreement if awarded the said work.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

For _____

(Signature)

(Name, Title and Address)

Accept

(Attested signature of Mr. _____)

(Name, Title and Address of the Attorney) _____

Notes:

- To be executed by the Applicant
- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a resolution / power of attorney in favor of the Person executing this Power of Attorney for the delegation of power hereunder on behalf of the executant(s)

ANNEXURE-III

On non-judicial stamp paper of minimum Rs.100/-

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)

Form of Bank Guarantee for Performance Guarantee/Security Deposit/Mobilization Advance

1. Whereas the Executive Engineer-II, on behalf of the Chairman, CHB (hereinafter called "The Government") has invited bids under _____ (NIT number) _____ dated for **Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.**

OR**

Whereas the Executive Engineer _____ (name of division) CHB, Chandigarh on behalf of the Chairman, CHB (hereinafter called "The Government") has entered into an agreement bearing number with _____ (name and address of the contractor) _____ (hereinafter called "the Contractor") for execution of work _____ (name of work) _____. The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. _____/- (Rupees _____ only) valid up to _____ (date)* _____ as **Performance Guarantee/Security Deposit/Mobilization Advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, _____ (indicate the name of the bank) _____ (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs. _____/- (Rupees _____ only) on demand by the Government within 10 days of the demand.
3. We, _____ (indicate the name of the Bank) _____ do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____/- (Rupees _____ only).
4. We, _____ (indicate the name of the Bank) _____, further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.
5. We, _____ (indicate the name of the Bank) _____ further agree that the Government shall have the fullest liberty without our consent and without affecting in

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any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. We, _____ (indicate the name of the Bank) _____ further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8. We, _____ (indicate the name of the Bank) _____, undertake not to revoke this guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid up to _____, unless extended on demand by the Government. Notwithstanding anything mentioned above. Our liability against this guarantee is restricted to Rs. _____/- (Rupees _____ only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date _____

Witnesses:

- | | | |
|----|-------------------------------------|--|
| 1. | Signature _____
Name and address | Authorized signatory
Name
Designation
Staff code no.
Bank seal |
| 2. | Signature _____
Name and address | |

*Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.

** In paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee/Security deposit/mobilization advance, as the case may be.

ANNEXURE-IV

To be signed by the bidder and same signatory competent/ authorised to sign the relevant contract on behalf of CHB.

INTEGRITY PACT

(Integrity Pact is applicable for all works of estimated cost put to the tender equal to or more than the threshold value given in Schedule-F)

This Integrity Agreement is made at..... on this day of..... 20.....

BETWEEN

Chairman, Chandigarh Housing Board represented by the Engineer-in-Charge (hereinafter referred to as the Principal, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assignees)

AND

(Name and address of the bidder)

(Hereinafter referred to as the Bidder/Contractor and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assignees)

Preamble

WHEREAS the Principal has floated the tender (NIT No.) (hereinafter referred to as Tender) and intends to award, under laid down organizational procedure, contract for **Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh** hereinafter referred to as the "Contract".

AND WHEREAS the Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as Integrity Pact), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this integrity Pact witnesses as under:

Articles

Article 1: Commitment of the Principal

- 1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal will, in particular, before and during the Tender process, provide to a Bidder(s) the same information and we not provide to any Bidder(s) confidential/ additional information through which the

Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

- (c) The Principal shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/ Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
2. The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - (a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - (b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - (c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - (d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

- (e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice, willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.
 5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use coercive practices (which shall include the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property) to influence their participation in the tendering process.

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal under law or the contract or its established policies and laid down procedures, the Principal shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal absolute right:

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal. Such exclusion may be forever or for a limited period as decided by the Principal.
2. Forfeiture of Earnest Money Deposit Performance Guarantee/Security Deposit: If the Principal has disqualified the Bidder(s) from the Tender process prior to the award of the contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal apart from exercising any legal rights that may have accrued to the Principal, may in its considered opinion forfeit the entire amount of Earnest Money Deposit Performance Guarantee and Security Deposit of the Bidder/Contractor.
3. Criminal Liability: If the Principal obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of PC Act, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last 3 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal.
3. If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement by any of its Subcontractors/sub-vendors.
2. The Principal will enter into pacts on identical terms as this one with all Bidders and Contractors.

Article 6- Duration of the Pact

This Integrity Pact begins when both the parties have legally signed it. It expires for the Contractor 12 months after the completion of work under the contract or expiry of defect liability period or last payment made under the contract, whichever is later and for all other bidders, 6 months after the Contract has been awarded.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this Integrity Pact as specified above, unless it is discharged/determined by the ADG/SDG, CPWD concerned.

Article 7- Other Provisions

1. This Integrity Pact is subject to Indian Law, place of performance and jurisdiction is the Head quarters of the Division of the Principal, who has floated the tender.
2. Changes and supplements as well as termination notice need to be made in writing.
3. If the Contractor is a partnership or a consortium, this Integrity Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Integrity Pact must be signed by a representative duly authorized by board resolution.
4. Should one of several provisions of this Integrity Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Pact, any action taken by the Principal in accordance with this Integrity Pact or interpretation thereof shall not be subject to arbitration.
6. In view of the nature of integrity pact, the Integrity Pact is irrevocable and shall remain valid even if the main tender/contract is terminated till the currency of the integrity pact.

Article 8- Legal and Prior Rights

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All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contract documents with regard to any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

(For and on behalf of Principal)

(For and on behalf of Bidder/Contractor)

WITNESSES:

1 *R. Latha*
(Signature, name and address)

2
(Signature, name and address)

Place:

Dated :

Note: To be signed by the Bidder and the Engineer-in-Charge

[Handwritten signature]

*Rajam Satya
Sudhakar CB*

R. Latha

M
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FORMAT OF INDEMNITY BOND.

(To be furnished in Stamp paper as per Stamp Act)

(At presents not less than Rs.80/-Stamp paper)

This deed of indemnity executed by hereinafter referred to as Indemnifier which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, representative and assignees in favour of Chandigarh Housing Board, hereinafter to as the indemnified which expression shall unless repugnant to the context of meaning thereof, include its successors and assignees witness us to.

Whereas the indemnified herein has awarded to the Indemnifier therein a contract for the 'Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.' terms and conditions set out inter alia in contract/Award No. _____ valued at Rs. _____ only)

And whereas the above mentioned contract provides for ' _____ ' as per terms & conditions of the contract.

The indemnifier hereby irrevocably agrees to indemnify the indemnified that he shall be liable for and shall also indemnify the CHB and its employees against all liabilities, losses, claims, demands, proceeding, damages, costs, charges and expenses and further agrees to defend, indemnify and hold the Board and its employees harmless from any penalty whatsoever in respect of any injury or damage to any property of to personals during the execution of work or by the action of any central or state of local authority for violation by the contractor or sub-contractor engaged on the work in respect of his contractual obligations emanated from the contract already referred to the extent of Rs. _____/- Rupees _____ only)

This indemnity shall be in force up to the date of the item from our end.

Name

Designation

WITNESS:

1.

2.

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PART-III

FINANCIAL BID

**Special Conditions and other
related documents for submission of
Financial Bid**



INSTRUCTIONS FOR CONTRACTORS

1. Tender to be witnessed at page No. 44 of Tender Documents.
2. The tender/ tenders containing conditions contrary to those specified in this document shall be summarily rejected.
3. In Schedule - 'A' appended to the Tender Documents, the %age rate must be filled both in words and figures. Accordingly, the overall quoted amount of the tender should be worked out.
4. The contractor(s) shall quote the rates keeping in mind, 'General Conditions of Contract of CPWD Works-2020' as amended from time to time, special contract conditions and particular specifications enshrined under the Bid Document etc.
5. It may be noted that in the present Contract Clause 10 cc is applicable.
6. Criteria for engagement of specialized agencies including Electrical agencies have been laid at page No. 14 which may be noted.

PART- A

CPWD FORM- 7 including Schedule A to F
For
Major Component of the work

Standard General Conditions of
Contract for CPWD 2020 or latest
addition as applicable with all
amendments/ modifications

**Available in
market for
sale/ CPWD
website.**

C.H.B.-C.P.W.D - 7

CHANDIGARH HOUSING BOARD

STATE	U.T., Chandigarh	CIRCLE	I
BRANCH	Civil	DIVISION	I, CHB
ZONE	Chandigarh	SUB DIVISION

PERCENTAGE/ ITEM RATE TENDER & CONTRACTS FOR WORKS

A Tender for the work of Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.

To be opened in presence of tenderers who may be present at _____ Hours on ___/___/ 2023 in the office of Executive Engineer-I, Chandigarh Housing Board, Chandigarh.

Downloaded by _____ (contractor)

COMPOSITE TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F. Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Chairman, CHB within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for Seventy five (75) days from the last day of receipt of bids and not to make any modifications in its terms and conditions.

A sum of **Rs. 28.65 Lakh** has been deposited by bank-to-bank transfer using SBI MOPS or RTGS/ NEFT transfer through <https://etenders.chd.nic.in> portal. A copy of UTR No/ Transaction slip is scanned & uploaded.. If I/we, fail to furnish the prescribed performance guarantee within prescribed period, I/we agree that the said Chairman, CHB or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money absolutely. Further, if I/we fail to commence work as specified, I/we agree that Chairman, CHB or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said Performance Guarantee absolutely, otherwise the said Performance Guarantee shall be a Guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2, 12.3 and 12.5 of the tender form.

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Further, I/We agree that in case of forfeiture of Earnest Money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/we undertake and confirm that the eligible similar works has/have not been got executed through another contractor on back to back basis. Further that if such a violation comes to the notice of the department then I/we shall be debarred for tendering in CHB in future forever. Also if, such a violation comes to the notice of the department before the date of start of work then the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money/ Performance Guarantee.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information derived there from to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Signature of the contractor

Postal Address

Dated _____

Witness: _____

Address: _____

Occupation: _____

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Chairman, Chandigarh Housing Board, for a sum of Rs. _____ (Rs. _____)

The letters referred to below shall form part of this contract Agreement--

- a)
- b)
- c)

For & on behalf of the Chairman,
Chandigarh Housing Board
Chandigarh.

Signature

Dated

Designation

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PROFORMA OF SCHEDULES

SCHEDULE "A"

Major Component i.e. Civil Work (Building Work)

Schedule of Quantities for Civil Work (Enclosed) which starts at page 54

SCHEDULE "D"

Extra schedule for specific requirements/ documents for the work if any:-	Nil
---	-----

SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

i)	Name of Work	Construction of 80 Two room Flats (EWS) (S+5), for General Housing Scheme in Sector 53 Chandigarh (Composite Work)
ii)	Estimated cost of Work	Rs.1419.02 Lakh.
iii)	Earnest Money	As mentioned in Detail regarding Tendering Process.
iv)	Performance Guarantee	5% of the tendered value
v)	Security Deposit	2.5% of tendered value

SCHEDULE "F"

Reference to General Conditions of Contract	GCC 2020 with latest amendments issued up to the last date of submission of bid.
---	--

GENERAL RULES AND DIRECTIONS

Officers inviting tender :-	Executive Engineer-1, Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3 & 12.5	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-I, Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.

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2(x) Percentage on cost of materials and labour to cover all overheads and profit	7.5% CP & 7.5 % OH.
2(xi) Standard Schedule of Rates	Delhi Schedule of Rates (DSR) 2021 with correction slips issued up to the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD Specifications and as specified in Tender Document.
9(ii) Standard CPWD Contract form	CPWD form 7 as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee , programme chart (Time and progress) and applicable labour licenses , registration with EPFO, ESIC and BOCW welfare board or proof of applying there of from the date of issue of letter of acceptance	7 Days
ii) Maximum allowable extension beyond the period provided in 'i.' above Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	15 days
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, CHB in Charge of Major Component
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at Page No:104	15 days
Time allowed for execution of work	20 Months
Authority to decide:	
(i) Extension of time	Superintending Engineer in Charge of Major Component
(ii) Rescheduling of mile stones	Superintending Engineer in Charge

	of Major Component
(iii) Shifting of date of start in case of delay in handing over of site	Superintending Engineer in Charge of Major Component
PROFORMA OF SCHEDULES Clause 5	
Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.
Complete Site	15 Days
Clause 7	
Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.	Rs.50.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)
Clause 7A	
Whether Clause 7A shall be applicable.	Yes, Applicable
Clause 8A	
Authority to decide compensation on account, if Contractor fails to submit completion plans.	Executive Engineer in Charge of Major Component.
Clause 10 A	
List of testing equipments to be provided by the contractor at site lab.	
Equipments for Testing of Materials & Concrete at Site Laboratory	
All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipments shall be set up at site office laboratory:-	
Sl. No.	Equipment
	Numbers (Minimum)
As per (Table-I) attached at page No 52	
Clause 10 B (ii)	
Whether Clause 10 B (ii) shall be Applicable	Yes
Clause 10 C	
Component of labour expressed as percent of value of work	Not applicable,
Clause 10 CC	
Clause 10 CC	Yes, applicable

S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1	Cement component	5.10%
2	Labour component	25%
3	Civil component of other construction material	58.10%
4	E&M (Electrical) component	NIL
5	POL (Diesel) component	NIL
6	Reinforcement Steel Bar/ TMT Bars/ Structural Steel (Including strands and cables) componet	11.80%
7	Bitumen component	NIL
	Total	100%
Clause 11		
Specification to be followed for execution of work.		CPWD Specifications with correction slips upto date.
Clause 12		
Authority to decide deviation upto 1.5 times of tendered amount.		Tender Approving authority.
The deviation limit for construction work		100% for all the items
Clause 16		
Competent authority for deciding reduced rates.		Superintending Engineer, CHB in Charge of Major Component
Clause 18		
List of mandatory machinery, Tools & Plants to be deployed by the contractor at site		Major Component i.e. Building Work
		1. Pumps
		2. Computerized Batch Mix Plant of minimum capacity of 6 Cum per hour.
		3. Chase Making Machines
		4. Compactor
		5. Tippers
		6. Mixer with Hopper / loader
		7. Power crane
		8. Grinding & polishing machine

	9. Welding Generator
	10. Excavator
	11. Concrete Vibrator
	12. Steel shuttering & Scaffolding
	13. Concrete pump
	14. Transit Mixer

Note: The above listed T&P can be modified as per site requirement and direction of Engineer-in-Charge.

Clause 19	
Clause 19 C	Rs.1000/- penalty for each default.
Clause 19 D	Rs.1000/- penalty for each default.
Clause 19 G	Rs.1000/- penalty for each default.
Clause 19 K	Rs.1000/- penalty for each default.
Clause 25	
Settlement of Dispute by Conciliation and Arbitration :	CEO, CHB (Conciliator)
Clause 32	

Requirement of technical representative(s) and recovery rates

Sr No.	Requirement of Technical Staff		Minimum experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
	Qualification	Number (of Major + Minor Component)			
	Graduate Engineer	1	10 (and having experience of one similar nature of work)	Project Manager	Rs.30,000/- per month
	Graduate Engineer	1	5 or 10 (and having experience of one similar nature of work)	Project/site Engineer	Rs.25,000/- per month per person
	Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project/Planning /Quality/Billing Engineer	Rs.15,000/- per month per person.

Graduate Engineer or Diploma Engineer	1+1	6	Project Planning/quality /billing Engineer	Rs.15,000/- per month per person
---------------------------------------	-----	---	--	----------------------------------

Note: Technical staff for minor component/specified work will be employed by the agency at the time of execution of minor component/specified work

Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 34(i)

Extent of GST payable by Contractor for Building Construction works.	GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/ extended date of submission of tender will be adjusted accordingly
--	---

Clause 38

i)	a) Schedule/statement for determining theoretical quantities of cement on the basis of Delhi Schedule of Rates 2021 printed by CPWD.	
ii)	Variation permissible on theoretical quantities	
a)	Cement	2% plus/minus
b)	Bitumen for all works	2.5% plus only & nil on minus side.
c)	Steel reinforcement and structural steel sections for each diameter, section and category.	2% plus/minus
d)	All other Materials	Nil

TABLE-I

LIST OF EQUIPMENT FOR FIELD TESTING LABORATORY

1. Balances
 - (i) 7 kg. to 10 kg. capacity, semi-self indicating type - accuracy 10 gm.
 - (ii) 500 gm. capacity, semi-self indicating type - accuracy 1 gm.
 - (iii) Pan balance- 5 kg. capacity - accuracy 10 gms.
2. Ovens-electrically operated, thermostatically controlled upto 110°C - sensitivity 1°C.
3. Sieves: as per IS 460-1962.
 - (i) I.S. sieves - 450mm internal dia, of sizes 100 mm, 80 mm, 63mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75mm, complete with lid and pan.
 - (ii) I.S. sieves- 200mm internal dia (brass frame) consisting of 2.36mm, 1.18mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns, with lid and pan.
4. Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.
5. Equipment for slump test- Slump cone, steel plate, tamping rod, steel scale, scoop.
6. Dial gauges, 25 mm travel - 0.01 mm/division least count - 2nos.
7. 100 tonnes compression testing machine, electrical-cum manually operated.
8. Graduated measuring cylinders 200 ml capacity - 3 Nos.
9. Enamel trays (for efflorescence test for bricks).
 - (i) 300 mm × 250 mm × 40 mm - 2 nos.
 - (ii) Circular plates of 250 mm dia - 4 nos.
10. Cube Moulds 150mmx150mmx150mm=18 Nos. Minimum


ABSTRACT OF COST

Name of Work: - Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh.

Major Component

Sub Head	Description	Sub Head Total
Building Work		
A	Carriage of material	Rs.3,76,757/-
B	Earth Work	Rs.36,70,927/-
C	Concrete Work	Rs.1,59,67,149/-
D	Reinforced Cement Concrete Work	Rs.6,31,93,970/-
E	Masonry Work	Rs.44,01,005/-
F	Cladding work	Rs.52,88,892/-
G	Wood and PVC Work	Rs.11,190,818/-
H	Steel Work	Rs.35,86,975/-
I	Flooring	Rs.69,64,147/-
J	Sanitary Installation	Rs.6,12,284/-
K	Finishing	Rs.91,63,944/-
L	Road work	Rs.8,78,412/-
M	Alumnium work	Rs.7,76,150/-
N	Water Proofing	Rs.25,56,141/-
	Total	Rs.12,86,27,571/-
Boundary wall		
A	Earth Work	Rs.7,30,966/-
B	Concrete Work	Rs.25,93,063/-
C	Reinforced Cement Concrete Work	Rs.14,65,855/-
D	Masonry Work	Rs.55,03,524/-
E	Cladding work	Rs.12,037/-/-
F	Wood and PVC Work	Rs.39,518/-
G	Steel Work	Rs.1,33,071/-

H	Flooring	Rs.13,44,613/-
I	Finishing	Rs.13,76,128/-
J	Water Proofing	Rs.75,520/-
	Total	Rs.1,32,74,295/-


Executive Engineer-I,
Chandigarh Housing Board,
Chandigarh.

SCHEDULE OF QUANTITIES FOR THE WORK CONSTRUCTION OF 80 TWO ROOM FLATS (EWS) (S+4) FOR GENERAL HOUSING SCHEME (COMPOSITE WORK) IN SECTOR -53, CHANDIGARH.

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
Sub Head-A 1	CARRIAGE OF MATERIAL					
1	Carriage of Materials by mechanical transport including loading, unloading and stacking :					
	Earth	1318.44	Cum	285.76	376757	
	Total of Sub Head A					376757
Sub Head B 2 to 5	EARTH WORK					
2	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.					
	All kinds of soil	2197.40	Cum	157.66	346442	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
3	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and <i>for deep lift.</i>	878.96 Cum	Cum	170.92	150232	
4	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete (for all lifts).	1307.04 Cum	Cum	2286.31	2988299	
5	Supplying and filling sand in depressed portion in all upper floors, including watering, ramming, consolidating and dressing complete.	79.98 Cum	Cum	2325.00	185954	
	Total of Sub Head B					3670927
Sub Head-C 6 To 8	CONCRETE WORK					
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
a	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 40 mm nominal size derived from natural sources)	90.47 Cum	Cum	7056.37	638390	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
b	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	173.71	Cum	6400.89	1111899	
7	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing :					
	1:5:10 (1 cement : 5 manufactured sand derived from Recycled Concrete Aggregate (RCA) : 10 graded stone aggregate 40 mm nominal size Recycled Aggregate (RA)	39.80	Cum	6462.82	257220	
8	Providing and fixing up to floor five level precast cement concrete hollow block, including hoisting and setting in position with cement mortar 1:3 (1 cement : 3 coarse sand), cost of required centering, shuttering complete.					
	1:1½:3 (1 Cement: 1½ coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources) .	1046.85	Cum	13334.90	13959640	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	Total of Sub Head C					15967149
Sub Head-D 9 To 15	REINFORCED CEMENT CONCRETE					
9	Centering and shuttering including strutting, propping etc. and removal of form for:					
a	Foundations, footings, bases of columns, etc. for mass concrete	790.14	Sqm	351.35	277616	
b	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	523.10	Sqm	742.65	388480	
c	Suspended floors, roofs, landings, balconies and access platform	4639.10	Sqm	810.91	3761893	
d	Shelves (Cast in situ)	267.57	Sqm	810.91	216975	
e	Lintels, beams, plinth beams, girders, bressumers and cantilevers	4414.19	Sqm	643.55	2840752	
f	Columns, Pillars, Piers, Abutments, Posts and Struts	3458.36	Sqm	850.81	2942407	
g	Stairs, (excluding landings) except spiral-staircases	168.04	Sqm	695.82	116926	
h	Vertical and horizontal fins individually or forming box	1123.13	Sqm	1164.09	1307424	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	louvers band, facias and caves boards					
i	Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like	771.05	Sqm	351.35	270908	
10	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	Thermo-Mechanically Treated bars of grade Fe-500D or more.	66400.95	Kg	94.84	6297466	
11	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.					
	Thermo-Mechanically Treated bars of grade Fe-500D or more.	268479.50	Kg	94.84	25462596	
12	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	<p>recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete natural sources and cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately).</p>					
	<p>Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix</p>					

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
a	or bear the cost of extra cement. All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum	663.59 Cum	Cum	9186.46	6096043	
b *	All works above plinth level upto floor V level Concrete of M25 grade with minimum cement content of 330 kg /cum	1357.67 Cum	Cum	9484.65	12877025	
13	Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.	61.68 Cum	Cum	297.25	18334	
14	Providing and fixing of expansion joint system related with wall joint (internal/ external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
15	<p>Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multi cellular to facilitate movement. (Material shall conform to ASTM 6063)</p> <p>Wall Joint of 75 mm gap</p> <p>Providing and fixing of expansion joint system of approved make and manufactures for various roof locations as per approved drawings and direction of Engineer-In Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arrangement support plates as per ASTM B221-02. The system shall be such that it provides watertight roof to roof/roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre engineered self-centering arrangement</p>	49.11	Rmt	3845.20	188838	

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flex ure in all directions including vertical displaceme. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063).					
	Floor Joint of 75 mm gap	30.18	Rmt	4317.00	130287	
	Total of Sub Head D					63193970
Sub Head-E 16 To 19	MASONRY WORK					
16	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
	Cement mortar 1:6 (1 cement : 6 coarse sand)	92.08	Cum	7043.65	648579	

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
17	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in : C49	96.25	Cum	8768.13	843933	
18	Cement mortar 1:6 (1 cement : 6 coarse sand) Extra for brick work / Precast concrete hollow blocks/ Tile brick masonry in superstructure above floor V level, for each four floors or part thereof by mechanical means	96.25	Cum	151.75	14606	
19	Half brick masonry with non modular fly ash bricks of class designation 10, conforming to IS :12894, in super structure above plinth and upto floor V level.					
	Cement mortar 1 : 4 (1 cement : 4 coarse sand)	282.13	Sqm	1025.79	2893887	4401005
	Total of Sub Head E					
Sub Head-F 20 To 23	CLADDING WORK					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
20	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.					
	Granite stone slab of colour black, Cherry/Ruby red					
	Area of slab upto 0.50 sqm	25.46	Sqm	4950.20	126032	
	Area of slab over 0.50 sqm	266.60	Sqm	4681.51	1248091	
21	Stone tile (polished) work for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete.					
	8mm thick					
	Raj nagar plain white marble/ Udaipur green marble/ Zebra black marble					
		194.21	Sqm	2864.52	556318	



**CHANDIGARH
HOUSING BOARD**
A CHANDIGARH ADMINISTRATION UNDERTAKING

Construction of 80 Two Room Flats (EWS) (S+4) for
General Housing Scheme (Composite Work) in Sector -53,
Chandigarh. Bid Document

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
22	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	1693.67	Sqm	1124.99	1905362	
23	Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building, for all heights and all levels etc. including: Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design. (b) Providing, fabricating and supplying and fixing panels of aluminium (c) composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm	307.00	Sqm	4733.19	1453089	

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	<p>thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. The fastening brackets of Aluminium alloy 6005 T5 / MS with Hot Dip Galvanised with serrations and serrated washers to arrest the wind load movement, fasteners, SS 316 Pins and anchor bolts of approved make in SS 316, Nylon separators to prevent bi-metallic contacts all complete required to perform as per specification and drawing The item includes cost of all material & labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite panel cladding till the handing over of the building for occupation. Base frame work for ACP cladding is payable under the relevant aluminium items. The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance</p>					

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	characteristics all complete, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge. However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places.					
	Total of Sub Head -F					5288892
Sub Head-G 24 To 32	WOOD AND P.V.C. WORK					
24	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick ;					
	Float glass panes					
	4 mm thick glass pane (weight not less than 10kg/sqm).	653.69	Sqm	2006.93	1311910	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
25	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:	508.59	Sqm	2132.41	1084522	
26	35 mm thick with necessary screws Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.					
27	Fixed to openings /wooden frames with rawl plugs screws etc. Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :	8236.79	Kg	209.14	1722642	
	250x16 mm	5 Nos.	Each	248.49	1242	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
28	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
a	250x10 mm	240 Nos.	Each	110.43	26503	
b	200x10 mm	240 Nos.	Each	96.08	23059	
29	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
	125 mm	10 Nos.	Each	63.51	635	
30	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.					
	Twin rubber stopper	160 Nos.	Each	65.83	10533	
31	Providing and fixing factory made uPVC glazed/ wire mesh windows/ doors comprising of lead free uPVC multi-chambered frame, sash and mullion/ coupler (wherever required) extruded profiles having minimum wall thickness					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	<p>of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and Inline sash adaptor (wherever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia. with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Part 1 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners, including drilling of holes for fixing hardware and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of approved size and quality, all complete as per approved drawing conforming to CPWD specification & direction of Engineer-in-Charge. Section of steel reinforcement and cross sections of uPVC profiles to be as per design approved by Engineer-in-Charge. Wire mesh/ Glazing of plain/ toughened/</p>					

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	<p>laminated/ double glass unit with/ without high performance coatings as per design requirements and conforming to IS: 3548 & IS: 16231 shall be paid separately. Note:- Structural design proof checked from a Government Engineering Institute, to be provided by the manufacturer for : (iii) Sites with basic wind speed > 45 m/sec as per IS 875 - Part 3 (iv) Sites with structure height more than 20m for all wind speeds.</p> <p>Providing and fixing factory made uPVC white colour casement/casement cum fixed glazed windows comprising of uPVC multi-chambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, stainless steel (SS 304 grade) friction hinges, zinc alloy (white powder coated) casement handles, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling</p>					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.					
a	Three track three panels sliding window with two glazed & one wire mesh panels with Aluminium channel for roller track, wool pile, nylon rollers with SS 304 body. Using R2 series with frame (70mm & above) x (40mm & above) & both glazed and fly screen sash (25mm & above) x (50mm & above) with zinc alloy (zamak) powder coated touch locks with hook. (Height upto 1.2 meter).	85.73	Sqm	10271.79	880601	
b	Using R3 series with frame (98mm & above) x (40mm & above) & both glazed and fly screen sash (30mm & above) x (55mm & above) with zinc alloy (zamak) powder coated handle on every glazed panel along with multi-point locking system. (Height upto 1.8m).	124.94	Sqm	10600.82	1324466.0	

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
C	Using R4 series with frame (115mm & above) x (45mm & above) & both glazed and fly screen sash (44mm & above) x (55mm & above) with zinc alloy (zamak) powder coated handle on every glazed panel along with multi-point locking system. (Height above 1.8m)	385.26	Sqm	11439.75	4407278.0	
32	Providing and fixing Galvanised wire mesh of average width of aperture 1.4mm normal dia if wire 0.63mm 14 welded with Stainless Steel strip (12x2mm) all around both sides including two supports of Stainless Steel Strip of size (12x2mm) complete in all respect and to the entire satisfaction of the Engineer-in-charge.	234.01	Sqm	1698.35	397427	
	Total of Sub Head G					11190818
Sub Head-H 33 To 35	STEEL WORK					
33	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
	In gratings, frames, guard bar, ladder, railings, brackets,	12490.15	Kg	150.53	1880143	

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	gates and similar works					
34	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.					
	M.S. tube	1697.500	Kg	166.27	282243	
35	Providing and fixing pressed steel sheet frames/ chowkhats manufactured from 1.60mm thick GI steel sheet including specified section, lugs/G.I fasteners (Hold fasts), steel butt hinges 2.5 mm thick and rubber buffers etc, and provision for receiving sliding bolts, tower bolts, door spring & hydraulic door closer, motor gaurd, lock strike-plate including the cost of Two tie rods of M.S. bars 10mm dia, provision for cleats etc.finished with one coat of red oxide zinc chromate primer (after pre-treatment of the surface) of approved quality on the "outer surface and one coat of					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
a.)	anticorrosive bitumastic paint of approved quality on the internal surface, as per approved architectural drawing and as per details given in CPWD specifications and BIS code complete in all respect and to the entire satisfaction of the Engineer-in- Charge. Door & window frame of size 50mm x89mm with 35mm wide single rebate.	1306.98	Rmt		807191	
b.)	Door & window frame of size 50mm x114mm with 35mm wide Double rebate.	828.00	Rmt		617398	
	Total of Sub Head -H					3586975
Sub Head-I 36 To 43	FLOORING					
36	Marble stone flooring with 18 mm thick marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with :					
	Raj Nagar plain	89.78	Sqm	2108.01	189257	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
a)	Udaipur green marble	525.91	Sqm	2221.96	1168551	
37	Extra for pre finished nosing to treads of steps of marble stone.	882.10	Rmt	627.66	553659	
38	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	976.70	Sqm	989.75	966689	
39	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 (thickness to be specified by the manufacturer) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	217.51	Sqm	992.82	215948	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
40	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	1857.52	Sqm	1498.61	2783698	
41	Size of Tile 600x600 mm Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (Cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/sqm including grouting the joint with white cement & matching pigments etc. complete.	251.17	Sqm	1551.38	389660	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
42	Providing and fixing glazed screen printed border tile 75mm wide having thickness 5mm, of approved quality & make, in all shades, design and prints, in dado, over 12mm thick bed of cement mortar 1:3 (1 Cement : 3 Coarse sand) and jointing with grey cement slurry @ 3.3 kg/sqm including pointing with white cement mixed with pigment of matching shade, all complete as approved by Engineer - in - Charge.	846.40	Rmt	179.19	151666	
43	Supplying and laying brick blast of 40 mm gauge having 10% pilla bricks complete in all respects to the entire satisfaction of the Engineer-in-charge.	246.47	Cum	2211.30	545019	
	Total of Sub Head I					6964639
Sub Head-J 44 To 50	SANITARY INSTALLATIONS					
44	Providing and fixing on wall face unplasticised rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. (i) Single socketed pipes.					
	75 mm dia	269.10	Rmt	225.32	60634	

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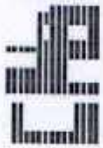
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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
45	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					
a)	Coupler					
	75 mm dia pipe	80.00 Nos.	Each	84.40	6752.00	
b)	Single tee with door					
	75x75x75 mm	80.00 Nos.	Each	149.79	11983.00	
c)	Single tee without door					
	75x75x75 mm	80.00 Nos.	Each	131.37	10510.00	
d)	Bend 87.5°.					
	75 mm bend	20.00 Nos.	Each	97.12	1942.00	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
46	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.	320.00 Nos.	Each	328.83	105226.00	
47	75 mm Providing and fixing on wall face unplasticised PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. (i) Single socketed pipes.					
48	150 mm dia Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised PVC rain water pipes, including jointing with seal ring conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.	320.00 Rmt	Rmt	814.10	260512	

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
a)	Bend					
	150 mm	20.00 Nos.	each	813.00	16260	
b)	Tee					
	150x150x150mm	100.00 Nos.	each	727.20	72720	
49	Providing and fixing M.S. stays and clamps made of 25x3mm M.S flat for PVC pipes of diameter : 150 mm dia					
	Providing and fixing 40mm dia G.I. perforated pipe(spout) in depressed slab to weep out the leaked water,if any, consisting of 'B' class TATA G.I. pipe with tapered cut outer edge and with 150mm x 150mm wire mesh of 22mm x 12mm put on the inner side to act as a strainers placed with 0.014 cum of stone shingle. The pipe will also have 10 numbers hole of 3.125mm complete in all respect to the entire satisfaction of Engineer in charge.	120 Nos.	Each	169.20	20304	
50	Total of Sub Head J	54.18 Rmt	Rmt	838.70	45441	612284

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
Sub Head-K 51 To 58	FINISHING					
51	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	13435.87	Sqm	311.95	4191320	
52	20 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand)	4445.37	Sqm	445.80	1981746	
53	6 mm cement plaster of mix : 1:3 (1 cement : 3 fine sand)	3857.30	Sqm	267.70	1032599	
54	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	8541.08	Sqm	176.52	1507671	
55	Applying priming coat: With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	1119.35	Sqm	64.99	72747	
56	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :					



CHANDIGARH HOUSING BOARD
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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
57	Two or more coats on new work	1119.35	Sqm	139.09	155690	
58	Satna lime wash on walls with one coat Making Number plate with cement sand mortar 1:4 as per Architectural Drawing the rate shall further include the cost of paint and painting letters of 6 cm height and figures complete in all respects to the entire satisfaction of Engineer-in-Charge. Total of Sub Head K	14361.17	Sqm	13.86	199046	
		100	Nos.	231.25	23125	
Sub Head-L 59	ROAD WORK					9163944
59	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -35 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge. Total of Sub Head L	904.74	Sqm	970.90	878412	
Sub Head-M 60 & 61	ALUMINIUM WORK					878412

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
60	Providing and fixing machine moulded aluminium covering of approved pattern & design, made out of machine cut aluminium sheet and machine holed for receiving dash fastener, over expansion joints on vertical surfaces/ceiling floors, the fixing on plate in one row on one side of joint only shall be done with stainless steel dash fasteners of 8 mm dia and 75 mm long bolt including providing aluminium washers 2 mm thick & 15 mm dia, at a staggered pitch of 200mm centre to centre including drilling holes in the receiving surface and providing expandable plastic sleeves in holes etc. complete as per direction of Engineer-in-charge.	930.96	Kg	672.41	625987	
61	Powder coated aluminium sheet 2.5mm thick (minimum thickness of powder coating 50 micron) Filling the gap in between aluminium frame & adjacent RCC/ Brick/Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.	1664.96	Mtr	90.19	150163	776150
	Upto 5mm depth and 5 mm width					
	Total of Sub Head M					

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
62	Water Proofing Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of: 1st layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cum/sqm thoroughly embedded in the 2nd layer. Using rough kota stone.	94.65	Sqm	1441.84	136470	

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
63	Providing and laying integral cement based treatment for water roofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge	96.10	Sqm	1883.38	180993	
64	Using rough Kota stone Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of: 1st course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.	975.65	Sqm	819.08	799135	



**CHANDIGARH
HOUSING BOARD**
A CHANDIGARH ADMINISTRATION UNDERTAKING

Construction of 80 Two Room Flats (EWS) (S+4) for
General Housing Scheme (Composite Work) in Sector -53,
Chandigarh. Bid Document

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	IIrd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion					
	IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area.					
	IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).					
65	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:					
	Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.					

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Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.					
	After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.					
	Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm					

Sr. No.	Description of Item	Quantity	Unit	Rate	Amount	Sub Head Total
	deep.					
	The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test." All specified by the Engineer-in-Charge :					
	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	789.12	Sqm	1611.08	1271335	
66	Providing and fixing bright finished brass 200 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete in all respect to the entire satisfaction of Engineer in charge.	80	Nos.	2102.60	168208	
	Total of Sub Head N					2556141
	Total				128627571	128627571

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**SCHEDULE OF QUANTITIES FOR THE WORK CONSTRUCTION OF BOUNDARY WALL ALONG WITH SENTRY POSTS
FOR 492 FLATS UNDER GENERAL HOUSING SCHEME IN SECTOR-53 CHANDIGARH.**

S.No.	Description	Qty.	Unit	Rate	Amount	Sub Head Total
Sub Head-A 1 To 3	EARTH WORK					
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
	All kinds of soil.	882.89	Cum	231.26	204176	
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	353.15	Cum	170.92	60360	
3	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	204.01	Cum	2286.31	466430	

Sub Head-B 4 To 5	Total of Sub Head A					730966
4	CONCRETE WORK					
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
5	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources: 4 graded stone aggregate 20 mm nominal size derived from natural sources).	13.02	Cum	Cum	7791.45	101428
	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing :					
	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources: 10 graded stone aggregate 40 mm nominal size derived from natural sources).	305.11	Cum	Cum	8166.46	2491635
Sub Head-C 6 To 9	Total of Sub Head B					2593063
	REINFORCED CEMENT CONCRETE					

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6	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, piers, abutments, posts and struts etc. above plinth level up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement ;	39.93	Cum	10432.52	416528
	1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).				
7	Centering and shuttering including strutting, propping etc. and removal of form for:	28.42	Sqm	810.91	23048
a)	Suspended floors, roofs, landings, balconies and access platform	226.42	Sqm	643.55	145713
b)	Lintels, beams, plinth beams, girders, bressumers and cantilevers				
c)	Edges of slabs and breaks in floors and walls				
d)	Under 20 cm wide	1509.44	Rmt	192.46	290507
8	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
	Thermo-Mechanically Treated bars of grade Fe-500D or more.	5692.66	Kg	94.84	539892

9	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.	528.97 Kg	Kg	94.84	50167	1465855
	Thermo-Mechanically Treated bars of grade Fe-500D or more.					
	Total of Sub Head C					
	MASONRY WORK					
Sub Head-D 10 To 12						
10	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
	Cement mortar 1:6 (1 cement : 6 coarse sand)	758.93 Cum	Cum	7043.65	5345610	
11	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :					
	Cement mortar 1:6 (1 cement : 6 coarse sand)	17.67 Cum	Cum	8768.13	154931	
12	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.					
	Cement mortar 1:4 (1 cement :4 coarse sand)	2.77 Sqm	Sqm	1076.97	2983	

Sub Head-E 13 To 13	Total of Sub Head D				550524
13	CLADDING WORK Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	10.70 Sqm	Sqm	1124.99	12037
Sub Head-F 14 To 19	Total of Sub Head E				12037
14	WOOD AND P.V.C. WORK Providing and fixing ISI marked factory made window shutter conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				

		6.99 Sqm	sqm	3280.02	22919
15	35 mm thick excluding ISI marked Stainless Steel butt hinges with necessary screws Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.	6.58 Sqm	sqm	2132.41	14028
16	35 mm thick with necessary screws Providing and fixing aluminium sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete :	4.00 Nos.	nos	248.49	994
17	(*) 250x16 mm Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :	4.00 Nos.	nos	96.08	384
	(*) 200x10mm				

18	Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :							
	(a) 125 mm	4.00 Nos.	nos	63.51	254			
	100 mm	12.00 Nos.	nos	56.33	676			
19	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws etc. complete.							
	Twin rubber stopper S.post	4.00 Nos.	Nos.	65.83	263			39518
	Total of Sub Head F							
Sub Head-G 20 To 21	STEEL WORK							
20	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.							
	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	837.75 kg	kg	150.53	126106			

21	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes Total of Sub Head G	7.00 Sqm	sqm	994.75	6965	133071
Sub Head-H 22 To 24	FLOORING					
22	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	22.69 Sqm	sqm	1805.41	40957	
23	Supplying and laying brick blast of 40 mm gauge having 10% pilla bricks complete in all respects to the entire satisfaction of the Engineer-in-charge.	1.26 Cum	Cum	2211.30	2786	
24	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -35 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of	1339.86 Sqm	sqm	970.90	1300870	

	coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.									1344613
	Total of Sub Head H									
Sub Head-I 25 To 33	FINISHING									
25	15 mm cement plaster on rough side of single or half brick wall of mix 1:4 (1 cement: 4 Fine sand)	1366.81	Sqm	Sqm	359.37	491191				
26	12 mm cement plaster of mix 1:4 (1 cement: 4 coarse sand)	74.71	Sqm	Sqm	325.02	24281				
27	6 mm cement plaster of mix : 1:3 (1 cement: 3 fine sand)	18.636	Sqm	Sqm	267.70	4989				
28	Pointing on brick work or brick flooring with cement mortar 1:3 (1 cement : 3 fine sand): Flush / Ruled/ Struck or weathered pointing	1377.73	Sqm	Sqm	226.81	312483				
29	Distemping with oil bound washable distemper of approved brand and manufacture to give an even shade :									

		87.43	Sqm	171.96	15034
	New work (two or more coats) over and including water tinnable priming coat with cement primer				
30	Finishing walls with Acrylic Smooth exterior paint of required shade :				
	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	2933.19	Sqm	176.52	517767
31	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :				
	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture	36.01	Sqm	148.15	5336
32	Applying priming coat :				
	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.57	Sqm	64.99	882
	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel work (second coat)	36.01	Sqm	31.48	1134

33	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :								
	Two or more coats on new work			21.79	Sqm	139.09	Sqm	3031	1376128
	Total of Sub Head I								
Sub Head-J 34 To 34	Water Proofing								
34	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:								
	a) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls up to 300 mm height including cleaning the surface before treatment.								
	b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with waterproofing compound conforming to IS : 2645 and								

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	approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs					
	c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry.					
	d) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry.					
	e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :					
	With average thickness of 120mm and minimum thickness at khurra as 65 mm.	28.42	Sqm	1611.08	Sqm	45791

35	"Providing and fixing pressed steel sheet frames/ chowkhats manufactured from 1.60mm thick GI steel sheet including specified section, lugs/G.I fasteners (Hold fasts), steel butt hinges 2.5 mm thick and rubber buffers etc, and provision for receiving sliding bolts, tower bolts, door spring & hydraulic door closer, motar gaurd, lock strike-plate including the cost of Two tie rods of M.S. bars 10mm dia, provision for cleats etc. finished with one coat of red oxide zinc chromate primer (after pre-treatment of the surface) of approved quality on the outer surface and one coat of anticorrosive bitumastic paint of approved quality on the internal surface, as per approved architectural drawing and as per details given in CPWD specifications and BIS code complete in all respect and to the entire satisfaction of the Engineer-in-Charge.	41.14	meter	617.60	25409	
a)	Door & window frame of size 50mm x89mm with 35mm wide single rebate.	6.858	mtr	629.85	4320	
b)	Central Mullion of size 65x89mm with 35mm wide double rebate.					75520
	Total of Sub Head J					13274295
	Total					13274295

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Mile stone Programmer (Major Component i.e. Civil work)
(In Physical Terms)

S. No.	Description of Milestone (Physical)	Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
1	1st Quarter.		
	Description	During the quarter (DUs.)	Cumulative (DUs.)
	Earth work Foundation up to plinth.	70	70
	RCC & Brick work up to plinth.	70	70
	RCC S/S	10	10
	Brick Work/hollow B/W in S/S	10	10
			154 Days
			0.48% of Tendered Amount of Composite work
2	2nd Quarter.		
	Description	During the quarter (DUs.)	Cumulative (DUs.)
	Earth work Foundation up to plinth.	10	80
	RCC & Brick work up to plinth.	10	80
	RCC S/S	40	50
	Brick Work/hollow B/W in S/S	32	42
	Joinery & Railing	16	16
	Plastering	16	16
			304 Days
			0.95% of Tendered Amount of Composite work

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3 3rd Quarter.					
	Description	During the quarter (DUs.)	Cumulative (DUs.)		
	Earth work Foundation up to plinth.	0	80	458 Days	1.43% of Tendered Amount of Composite work
	RCC & Brick work up to plinth.	0	80		
	RCC S/S	30	80		
	Brick Work/hollow B/W in S/S	38	80		
	Joinery & Railing	64	80		
	Plastering internal	48	64		
	Flooring, wall Tiles	40	40		
	External plaster/ finishing	20	20		
	Coba	20	20		
	Boundary wall	150Mtr length	150Mtr length		
4 4th Quarter.					
	Description	During the quarter (DUs.)	Cumulative (DUs.)		
	Earth work Foundation up to plinth.	0	80		0.95% of Tendered Amount of Composite work
	RCC & Brick work up to plinth.	0	80		
	RCC S/S	0	80		
	Brick Work/hollow B/W in S/S	0	80		
	Joinery &	0	80		

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	Railing				608 days
	Plastering internal	16	80		
	External plaster/finishing	60	80		
	Flooring, wall Tiles	40	80		
	Coba/water proofing	60	80		
	Boundary wall	235 Mtr length and Sanitary post	385 Mtrs		

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Part B

- I - General/Specific Conditions,
Specifications**
- II - Schedule of Quantities applicable
to the work.**

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General/Specific Conditions for Major and Minor Component of work as applicable.
Note: The order of preference in case of any discrepancy may be read as the following:-

- a. Nomenclature of items as per schedule of quantities.
- b. Particular specification and General/Specific condition, if any.
- c. CPWD specifications.
- d. Architectural Drawings.
- e. Indian standard specifications of B.I.S.
- f. Sound Engineering Practice.
- g. GCC.
- h. CPWD Manual.

1.0 General

- 1.1 Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried-out in accordance with the "CPWD Specifications (Refer Para 2 (xiii) of Schedule A-F for Civil, PH, Elect. at Page No.-47 and as per instructions of Engineer-in-Charge. Wherever CPWD Specifications are silent, the latest IS Codes/ Specifications shall be followed and the rates should be all inclusive
- 1.2 Any reference made to any Indian Standard Specifications, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The Contractor shall keep at his own cost all such publications including relevant Indian Standard applicable to the work at site.
- 1.3 The work shall be executed and measured as per metric dimensions given in the Schedule of Quantities, drawings etc. (FPS units wherever indicated are for guidelines only).
- 1.4 The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors is minimized. The contractor shall ensure proper co-ordination of various disciplines viz. sanitary & water supply, horticulture & electrical etc.
- 1.5 All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested before covering.
- 1.6 **Samples including brand/ quality of materials and fittings to be used in the work shall be got approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work.**
- 1.7 **All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The list of approved laboratories for testing is as under:-**

S. No.	Type of tests	Name of laboratories
1.	All tests	Government labs and NABL certified labs

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- 1.8 The contractor, his agents/ representative, workman etc. shall strictly observe orders pertaining to fire precautions prevailing in the area.
- 1.9 Contractor(s) shall study the soil investigation report for the site, available in the office of the Engineer-in-Charge and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.
- 1.10 The tenderer shall see the approaches to the site. In case any approach from main road is required at site or, existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost.
- 1.11 Contractor shall take all precautionary measure to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.
- 1.12 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part. Contractor shall ensure that no hindrances shall be caused to traffic during the execution of the work.
- 1.13 **The contractor shall take instructions from the 'Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, compound wall, services etc are to be constructed.**
- 1.14 **The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipments shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.**
- 1.15 Contractor shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings.
- 1.16 The work shall be carried out in accordance with the Architectural drawings and Structural drawings, to be issued from time to time, by the Engineer-in-Charge. Before commencement of any of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work, nomenclature of items. Specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supersede the

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measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim, whatsoever shall be entertained on this account.

- 1.17 The Architectural drawings other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fittings involved unless and otherwise specifically mentioned.
- 1.18 The contractor should submit the shop drawing of staging and shuttering for approval of Engineer-in-Charge before actually commencing the execution of work under the item. Nothing extra shall be payable on this account.
- 1.19 Other agencies may also simultaneously execute and install the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works (for which inserts, sleeves, brackets; conduits, base plates, clamps etc. shall be available as specified elsewhere in the contract) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- 1.20 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
- 1.21 All material shall only be brought at site as per program finalized with the Engineer-in-Charge.
- 1.22 The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work.
- 1.23 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services. In case

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temporary supporting/ shifting of such services is required to facilitate the work, the same shall be done by the contractor at no extra cost.

In case the existing services are to be shifted permanently, then before dismantling the existing services, alternate/diversion of service lines has to be laid by the contractor so that there is no interruption in use of existing services. The contractor has to plan the alternate suitable route for diversion/shifting of service lines and get the same approved from the Engineer-in-Charge before starting shifting of services. Nothing extra shall be paid except the payment of dismantling and laying of new service lines as per conditions of contract

- 1.24 The contractor shall be responsible for the watch and ward/ guard of the, buildings, safety of all fittings and fixtures including sanitary and water supply fillings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.
- 1.25 The contractor shall be fully responsible for the safe custody of materials brought by him/ issued to him even though the materials may be under double lock key system.
- 1.26 For construction works which are likely to generate malba/ rubbish to the tune of more than a tempo/ truck load, contractor shall dispose off malba, rubbish & other unserviceable materials and wastes at his own cost to the notified specified dumping ground and under no circumstances these shall be stacked/ dumped even temporarily, outside the construction premises.
- 1.27 For construction works which are likely to generate malba / rubbish contractor shall dispose off malba (after segregation in to 5 streams i.e. concrete, bricks and mortar, soil, steel, wood & plastic) at waste processing plants presently located at Industrial area Phase-I, Chandigarh or any other designated location, either with their own conveyance or by requesting machinery from MCC. (at Toll free No. 0172-2787200) by paying requisite charges as per C&D waste Management Policy 2022 of Chandigarh Administration.
- 1.28 Contractor shall use processed materials as well as their by products casted from C&D waste for their works allotted to contractor. However, in case of non availability of processed material at C&D plants, non availability certificate will be obtained by the contractor before resorting to purchase of material from open market.
- 1.29 The excavated surplus earth of the building shall be disposed off by the contractor for all leads and lifts free of cost within Campus. Dumping site/

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premises shall be got approved from Engineer in Charge. The contractor will not be permitted to take the surplus earth outside the Campus without the permission of the Engineer-in-charge.

- 1.30 The contractor shall take all necessary measures for the safe flow of traffic during construction including providing/ maintaining such barricades all around construction area without hindering free flow of traffic as per directions of Engineer in Charge. Nothing extra shall be payable on account of providing and maintaining the barricading in good condition. The contractor shall be responsible for all damages and accidents caused due to negligence on his part.
- 1.31 Nothing extra shall be paid for making drip of any shape, size.
- 1.32 Nothing extra shall be paid for making groove/ cut of any kind in the item/ items of plastering work except Fascia Pattern grooves.
- 1.33 In case of lowering of subsoil water level/ wet earth work is required as per site condition, the same will be done by the contractual agency and the rate for the same will be allowed as per agreement.
- 1.34 The contractor shall use the white cement with pigment to match the shade of flooring/ dado and for installation of P.H./ Electrical fixtures where ever required without claiming any thing extra.
- 1.35 No hand grinding shall be permitted and grinding of stone/ marble wherever required shall be only through mechanical grinders.
- 1.36 In case the deptt supplies 'Recron fibers' for mixing in the mortar of Plaster of top storey and external Plaster, nothing extra shall be paid.
- 1.37 The rates for all items of work shall unless clearly specified, include the cost of labour, materials and other inputs involved in the execution of the items.
- 1.38 Where the earth for filling is to be supplied by the Contractor/ Agency, the rate to be quoted should include all leads and lifts whatsoever. The Contractor/ Agency will arrange earth from its own source, in case the Board does not specify the source.
- 1.39 The contractor shall responsible for the implementation of all the provisions under **Rule 4 of Chandigarh Municipal Corporation (Sanitation and Public Health) Bye Laws, 1999** and bear all the fines, penalties and prosecutions in case of failures. CHB reserves the right to recover any damages/penalties imposed from the payments due to the contractor.
- 1.40 Justified amount (X) shall be worked out by the Board at the time of award of work while analyzing the bids received. The allotment amount

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(excluding escalation) (Y) shall be at a %age $O = (Y-X)/X$ above or below the said justified amount which will be called 'original %age above or below' as the case is.

Revised justified amt (X'), on the same parameters as worked out at the time of award of work, shall be worked out at the time of every bill with the actual quantities. The actual amount of work (excluding escalation) (Y') at the time of every Bill shall be at a %age $A = (Y'-X')/X'$ above or below the said revised justified amount which will be called "actual %age above or below" as the case is.

Suitable reduction will be made in the running/final bill, in case the "actual %age" (A) exceeds the "original %age" (O) so that the "actual % age remains at par or with in the "original %age".

- 1.41 The competent authority on behalf of CHB reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
- 1.42 The Board reserves its right to bifurcate the work between one or more agencies and further reserves its right to withdraw a part of a work of a particular item at any stage during the execution of work without prejudice to the right of the Board to recover, liquidated damages under various provisions of the contract agreement.
- 1.43 The quantities of various items and the number of houses can be increased or decreased at any stage unless and otherwise specified. No claim on account of such changes will be entertained. However the payment to the contractor under running/final bills shall be governed by actual quantities of the various items executed at site at the rate prescribed in the DNIT plus or minus quoted percentage by the agency.
- 1.44 The contractor shall be liable for and shall also indemnify the CHB and its employees against all liabilities, losses, claims, demands, proceeding, damages, costs, charges and expenses and further agrees to defend, indemnify and hold the Board and its employees harmless from any penalty whatsoever in respect of any injury or damage to any property of to personals during the execution of work or by the action of any central or state of local authority for violation by the contractor or sub-contractor engaged on the work.
- 1.45 The work during its progress and subsequently at any stage can also be inspected by the Chief Vigilance Officer/Chief Technical Examiner on behalf of the Engineer-in-Charge and agency shall be responsible for compliance of the observation raised by Chief Vigilance Officer/Chief Technical Engineer and including any recoveries proposed thereof.

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- 1.46 The work during its progress and subsequently at any stage shall be open for Inspection by Third Party/ Quality Assurance Independent Agency appointed by CHB for Technical Examination/Audit on behalf of Engineer-In Charge and agency shall be responsible for compliance of the observation raised by it and including any compliance /recovery proposed thereof. In case of non compliance in 15 days further payment would be stopped.
- 1.47 **Supply of Water and Electric Power:** Unless otherwise provided elsewhere in the Contract, the Contractor shall be responsible for making arrangements at his own cost for obtaining supply of water and/or electrical power, necessary for the execution of the works. If the agency arranges temporary water connection from MC, Chandigarh for construction purpose, the recovery of water charges shall be made as per Chandigarh Gazette notification issued on 28 September 2006 with latest amendments. If the contractual agency arranges water through water tanker from MC, Chandigarh in case of non-availability of water supply lines at the site by the MC, then he will produce bill/payment receipt of water charges and such no water charges will be deducted provided the agency submit no objection certificate from the MC, Chandigarh in this regard. Further, it is clarified that if, receipts of water charges submitted are less than 1.5%, then the recovery of 1.5% will be made after adjusting the amount of receipt. If the contractual agency uses the water from the public stand post, through private tanker or any of the existing sources, panel rate recovery shall be made from the running bills/final bill. In the event the CHB is in a position to supply water or electrical power, or both, required for works, such supply shall be given only at one point. The cost of making necessary arrangements to the Engineer's distribution system and laying of necessary pipe line, specials, valves, meters etc. for water supply or the laying of underground/overhead conductor, circuit protection, electric power meters and transmission structures in case of electric power shall be borne by the Contractor. The Contractor shall also bear the running cost of water and power supplied, the rates for which shall be determined and notified by the Competent Authority. Presently the water charges @ 1.5% of the project cost which shall be deducted from bills of the agency instead of 1% as defined in Clause-31A (i) GCC. Any increase in water/power tariff by supplying agencies shall also be borne by the Contractor. The decision of CHB on such cost shall be final and binding. Before the release of security, the contractor will submit no due certificate from Electricity department.
- 1.48 In addition to the conditions laid down in the 'General Condition of Contract Document of Chandigarh Housing Board' for release of security deposit, the contractor shall have to make compliance of the following:-

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- (i) To submit clearance from the RPFC regarding making compliance of the provisions of the EPF Act or otherwise as specified in the 'Tender Document'
- (ii) To produce no due certificate from Electricity department.
- 1.49 Deduction on account of Income Tax shall be made at the rate prescribed by law from the gross payment due to the contractor in accordance with section 194 C of Income Tax Act 1961 with latest amendments, in force.
- 1.50 For the materials other than mentioned in the list of the approved makes in this Document, preference will be given to the ISI marked materials.
- 1.51 The items for which more than one Make/ Brand has been specified in the list of 'Approved Makes' in the document and if during execution of the work, for some reason or the other, it is found that only one make remains available in the market, the Chief Engineer, CHB shall be competent to approve other makes of equivalent quality for such The items of work. His decision in this regard shall be final & binding on the part of the contractor.
- 1.52 Nothing extra shall be paid for any local carriage and re-handling of material irrespective of lead and lift.
- 1.53 All T&P required for the labour will have to be arranged by the agency.
- 1.54 Any material left at the site one month after completion of work shall be become the property of the department and no payment shall be made to the contractor for the material.
- 1.55 The agency would be responsible for submission of any document(s) required for obtaining "Occupancy Certificate" from the Estate office, "Fire clearance Certificate" form the office of Chief Fire Officer UT Chandigarh and "Consent to Opreate' from CPCC, UT Chandigarh etc., and in case, any observation is made by any such department, then the agency would also carry out requisite rectification after which the final completion of work will be accepted by CHB. However, statutory fees, if any, will be borne by CHB.
- 1.56 All the bidders are required to submit the undertaking on structural stability and soundness as per form 'D' given in Tender Document.
- 1.57 If the Engineer-in-Charge receives any information about structural failure, of any building/infrastructure constructed by the bidde(s) during last 25 (twenty-five) years, making it unfit for intended use, then EE or any team as decided by NIT approving authority shall inspect the building/infrastructure. The inspection report alongwith the recommendations shall be submitted to the NIT approving authority.


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1.58 The bid/agreement can be cancelled/terminated and EMD/PG/SDS (as applicable) can be forfeited as per undertaking given by the bidder(s), within 7 working days of receiving the report.

Further on the recommendation of SE/CE, the CEO, CHB will take decision for debarring the bidder forever for tendering in the CHB and send the intimation to enlistment authority of concerned department.

2.0 Unless otherwise specified in the schedule of quantities, the rates for respective items shall be all inclusive and apply to the following: -

i. The rates quoted by the applicants in the Financial Bid should be inclusive of GST and all other taxes/levies and Cess as per Building & other construction Workers Welfare Cess ACT 1996 as extended to Chandigarh vide notification dated 17.09.2009 with latest amendments. Nothing extra on this account shall be paid.

Further, the ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis.

ii. All lifts & all heights, floors including terrace, leads and depths.

iii. All labour, material, tools and plants and other inputs involved in the execution of the item.

iv. Any of the conditions and specifications mentioned in the tender documents.

v. Pumping/ bailing out surface water/ rain water, if necessary for any reason.

vi. Providing sunk flooring in Bath-rooms, kitchen, etc.

vii. Any legal or financial implications resulting out of disposal of earth, if any.

viii. Payment of Royalty at the prevailing rates, if any, on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities.

ix. Performance test of the entire installation(s) before the work is finally accepted.

x. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items.

xi. All incidental charges for cartage, storage and safe custody of materials brought to site.

xii. Nothing extra will be paid for executing items beyond 3.00 metre depth from the plinth level.

3.0. TESTING OF MATERIAL:

3.1 **Testing of Materials:** When required by the Engineer -in -Charge, the contractor shall supply, for the purpose of testing, samples of all materials


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proposed to be used in the works. Samples submitted either to govern bulk supplies or required for testing before use shall be provided free of charge by the contractor. All testing charges shall be borne by the contractor. All mandatory test as per specification shall be carried out at laboratories as directed by Engineer- in- Charge.

All other expenditure required to be incurred for taking samples; Conveyance, packing etc. shall also be borne by the contractor himself.

- 3.2 However, if any ultrasonic pulse velocity/ load testing or special testing is to be done for concrete whose strength is doubtful, the cost of the same shall be borne by the contractor.
- 3.3 In case there is any discrepancy in frequency of testing as given in list of mandatory tests and that in individual sub-heads of work as per CPWD Specifications higher of the two frequencies of testing shall be followed and nothing extra shall be payable on this account.

3.4 FIELD LABORATORY

The contractor has to establish field laboratory at site including all necessary equipments and skilled manpower for the Field Tests at his own cost to have proper quality control.

For performing the above tests, the Field Testing Equipments and Instruments are to be arranged and maintained by the contractor.

- 3.5 The contractor shall ensure quality construction in a planned and time bound manner. Any substandard material, work beyond set-out tolerance limit shall be summarily rejected by the Engineer-in-Charge & contractor shall be bound to replace/ remove such sub-standard /defective work immediately.

Laboratory/ Field equipment referred in the CPWD works Manual/ MORTH is to be arranged and maintained by the contractor at the site of work. In case the equipment required for any test is not available at site, the department shall get the test conducted from the third party. However in that event, besides providing free materials of sample, the cost of taking of sample, packing, transportation, testing charges etc. shall be borne by the contractor irrespective of the results.

4.0 SECURITY

- 4.1 The contractor shall take all steps necessary that all persons employed on any work in connection with the contract have notice that the Indian Official Secrets Act 1923 applies to them & will continue so to apply even after the execution of such works under the contract.

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- 4.2 The contract is confidential and must be strictly confirmed to the contractor's own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purpose of the contract.
- 4.3 All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the Engineer-in-Charge on the completion of the work/works or the earlier determination of the contract.
- 5.0 **The agency will provide documentation for obtaining green building GRIHA rating.**
- 6.0 **SAMPLE OF MATERIALS:-**
- 6.1 All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the Bid Document, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand/ quality of material are not specified in the Bid Document, ISI Marked materials and fittings shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material/ fittings are not available, the contractor shall submit samples of materials/ a fitting manufactured by firms of repute conforming to relevant Specifications or IS codes for the approval of Engineer-in-Charge.
- 6.2 To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though approved by Engineer-in-Charge is found defective or not conforming to specifications shall be replaced/ removed by the contractor at his own risk & cost.
- 6.3. BIS marked materials except otherwise specified shall also be subjected to quality test besides testing of other materials as per the specifications described for the item/ material. Wherever BIS marked materials are brought to the site of work, the contractor shall furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfies the provisions of specifications relevant to the material and/ or the work done.
- BIS marked items (except cement & steel for which separate provisions have been made in the Tender Document) required on the work shall be got tested, for only important tests, which govern the quality of the product, as decided by the Engineer-In-Charge. The frequency of such tests (except the mandatory test) shall be 5% of the frequency as specified in BIS. For mandatory test, frequency shall be as specified in the CPWD Specifications

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6.4 For certain items, if frequency of tests is neither mentioned in the CPWD Specifications & BIS, then tests shall be carried out as per decision of Engineer-in-Charge.

7.0 CEMENT & STEEL REINFORCEMENT (IF NOT STIPULATED TO BE SUPPLIED BY THE DEPARTMENT). SPECIAL CONDITIONS FOR CEMENT AND STEEL

Contractor has to produce manufacturers test certificate for each lot of Cement & Steel Reinforcement procured at site.

5.1 CONDITIONS FOR CEMENT

- 5.1.1 Cement required for the work shall be procured by the contractor.
- 5.1.2 The contractor shall procure PPC conforming to IS: 1489 (Part-I)/ OPC conforming to IS:8112 as per List of Preferred Makes for Civil Works.
- 5.1.3 The supply of cement shall be taken in 50 kg bags/ or in bulk for storage in cement silos for batching plant bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to theirlevant BIS codes, the same shall stand rejected, and it shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer in-charge to do so. Supply of cement shall be taken in 50 kg bags bearing manufacturer's name, or his registered trademarks if any and grade and type of cement as well as ISI marking.
- 5.1.4 The cement shall be brought at site in bulk supply of approximately 20 tonnes or more as decided by the Engineer-in-Charge.
- 5.1.5 One No. cement godown of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at site of batching plant for which no extra payment shall be made.
- 5.1.6 Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-Charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
- 5.1.7 The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of cost the cement required for testing

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including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor.

- 5.1.8 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 38 of the General Condition of Contract 2020 and shall be governed by conditions laid there in. In case the cement consumption is less than theoretical consumption including permissible variation, work shall liable to be rejected. In case of excess consumption no additional payment shall be made.
- 5.1.9 The cement brought to the site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in-Charge.
- 5.1.10 The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.

5.2 CONDITIONS FOR STEEL REINFORCEMENT.

- 5.2.1 The contractor shall procure ISI marked TMT Bars of Fe 500D/ 550D grade as per preferred brand list mentioned in this Bid Document from the steel manufacturer having valid BIS License for IS 1786-2008 with latest amendments Or their authorized dealer. If TMT bars of any dia of above mentioned make is not available in market at any time then the contractor on producing non availability certificate from the manufacturers may procure TMT bars of that dia from Steel manufacture as per the following guidelines:
- 5.2.2 The CE, CHB shall approve the steel manufactures subject to the guidelines for eligibility criteria and other technical parameters given below.

Credentials for eligibility criteria & other technical parameters for steel manufacturer: The manufacturer should meet the following eligibility criteria:

- a) The Steel manufacture should have following documentary evidence:
- i. Certificate of incorporation.
 - ii. Memorandum of articles of Association.

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- iii. Credit rating of the company from CARE/ CRISIL/ ICRA (the grading should not be C/D grade for minimum last 3 years).
- b) The Steel manufacturer must have following licenses and certificates:
 - i. ISI certificate for billets (IS2830:2012).
 - ii. ISI certificate for TMT Bars IS1786:2008 (with latest amendments).
- c) The Steel manufacturer should also preferably have the following licenses:
 - i. ISO9001:2015.
 - ii. ISO 14001:2015.
 - iii. OHSAS 18001:2007.
- d) The steel manufacturer should be using iron ore as the basic raw material. The entire gamut of iron and steel production is owned by the same company or its subsidiary company (ies) and the iron making capacity is sufficient matching the steelmaking capacity, adopting any of the refining technologies for manufacturing steel & TMT Bars as given under are eligible:
 - i. BF-BOFRoute.
 - ii. COREX-BOFRoute.
 - iii. DRI-EAFRoute (Each Electric Arc Furnace should be 100 MT or more).
- e) Billets produced must be ISI marked (IS2830:2012).
- f) The TMT bars produced must be ISI marked (IS1786:2008).
- g) The steel manufacturer should have the following in house testing facilities (NABL Accredited):
 - i. Computerized Universal Testing Machine.
 - ii. Spectrometer.
 - iii. Bend Re-bend facility as per IS: 1786:2008 (with latest amendments).
 - iv. Raw material laboratory: Arrangement for testing Carbon, Sulphur & Phosphorous etc.

v. Other testing facilities as specified in IS: 1786:2008 & IS :2830:2012.

- 5.2.3 Steel can also be procured from any particular steel manufacturer who has been suo motto approved by the CE, CHB.
- 5.2.4 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-Charge to do so.
- 5.2.5 The steel reinforcement bars shall be brought to the site in bulk supply of 40 tonnes or more, or as decided by the Engineer-in-Charge.
- 5.2.6 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 5.2.7 For checking nominal mass, tensile strength, bend test & re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than the specified below:

Size of bar	For consignment below 100 tonnes	For consignment above 100 tonnes
Under 10mm dia bars	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
10mm to 16mm dia bars	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16mm dia bars	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

- 5.2.8 The contractor shall supply free of charge the required steel bars for testing including its transportation to testing laboratories. **The cost of tests shall be borne by the contractor.**
- 5.2.9 The actual issue and consumption of steel on work shall be regulated and proper accounts maintained. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause 38 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations leading to under designing of the structure, the work shall be

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summarily rejected, otherwise recovery at rate so prescribed shall be made after ensuring structural soundness and stability. In case of excess consumption no adjustment shall be made.

- 5.2.10 Steel brought to site and remaining unused shall not be removed from site without the written permission of Engineer-in-Charge.
- 5.2.11 The standard sectional weights referred to shall be as given in Table 5.4 in para 5.3.4 in CPWD Specification 2019 Vol.-I and will be considered for conversion of length of various sizes of TMT Bars in to standard weight. Record of actual sectional weights shall also be kept dia. and lot wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be terms as Derived Actual Weight.
- If the derived weight is less than the standard weight, then the Derived Actual Weight shall be accepted if it is within the following tolerances specified in IS:1786-2008, otherwise whole lot will be rejected. However, deductions shall be made for the difference in derived actual weight and standard weight at the rate Rs.6833/- for TMT-500D/ 550D reinforcement bars. Tolerance on nominal mass shall be in accordance with Table 5.4A of CPWD Specification 2019.
 - If the derived actual weight is found more than the standard weight, then nothing shall be paid extra for the difference in derived actual weight and standard weight.
- 5.2.12 The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be used in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the Engineer-in-Charge in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the CHB Site staff and Copy of Original vouchers and Original test report shall be kept on record in the site office

8.0 SPECIAL CONDITION FOR CEMENT CONCRETE:

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- 8.1 The contractor has to arrange at site sufficient centering /shuttering before start of work. Only M.S. centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-charge.
- 8.2 Nothing extra shall be paid for the centering & shuttering, circular in shape where the form work is having a mean radius exceeding 6m in plan.
- 8.3 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of R.C.C. shall be accordingly adjusted at the time of its centering, shuttering & casting for which nothing extra shall be paid to the Contractor.
- 8.4 As per general engineering practice, level of floors in toilet/ bath, balconies, shall be kept 12 to 20mm as required lower than general floors, shuttering should be adjusted accordingly.
- 8.5 Drip course or moulding shall be provided in projected surfaces wherever specified.
- 8.6 The lean concrete, to be used in foundations base shall be mixed with mechanical mixtures.

9.0 PARTICULAR SPECIFICATIONS FOR RCC WORK: -

- 9.1 The RCC work shall be done with Design Mix Concrete. **Wherever letter M has been indicated**, the same shall imply for the Design Mix Concrete. The Design Mix Concrete will be designated based on the principles given in IS: 456, 10262 & SP 23. The Conditions & Specifications stated herein shall have precedence over all conditions & specifications stated in relevant I.S. Codes/ CPWD Specifications. The concrete mix shall be designed for the specified target mean compressive strength in order to ensure that work test result do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting the requirements specified.
 - (a) The contractor has to submit design mix with the use of admixtures.
 - (b) Admixture to be added (by maintaining the minimum cement content & maximum W/C ratio as given under Para 9.3) to meet the Workability/ slump & requirement. Quoted rate will include the cost of admixtures used in the concreting work. Nothing extra shall be paid to the contractor on account of addition of admixtures.

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- 9.2 The source of course aggregate, fine aggregate, water, admixture & cement to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specifications and their availability before getting the approved from the Engineer-in-Charge.
- a) Coarse Aggregate As per CPWD Specifications
 - b) Fine Aggregate As per CPWD Specifications
 - c) Water It shall conform to requirements laid down in IS: 456-2000 (Para 5.4) or CPWD Specifications.
 - d) Cement The contractor shall use 43 Grade Ordinary Portland Cement and/or Portland Pozzolona Cement of brand/make/source as specified in Tender Document for production of concrete. However, if the contractor uses higher grade of cement nothing extra shall be paid.
 - e) Admixture/Plasticizer The admixture shall conform to IS: 9103 Whenever required, the admixture of approved quality & approved make only shall be used to attain the required workability. Nothing extra on account of use of Admixture/Plasticizer shall be payable.
- 9.3 Grade of Concrete: - The compressive strength of various grades of concrete with various parameters shall be as follows: -

GRADE DESIGNATION	COMPRESSIVE STRENGTH ON 15 CM CUBES min. 7 Days (N/mm ²)	SPECIFIED CHARACTERISTICS COMPRESSIVE STRENGTH AT 28 DAYS (N/mm ²)	MINIMUM CEMENT CONTENT (Kg. per cum)	MAXIMUM WATER CEMENT RATIO	SLUMP
(i) M-25	As per design	25	300	0.50	25-75
(ii) M-30	As per design	30	320	0.45	25-75

NOTE:-

- i) In the designation of a Concrete mix letter M refers to the mix and the number of the specified characteristic compressive strength of 15 cm - Cube at 28 days expressed in N/mm².

- ii) It is specifically highlighted that in addition to the above requirements, the maximum cement content for any grade shall be limited to 530 kg./cubic metre.
- iii) **In case the quantity of cement use is less than the quantity as specified in the respective items of design mix concrete in 'Schedule of Quantities; then the necessary recovery shall be made for less use of cement.**
- 9.4 The Contractor shall engage one of the following approved laboratories/ test house for designing the concrete mix in accordance with relevant IS Code and to conduct laboratory tests to ensure the target strength & workability criteria for a given grade of concrete: -
- i) Punjab Engineering College, Chandigarh.
- ii) NIT, Jalandhar. (Formerly known as REC, Jalandhar.)
- iii) IIT, New Delhi.
- iv) Chandigarh Engineering College, Sector 26, Chandigarh.
- v) National Institute of Technical Teacher Training and Reserch, Sector 26, Chandigarh.
- The various ingredients for mix design/laboratory tests shall be sent to the lab/ test houses through the Engineer-in-charge and the samples of such aggregates shall be preserved at site by the department.
- In the event if all the five laboratories are unable to carry out the requisite design/ testing, the contractor may have it done any other laboratory with prior approval of the Chief Engineer.
- 9.5 The contractor shall submit the report on design 'mix from any of above approved laboratories for approval of Engineer in Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of White Portland Cement and the likely use of admixtures in concrete with ordinary Portland/White Portland Cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and/ or admixtures also, for which nothing extra shall be payable.
- 9.6 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, the contractor as per the directions of the Engineer-in-charge shall submit a revised laboratory mix design report conducted at laboratory established at site.
- 9.7 All cost of mix designing and testing, connected therewith, including charges payable to the laboratory shall be borne by the Contractor including

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redesigning of the concrete mix whenever required & as directed by Engineer-in-Charge.

- 9.8 The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65s$

Where F_{ck} = Compressive strength at 28 days.

S = Standard deviation which depends on degree of quality control.

The standard deviation for different grades of concrete shall be as follows:

GRADE OF CONCRETE	STANDARD DEVIATION
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M-25	4
------	---

M-30	5
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9.9 TRIAL BATCHES

- (a) The designed mix proportions shall be checked for target mean compressive strength by means of trial batches.
- (b) Minimum three sets of separate preliminary tests shall be carried out for each trial batch of concrete mix. Each test shall comprise of six specimens and only one test-set of six specimens shall be made on any particular day.
- (c) The quantities of materials for each trial mix shall be sufficient for at least six specimens (cubes) and the concrete required for carrying out workability tests.
- (d) The workability of trial mix No.1 shall be measured and mix be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.
- (e) With the modified Water Content, the mix proportions shall be recalculated by keeping Mix water cement ratio unchanged. The mix proportion, as modified, shall form the trial mix No. 2 and tested for the specified strength and workability.
- (f) In addition, trial mix No.3 and 4 shall be designed by keeping water contents same as determined as per trial mix No. 2 but varying the water cement ratio by $\pm 10\%$ of the specified value and tested for their designed characteristics.
- (g) Out of the six specimen of each set, three shall be tested at 7 Days & remaining three at 28 Days. The preliminary tests at 7 Days are intended only to indicate the strength to be attained at 28 Days, while the design mix shall be approved only on the basis of test strength at 28 Days.

9.10 APPROVAL OF DESIGN MIX

The design mix shall be considered satisfactory and approved if at least three preliminary test-sets individually satisfy the following strength and workability criteria:

- (a) The average strength of each test-set is not less than the specified target mean compressive strength (T_{ck}).
- (b) The strength of any specimen cube is not less than $0.85 T_{ck}$.
- (c) The concrete mix is of required degree of workability and acceptable concrete finish.

9.11 BATCHING & MIXING:-

- a) All design mix concrete shall be done using fully automatic/semi-automatic batching plant **installed at site of work** conforming to IS: 4925 of minimum 6 cum per hour capacity. The automatic/ semi automatic batching plant shall be charged by devices when actuated by a single starter switch, will automatically start the weighing operation of each material (i.e. stone aggregate, sand, cement, water, admixture etc.) and stop automatically when designated weight of each material has been reached and also it should have rated capacity (in terms of concrete in a single batch). It shall have control panel for operation of the batching plant complete with printing facility.
- b) All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy shall be checked at least once a month.
- c) Only single sized good quality stone aggregate shall be brought to site of work from the approved source. The grading of the stone aggregate shall be controlled by blending the aggregate of different sizes in the required proportions at site of work.

The aggregate of different sizes shall be stock-piled separately, preferably a day before use. The grading of coarse and fine aggregates shall be checked as frequently as possible and as directed by the Engineer-In-Charge to ensure that the specified grading and quality of aggregate is maintained.

- d) It is important to maintain the Water Cement Ratio constant at its specified or approved value by making adjustment for the moisture contents of both fine and coarse aggregates. The moisture contents in the aggregate shall be determined as frequently as possible in

keeping with the weather conditions and as per the provisions of IS:2386 (Part-III).

- 9.12 Equipment like concrete pump excavators/Transit mixer etc. shall be allowed to be moved away from the site when, in written opinion of Engineer-in-Charge, the same are no longer required at site of work.
- 9.13 The contractor may note that adequate Transit Mixers and Pumps shall have to be deployed for carrying out the RCC work.
- 9.14 **The contractor shall establish a laboratory at site of batch mix plant to test the coarse aggregate, fine aggregate, water, sand, cement etc. Contractor is also required to depute technical personnel specifically for running of Batch Mix Plant and for quality control of mix produced.**
- 9.15 All incidental expenditure on security, construction of cement go down, access roads, arrangement of water, electricity etc. to be incurred or anticipated by the agency for arranging, installing and operation of Batch Mix Plant shall be deemed to have been included in his quoted rates and no claim whatsoever will be tenable on this account.
- 9.16 With each Running Bill, the details of test
- 9.17 **OTHER OPERATIONS:** - carried out shall be submitted by the contractor as per Performa.

All other operations in concreting work like mixing, slump, laying, placing of concrete, compaction, curing etc, not mentioned in this particular specification for Design Mix Concrete shall be as per CPWD Specifications.

9.18 **SAMPLING:-**

- a) Samples from fresh concrete shall be taken as per IS 1199-1959 and the test cubes shall be made, cured and tested in accordance with IS: 516-1959
- b) Each test sample shall comprise of six test cubes (specimen), three of which shall be tested at 7 days and remaining for tests at 28 days.
- c) **FREQUENCY OF SAMPLING: -**
- (i) A random sampling procedure shall be adopted to ensure that the sampling is spread-over the entire period of concreting and cover all mixing units. The concrete work shall be notionally divided into lots as under for the purpose of sampling conditions.

- Footings, rafts etc

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- Columns and walls at all levels
 - Beams at all levels
 - Slabs at all levels
- (ii) At least one test sample shall be taken for each lot of concrete work.
- (iii) Each grade of concrete shall form different lot for testing,
- (iv) The minimum frequency of sampling of concrete of each grade shall be in accordance with the following: -

**QUANTITY OF CONCRETE NUMBER OF SAMPLES
IN THE WORK, CUBIC
METRE PER DAY.**

1-5	1
6-15	2
16-30	3
31-50	4
51 & Above	4 Plus one additional sample for each additional 50 Cum or part thereof.

NOTE: - At least one sample shall be taken from each shift.

- (i) The concrete work shall be assessed on day to day basis & samples shall be taken as specified.
- (ii) Work strength test shall be conducted in accordance with IS: 516 on random sampling.

9.19 TEST RESULTS OF SAMPLES:

The test results of the sample shall be the average of the strength of three specimens. The individual variation shall not be more than $\pm 15\%$ percent of the average. If variation is more, the test results shall be treated as invalid. Around 90% of the total tests shall be done at the laboratory established at site by the contractor and remaining 10% in any other laboratory {as directed by the Engineer-in-Charge}.

9.20 STANDARD OF ACCEPTANCE:-

- i) In case the test results of all the samples are above the characteristic compressive strength, the concrete shall be accepted.

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- ii) In case the test result of one or more samples fails to meet the requirement (i) above, it shall be accepted if it meets the requirement as laid down in CPWD Specification.
- iii) Concrete of each grade shall be assessed separately.
- iv) Concrete is liable to be rejected, if it is porous or honeycombed or its placing has been interrupted without providing a proper construction joint or the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met.

9.21 MEASUREMENT -

- (i) As per CPWD Specifications.
- (ii) In respect of all projected slabs at all levels including cantilever, canopy, the payment for the RCC work shall be made under the item RCC slabs. The payment for shuttering at the edges shall be made under item of centering and shuttering for RCC slabs. Nothing extra shall be paid for the side shuttering at the edge of these projected balconies/ projected verandah slabs.

9.22 TOLERANCES – As per CPWD/MORT&H Specifications.

9.23 RATES:-

- (i) The rate includes the cost of materials, labour and T&P, including mixing, placing, transportation involved in all the operations described above except for the cost of centering, shuttering & reinforcement which will be paid for separately.
- (ii) In case of rejection of concrete on account of unacceptable compressive strength, governed by para "Standard of Acceptance" as above, the work for which samples have failed shall be redone at the cost of contractor. However, the Engineer-in-charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure or part of structure, etc) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days. cube test results and reduced rates shall be regulated in accordance with CPWD Specifications.

10.0 BRICK WORK:-

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- 10.1 The brick work shall be carried out with good quality FPS well burnt bricks of class designation 75 as per CPWD Specifications. In view of the over size of local bricks available, the thickness of the course shall be 8 cm assuming consumption on average of 460 bricks per cum of brick work. In case consumption of bricks is more or less than 460 bricks per cum, it will be paid/recovered accordingly at the rate mention as under:-
Bricks – Rs.4990/- per thousand
This would be without any effect on the consumption of the standard cement consumption factor.
- 10.2 The rate shall also include for leaving chases/ notches for dowels/ cramps for all kinds of cladding to come over brick work.
- 10.3 In case of non availability of the bricks, fly ash/concrete bricks of equivalent strength can be used with the permission of Engineer-in- Charge. Nothing extra on this account shall be made.
- 10.4 **Hollow Concrete Blocks of A Grade:-** Technical Specifications of Hollow Concrete Blocks of A Grade having compressive strength of 7.0N/mm² at 28 days confirming to IS:2185 (part 1):2005 shall be used.

11.0 ENGAGING SPECIALISED AGENCIES FOR WORKS: -

- 11.1 The **Specialized agency** for executing the following items of the work and/ or any other items of work where specialized firm is required to be engaged, shall be got approved from the Engineer-in-Charge well before actual commencement of the item of work:-

- i) Passenger Lift
- ii) Solar Photovoltaic Power Plant
- iii) Fire Fighting
- iv) CCTV

12.0 Written guarantee for various materials

Before the release of payment, the contractor shall arrange a written guarantee from the manufacturer (with its certified address) for various material as detailed below that it conforms to the prescribed specifications. In case, any manufacturing defect is observed before/after the fixing during next five years in the said material, the defective material shall be replaced without any charges free of cost on lodging a complaint to it. The decision of the Engineer- in-Charge in this regard will be final and binding to the Contractor. In case of failure to do so, manufacturer and contractor shall be black listed in CHB.

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i)	Vitrified, Glazed & Ceramic Tiles	vii)	Lifts
ii)	Acrylic emulsion	viii)	Solar System- Photo Voltaic cells and Inverter Panel
iii)	Water Proofing Treatment	ix)	Ventilation fans
iv)	PH Fixtures and fittings	x)	Fire Pump with motor
v)	MCB /RCCB/ MCCB/BDB's	xi)	CCTV Camera
vi)	Modular Switches, Socket & Accessories		

13.0 SAMPLE HOUSE: -

The contractor shall construct a sample house complete in all respects including all Civil and Electrical details/ fixtures within a time period of 12 months from the date of commencement. The sample quarter/ room shall be inspected and approved by the Engineer-in-Charge. Slight changes with regard to the fixtures/ fittings/ details/ dimensions etc. may occur as per the actual requirement or in order to enhance the functionality of the product or the unit. Thus, the procurement for all the internal fittings/fixtures/ fabricated material and other material etc. shall be done by the contractor only after the approval of the sample house.

14.0 DEFECT/ WATCH & WARD LIABILITY:

14.1 The contractor's liability during the defect liability period (be read as 5 years instead of one year) from the final date of completion as per Clause-17 shall be limited to rectification of defects including replacement as follows which in the opinion of Engineer-in-Charge are not man made. The agency shall be responsible for watch and ward of completed houses for the period upto the 'Defect liability Period' or till the physical possession is handed over to the respective allottee whichever is earlier. Nothing extra shall be payable on this account.

However, the security of 1.5% (out of 2.5%) shall be released after one year from the date of completion as per Clause-17 and balance 1% shall be released after 5 years from the date of completion.

S. No.	Description	Defect Liability of the items, if executed under this contract.
(i)	Anti termite	Termites found if any till guarantee period to be rectified through post ATT.
(ii)	Concrete	a) Rectification of structural/ superficial/ non-

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		structural cracks. (b) Rectification of dampness/ seepage in roof slab/ junctions & sunken portion.
		(c) Rectification of cracks in beam, shade, column.
(iii)	Brick work/Hollow block	(a) Rectification of cracks in panel wall/ portion.
		(b) Cracks/ settlement of walls.
		(c) Rectification of efflorescence .
(iv)	Joinery	(a) Replacement of warped joinery.
		(b) Cracks in panels, rails/ styles etc.
(v)	Builders' Hardware.	(a) Repairs Replacement of loosened/ pre-mature failure of fittings.
		b) Tightening/ Replacement of sag in mosquito proofing.
(vi)	Steel & Iron work	(a) Rectification/ Replacement of defective part of rolling shutter
		(b) Redoing of defective portion in fabrication welding including Painting.
		(c) Steel windows, Grills, gates etc. - defects to be rectified.
(vii)	Roof treatment	Rectification of leakage/ seepage of roof slab including covering at junction till Guarantee period.
(viii)	Plastering	(a) Rectification of structural superficial cracks if any.
		(b) Rectification of protruding/ peeling off plaster if any.
		(c) Rectification of efflorescence
(ix)	Flooring	(a) Rectification of sinking portion of plinth protection including saucer drain.
		(b) Settlement of foundation & floors.
		(c) Removal of broken/chipped tiles

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		(d) Rectification of Slopes, uneven joints by relaying.
(x)	Plumbing/Sanitary fittings	(a) Making good of leakage through soil/ waste pipe & joints.
		(b) Replacement of looking mirror if found wavy.
		(c) Rectification of leakage of over head tanks.
		(d) Leakage/ seepage of sunken floor, blockage of taps/ pipes, Non-functioning of cistern.
(xi)	Finishes	Making good of defective dissimilar patches of painting to match with remaining surfaces.
(xii)	Internal Water Supply	(a) Repairs/ Replacement of defective taps/ fittings.
		(b) Repair to leakage of GI water pipe lines including joints.
		(c) Removal of blockage at GI pipe lines.
(xiii)	Pavement/ approach ramps	Repair of sinking portions & potholes, if any
(xiv)	Sewage	(a) Rectification of slope/ system if found defective during use.
		(b) Rectification of major blockage in Sewer lines.
		(c) Cracks & settlement of sewage lines.
		(d) Settlement of ICs & GTs.
(xv)	Drains	(a) Repair to Drains.
		(b) Settlement of Drains
(xvi)	External Water Supply	(a) Repairs of leaking GI pipes/specials including joints
		(b) Removal blockages of GI pipes
		(c) Rectification of settlement/ damage of Water Meter Chambers.
(xvii)	Electrical installation	All manufacturing defects of electrical switches/ sockets, wires/ cables, accessories, MCBs fittings &

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		panels etc.
(xviii)	General	(a) All manufacturing defects of structures/ fixtures/ fittings/ equipments other than listed above.
(xix)	Road work	Repair & making good as original of sinked portion and potholes if any.
(xx)	Kerb & Channel	Settlement/ breakage if any to be rectified/ replaced

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**15.00 FOR COMPLIANCE UNDER ENVIRONMENT PROTECTION ACT
1986.**

- i. All the top soil excavated during construction activities should be stored for use in horticulture/ landscape developments with the project site. The excavated soil except top soil shall be used for top cover of at dumping ground.
- ii. Water demand during construction shall be reduced by use of premixed concrete, curing agents and other best practices.
- iii. It is recommended to use Tertiary treated water during construction phase, as much as possible.
- iv. Permission to draw and use ground water for construction work shall be obtained from competent authority prior to construction/operation of the project.
- v. All required sanitary and hygienic measures including portable toilets/ septic tank, first aid room etc. for labour should be in place before starting construction activities and to be maintained through the construction phase.
- vi. Adequate drinking water facility should be provided for construction workers at the site. The safe disposal of waste water and solid wastes generated during the construction phase should be ensured.
- vii. Disposal of muck including excavated material during construction phase should not create any adverse effects on the neighboring communities and be disposed-off taking the necessary precautions for general safety and health aspects of people.
- viii. Diesel power generating sets used during construction phase should be of "enclosed type" to prevent noise and should conform to rules made under

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Environment (Protection) Act, 1986, prescribed for air and noise emission standards

- ix. Ambient noise levels should conform to standards both during day and night at the site as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.
- x. Vehicles hired for bringing construction material at site should be in good condition and should have valid "pollution under check" (PUC) certificate and conform to applicable air and noise emission standards. These should be operated only during non-peak hours.
- xi. Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they should not leach into the ground water.
- xii. Any hazardous waste generated during construction phase should be disposed of as per applicable Rules & norms with necessary approvals of the Chandigarh Pollution Control Committee.
- xiii. The diesel required for operation DG set shall be stored in underground tanks and if required, clearance from the Chief controller of Explosives shall be taken.
- xiv. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase so as to avoid disturbance to the surroundings.
- xv. The environmental safeguards contained in the documents should be implemented in letter and spirit.

- xvi. Activities regarding the Environment Management Plan & Environment & Social Responsibility, as proposed in the EIA/EMP report of the project should be implemented in letter and spirit.
- xvii. Reports including that of air and noise shall be submitted for compliance to environmental conditions, every 6 months. A display board shall also be provided at the gate of the unit showing date of granting of consents and its validity and key pollution related parameters for the information of the general public as per the guidelines given by CPCC.
- xviii. Storm water control and its reuse should be as per Central Ground Water Board and BIS standards for various applications.
- xix. Officials from the Regional Office of MoEF&CC, Chandigarh who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the contractor during their inspection.
- xx. A First Aid Room will be provided at the project site both during construction and operation of the project.
- xxi. It is envisaged to obtain 3-star GRIHA rating for building to be constructed under this contract. The contractor shall strictly adhere to the following conditions as part of his contractual obligation. Rate quoted by the agency deemed to be inclusive of expenditure on this account and nothing extra shall be paid for this compliance.**
- xxii. The contractor is to go through all conditions of the GRIHA rating stipulations. Failure to adhere to any of the conditions mentioned in GRIHA rating stipulations without approval of the Engineer in Charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as per terms of the agreement.

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- xxiii. In case any penalty is imposed by any Hon'ble Court, NGT or any other authority due to noncompliance of any statutory order, or law or guidelines or pollution control or environmental norms, the same will be borne by the contractor.
- xxiv. All paper works, compliance, photography etc. with reference to obtaining the 3-star GRIHA rating for building shall be maintained/borne by the Contractor.

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PART-C

**Schedule A to F for Minor Components of
the work, General/specific conditions,
specifications and schedule of quantities
applicable to Minor Component(s) of the
work**

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PROFORMA OF SCHEDULES - FOR PH WORK

SCHEDULE "A"

Schedule of Quantities for Work (PH) which starts at page 149

SCHEDULE "D"

Extra schedule for specific requirements/documents for the work if any	Nil
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SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

i)	Name of Work	Construction of 80 EWS Flats (Composite work) for General Housing Scheme in Sector-53, Chandigarh - PH Component.
ii)	Estimated cost of PH Work	Rs.1,47,55,839/-
iii)	Earnest Money (Composite amount)	As per detail regarding tendering process
iv)	Performance Guarantee	5% of the tendered value
v)	Security Deposit	2.5% of the tendered value

SCHEDULE "F"

Reference to General Conditions of Contract	GCC-2020 (Construction work) issued up to the last day of the last date of submission of bid.
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GENERAL RULES AND DIRECTIONS

Officers inviting tender :-	Executive Engineer-I Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-VII(PH) Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.

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2(x) Percentage on cost of materials and labour to cover all overheads and profit	7.5% CP & 7.5 % OH.
2(xi) Standard Schedule of Rates	Delhi Schedule of Rates DSR-2021(Updated) with correction slips issued up to the last day of the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD specifications with latest amendments and as specified in Tender Document
9(ii) Standard CPWD Contract form	CPWD form 7, as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee, programme chart (Time and progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW welfare board or proof of applying there of from the date of issue of letter of acceptance	As per Major Component
ii) Maximum allowable extension beyond the period provided in (i) above. Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per Major Component
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, CHB in Charge of Major Component.
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at Page No. 165-166	As per Major Component
Time allowed for execution of work	20 Months

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Authority to decide:-	
(i) Extension of time	Superintending Engineer, CHB in Charge of Major Component.
ii) Rescheduling of mile stones	Superintending Engineer, CHB in Charge of Major Component.
iii) Shifting of date of start in case of delay in handing over of site	Superintending Engineer, CHB in Charge of Major Component.
PROFORMA OF SCHEDULES Clause 5 Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.
Complete Site	As per Major Component
Clause 7	
Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.	Rs.2.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)
Clause 7A	
Whether Clause 7A shall be applicable Clause 7A (No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC, whatever applicable is submitted by the contractor to the Engineer-in-Charge.)	Yes, Applicable
Clause 8A	
Authority to decide compensation on account, if Contractor fails to submit completion plans.	Executive Engineer in Charge of Major Component
Clause 10 A	
List of testing equipments to be provided by the contractor at site lab.	
Equipments for Testing of Materials & Concrete at Site Laboratory	
All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory	

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equipments shall be set up at site office laboratory:-		
Sl. No.	Equipment	Numbers (Minimum)
As per Major Component		
Clause 10 B (ii)		
Whether Clause 10 B (ii) shall be Applicable		Not Applicable
Clause 10 C		
Component of labour expressed as percent of value of work		Not Applicable
Clause 10 CC		
Clause 10 CC to be applicable in contracts		Yes, Applicable
S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1.	Cement component	1.08%
2.	Labour component	25%
3.	Civil component of other construction material	73.72%
4.	E&M (Electrical & Mechanical) component	NIL
5.	POL (Diesel) component	NIL
6.	Reinforcement Steel Bar/ TMT Bars/ Structural Steel (Including strands and cables) component	0.20%
7.	Bitumen component	NIL
	Total	100%
Clause 11		
Specification to be followed for execution of work.		CPWD Specifications with correction slips upto date.
Clause 12		

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Authority to decide deviation upto 1.5 times of tendered amount.	
The deviation limit for construction work	100% for all the items
Clause 16	
Competent authority for deciding reduced rates.	Superintending Engineer, CHB of Major Component
Clause 18	
List of mandatory machinery, Tools & Plants to be deployed by the contractor at site	Minor Component
	1. Chase Making Machines
	2. Compactor
	3. Mixer with Hopper / loader
	4. Welding Generator
	5. Excavator
	6. Steel shuttering & Scaffolding
	7. Transit Mixer
Clause 19	
Clause 19 C	Rs.1000/- penalty for each default.
Clause 19 D	Rs.1000/- penalty for each default.
Clause 19 G	Rs.1000/- penalty for each default.
Clause 19 K	Rs.1000/- penalty for each default.
Clause 25	
Settlement of Dispute by Conciliation and Arbitration :	CEO, CHB Conciliator ,

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Clause 32				
Requirement of Technical representatives and Recovery rates				
Requirement of Technical Staff		Minimum Experience (Years)	Designation of Technical Staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
Qualification	No. (of major Component)			
Graduate Engineer or Diploma Engineer	1	2 or 5 respectively	Project Manager cum planning/ quality/ Site/ billing Engineer	Rs.15,000/- Per month per person
<p>Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.</p> <p>Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.</p>				
Clause 34				
Extent of GST payable by Contractor for Building and Construction works.			GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/extended date of submission of tender will be adjusted accordingly	
Clause 38				
i)	Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates printed by C.P.W.D.			
ii)	Variation permissible on theoretical quantities			
a)	Cement	2% Plus/Minus		
b)	Bitumen All Works	2.5% Plus only & Nil on Minus side		
c)	Steel Reinforcement and structural steel sections for each diameter, section and category	2% Plus/Minus		
d)	All other materials.	Nil		

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ABSTRACT OF COST


CONSTRUCTION OF 80 TWO ROOM FLATS (EWS) (S+4) FOR GENERAL HOUSING SCHEME (COMPOSITE WORK) IN SECTOR -53, CHANDIGARH - PH Component.

Sr. No	Sub Head	Amount
1	Sub Head : A EARTH WORK	122860
2	Sub Head : B CONCRETE WORK	286089
3	Sub Head : C REINFORCED CEMENT CONCRETE	305905
4	Sub Head : D BRICK WORK	235156
5	Sub Head : E FINISHING	136382
6	Sub Head : F SANITARY INSTALLATION	6213871
7	Sub Head : G WATER SUPPLY	6991230
8	Sub Head : H DRAINAGE	464346
	TOTAL	14755839


Executive Engineer-VII(PH)
Chandigarh Housing Board
Chandigarh


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Schedule of quantities for the work of Construction 80 EWS Flats (Composite work) at GHS Sector-53, Chandigarh - PH Component.

S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
Sub Head : A- Earth work						
Item No. 1 to 3						
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth.1.5m in width as well as 10 Sqm on plan) including disposal of excavated earth, lead up to 50m and lift up to 1.5m,as directed by Engineer-in-charge.	22	cum	157.66	3469	
	All kinds of soil					
2	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width or 10sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m.	89.70	cum	231.26	20744	
	All kinds of soil					

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
3	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming, watering etc. and disposing of surplus excavated soil as directed, within a lead of 50m:					
	All kinds of soil					
	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	330 metre	metre	298.93	98647	122860
Sub Head : B Item No. 4						
Concrete Work -						
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering--All work up to plinth level:					
a)	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources: 4 graded stone aggregate 20 mm nominal size derived from natural sources)	14.05 cum	cum	7791.45	109470	
b)	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources: 6 graded stone aggregate 20 mm nominal size derived from natural sources:).	10.50 cum	cum	7228.93	75904	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
c)	1:4:8(1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 derived from natural sources).	7.35	cum	6692.20	49188	
d)	1:5:10(1 cement : 5 course sand (zone-III)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources).	8.05	cum	6400.89	51527	
						286089
Sub Head : C - Reinforced Cement Concrete Work						
Item No. 5 to 6						
5	Centering and shuttering including strutting, propping etc. and removal of form for ;					
a)	Suspended floors, roofs, landings, balconies and access platform.	42.65	sqm	810.91	34585	
b)	Columns, Pillars, Piers, Abutments, Posts and Struts,	178.20	sqm	850.81	151614	
c)	Edges of slabs and breaks in floors and walls.					
	Under 20 cm wide	409.60	metre	192.46	78832	
6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	Thermo-Mechanically Treated bars of grade Fe-500D or more.	430.98	Kg	94.84	40874	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
Sub Head : D Brick Work Item No.7						
7	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1 :4(1 cement :4 coarse sand)	32.30	cum	7280.36	235156	235156
Sub Head : E Finishing Item No. 8 to 9						
8	12 mm cement plaster of mix : 1 : 4 (1 cement : 4 fine sand)	391.05	sqm	311.95	121988	
9	Cement plaster 1 : 3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement . 12 mm cement plaster	35.20	sqm	408.92	14394	136382

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
Sub Head : F - Sanitary Installation						
Item No. 10 to 25						
10	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	80	Nos	937.58	75006	
11	Providing and fixing soil, waste and vent pipes : 100 mm dia.					
12	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989 Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905 Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.	1223	metre	1139.74	1393902	
13	For 100 mm dia. Pipe Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete. 100 mm dia	120	Nos	326.30	39156	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
14	Sand cast iron S&S as per IS - 3989 Providing and fixing plain bend of required degree. 100 mm dia	120 Nos	Each	632.21	75865	
15	Sand cast iron S&S as per IS - 3989 Providing and fixing heal rest sanitary bend 100 mm dia	120 Nos	Each	465.15	55818	
16	Sand cast iron S&S as per IS : 3989 Providing and fixing single equal plan junction of required degree : 100x100x100mm	80 Nos	Each	465.15	37212	
17	Sand cast iron S&S as per IS - 3989 Providing and fixing terminal guard: 100 mm	240 Nos	Each	748.24	179578	
18	Sand cast iron S&S as per IS - 3989 coated inside & outside as per IS:15905 Providing and fixing collar	60 Nos	Each	465.15	27909	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
	100 mm dia.					
	Sand cast iron S&S as per IS - 3989	400 Nos	Each	465.15	186060	
19	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter					
	100 mm	1100 Nos	Each	581.48	639628	
20	Providing and fixing trap of self cleansing design with or without vent arm complete, including cost of cutting and making good the walls and floors :					
	100 mm inlet and 100 mm outlet					
	Sand cast iron S&S as per IS: 3989 coated inside & outside as per IS:15905	160 Nos	Each	1696.96	271514	
21	Painting sand cast iron/ centrifugally cast (spun) iron soil , waste vent pipes and fittings with paint of any color such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work:					
	100 mm diameter pipe	894 metre	metre	73.61	65807	
22	Providing and fixing white wash basin with C.I. brackets, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, full pedestal cutting and making good the walls wherever required complete in all respects to the entire satisfaction of Engineer-in Charge.					

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
23	White Vitreous China Flat back wash basin size 620 mm x 480 mm x 185 mm Providing and fixing European type white vitreous china couple closet bowl-WC with UF seat cover with seat and lid, 10 litre low level white vitreous china flushing cistern (Dual Flush) & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required complete in all respects to the entire satisfaction of Engineer-in-Charge.	80 Nos	Each	7957.30	636584	
24	W.C. pan with ISI marked white solid plastic seat and lid Providing and fixing in position best quality salem stainless steel sink (ISI Marked) of overall size of 685x510mm with single bowl size 24"x18"x10" with complete fitting and 40 mm C.P. Brass waste, PVC waste pipe including cutting and making good the wall and floor complete in all respect to the entire satisfaction Engineer -in -Charge.	80 Nos 80 Nos	Each Each	21327.50 9572.00	1706200 765760	
25	Providing and fixing Cockroach trap of Salem stainless steel Heavy quality size 5" dia weight 280 gms complete in all respect to the entire satisfaction of Engineer-in-Charge	160 Nos	Each	361.70	57872	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
Sub Head : G - Water Supply						
Item No. 26 to 47						
26	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.					
Internal work - Exposed on wall.						
a	20 mm nominal dia Pipes	4664.60	metre	343.93	1604296	
b	25 mm nominal dia Pipes	1470.50	metre	432.18	635521	
c	40 mm nominal dia Pipes	77.75	metre	713.39	55466	
27	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including					6213871

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
	testing of joints complete as per direction of Engineer in Charge.					
	Concealed work, including cutting chases and making good the walls etc.					
a	15 mm nominal dia Pipes	1484	metre	465.25	690431	
b	20 mm nominal dia Pipes	456	metre	542.07	247184	
c	32 mm nominal dia Pipes	88	metre	752.60	66229	
28	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.					
	External work					
	20 mm nominal dia Pipes	1389.50	metre	291.21	404636	
29	Providing and fixing brass stop cock of approved quality:					
	15 mm nominal bore	80	Nos	321.40	25712	
	20 mm nominal bore	90	Nos	346.95	31226	
30	Providing and fixing ball valve (brass) of approved quality, High or low					

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
	pressure , with plastic floats complete : 15 mm nominal bore	90 Nos	Each	369.07	33216	
31	Providing and fixing uplasticised PVC connection pipe with brass unions : 45 cm length 15 mm nominal bore	80 Nos	Each	90.09	7207	
32	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	76000 litres	per litre	10.25	779000	
33	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 15mm nominal bore	480 Nos	Each	529.30	254064	
34	Providing and fixing C.P. Brass extension nipple(size 15 mm X 50 mm) of approved make and quality as per direction of Engineer-in-charge.	640 Nos	Each	65.29	41786	
35	Cutting holes up to 30x30 cm in walls including making good the same: With common burnt clay F.P.S. (non modular) bricks	60 Nos	Each	383.38	23003	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
36	Cutting holes up to 15x15cm in R.C.C floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size) including finishing complete so as to make it leak proof.	260	Nos	398.97	103732	
37	Providing and fixing C.P. brass flange (heavy) of good quality wt. 15gms. complete in all respects to the entire satisfaction of Engineer-in-charge.	80	Nos	103.60	8288	
38	Providing and fixing brass stop cock of approved quality complete in all respects to the entire satisfaction of Engineer-in-charge.					
	25 mm nominal bore	100	Nos	1691.80	169180	
	40 mm nominal bore	20	Nos	3158.70	63174	
39	Providing and fixing in position C.P. over Head Rose Shower 15mm with revolving joint and 200mm long shower arm with wall flange complete in all respect to the entire satisfaction of Engineer-in-charge.	80	Nos	1671.80	133744	
40	Providing and fixing CPVC Readymade tank Nipple (ISI MARKED) with Check-nut and Rubber Washer Complete in all respects toth entire satisfaction of Engineer-in - Charge.					
a.)	20 mm dia nominal bore	240	Nos	95.70	22968	
b.)	25 mm dia nominal bore	90	Nos	125.80	11322	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
	40 mm dia nominal bore	10 Nos	Each	197.70	1977	
41	Providing and fixing C.P. brass Health Faucet complete in all respect to the entire satisfaction of Engineer - In - Charge. Size 15mm	80 Nos	Each	1232.00	98560	
42	Providing and fixing CP brass Single Lever Diverter 3 inlet concealed(Three ways) with bath tub spout, provision of over head shower and wall flanges complete in all respects to the entire satisfaction of Engineer-in-Charge. Size 15mm	80 Nos	Each	7781.30	622504	
43	Providing and fixing CP brass single lever basin mixer with 15mm copper pipe, 450 mm long braided hoses and flanges complete in all respects to the entire satisfaction of Engineer-in-Charge. Size 15mm	80 Nos	Each	4093.20	327456	
44	Providing and fixing in position C. P. brass Single Lever sink mixture 15mm with swinging spout (Wall mounted) with flange complete in all respect to the entire satisfaction of Engineer - in - charge.	80 Nos	Each	4916.10	393288	
45	Providing and fixing Gun Metal ferrule with C.I. mouth cover including boring and tapping the main:					

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
	15 mm nominal bore	80 Nos	Each	729.70	58376	
46	Writing & Painting of Specific house Nos. (minimum height 7.5 cm) including, cleaning the surface, making base with paint, with painting brushes, turpentine, stencil etc. on overhead water tanks complete in all respects to the entire satisfaction of Engineer-in-charge.	160 Nos	Each	98.80	15808	
47	Providing and fixing CPVC union in CPVC pipe line including cutting and threading the pipe and making the long screw, etc complete in all respects to the entire satisfaction of Engineer-in-charge.					
a)	20 mm dia nominal bore	340 Nos	Each	125.70	42738	
b)	25 mm dia nominal bore	90 Nos	Each	145.00	13050	
c)	40 mm dia nominal bore	20 Nos	Each	304.40	6088	
						6991230
Sub Head : H - Drainage						
Item No. 48 to 53						
48	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:					

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
49	150 mm diameter S. W. pipe Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality. L D - 2.5	150 metre	metre	1158.55	173783	
50	Square shape 450mm internal dimensions Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1 : 2 : 4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) cement plastered on both sides with cement mortar 1 : 3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete : For pipes 100 to 250 mm diameter.	20 Nos	Each	1108.45	22169	
51	Providing and fixing precast cement concrete gully trap cover and frame minimum overall thickness 3½" with clear opening 300 mm x300 mm for gully trap chamber to be fixed in cement concrete 1:2:4 complete in all respect to the entire satisfactions of Engineer-in - Charge.	20 Nos 40 Nos	Each Each	723.24 975.90	14465 39036	

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S. No.	Description of item	Qty	Unit	Rate	Amount	Sub Head Total
52	Providing and fixing H.C.I. gully traps 100 mm i/d & C.I. grating 150x150mm with three coats of black bitumastic superior pain of approved manufacture on all C.I. work as per standard design minimum depth of water should be 150 mm with a minimum seal 50 mm complete in all respect to the entire satisfaction of Engineer -in- Charge	40 Nos	Each	2125.20	85008	
53	Providing and fixing soil, waste and vent Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989 including cement joints 1:1 (1 cement : 1 coarse sand) complete in all respects to the entire satisfaction of Engineer-in-charge. 150 mm diameter	50.00 metre	metre	2597.70	129885	464346
	Total				14755839	14755839


Executive Engineer-VI(PH)
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**Mile stone Programmer (Minor Component i.e. PH work)
(In Physical Terms)**

S. No.	Description of Milestone (Physical)			Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
1	1st Quarter				
	Description	During the quarter (DUs.)	Cumulative (DUs.)		
	1. Earth Work	-	-	181 Days	0% of Tendered Amount of Composite Work
	2. Concrete Work	-	-		
	3. RCC	-	-		
	4. Brick Work	-	-		
	5. Finishing	-	-		
	6. Sanitary Installation	-	-		
	7. Water Supply	-	-		
	8. Drainage	-	-		
2	2nd Quarter				
	Description	During the quarter (DUs.)	Cumulative (DUs.)		
	1. Earth Work	-	-	365 Days	0% of Tendered Amount of Composite Work
	2. Concrete Work	-	-		
	3. RCC	-	-		
	4. Brick Work	-	-		
	5. Finishing	-	-		

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	6.	Sanitary Installation	-	-		
	7.	Water Supply	-	-		
	8.	Drainage	-	-		
3	3rd Quarter.					
		Description	During the quarter (DUs.)	Cumulative (DUs.)		
	1.	Earth Work	50	50	546 Days	0.15% of Tendered Amount of Composite Work
	2.	Concrete Work	50	50		
	3.	RCC	40	40		
	4.	Brick Work	40	40		
	5.	Finishing	40	40		
	6.	Sanitary Installation	30	30		
	7.	Water Supply	25	25		
	8.	Drainage	30	30		
4	4th Quarter.					
		Description	During the quarter (DUs.)	Cumulative (DUs.)		
	1.	Earth Work	30	80	730 Days	0.25% of Tendered Amount of Composite Work
	2.	Concrete Work	30	80		
	3.	RCC	40	80		
	4.	Brick Work	40	80		
	5.	Finishing	40	80		
	6.	Sanitary Installation	50	80		
	7.	Water Supply	55	80		
	8.	Drainage	50	80		

General/Specific Conditions for Minor Component (Public Health) of work as applicable.

A: General/Specific Conditions for Major Component of work is also be applicable to Minor work.

Note: The order of preference in case of any discrepancy may be read as the following:-

- a. Nomenclature of items as per schedule of quantities.
- b. CPWD specifications.
- c. Architectural Drawings.
- d. Indian standard specifications of B.I.S.
- e. Sound Engineering Practice.
- f. GCC.
- g. CPWD Manual.

B: General/Specific Conditions for Public Health Component in addition to S. No. A above.

1. General

- 1.1. General/Specific Conditions for major Component of work shall be applicable to the Public Health component.
- 1.2. Water tanks, taps: sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws of Municipal Body / Corporation where CPWD Specifications are not applicable. The contractor should get the materials (fixtures/fittings) tested by the Municipal Body/ Corporation authorities wherever required at his own cost.
- 1.3. The contractor shall use the white cement with pigment to match the shade of flooring/ dado and for installation of P.H. fixtures where ever required without claiming anything extra.
- 1.4. On completion of work, the, contractor shall submit at his own cost four prints of "as built" drawings to the Engineer-in-Charge. These drawings shall have the following information.
 - a) Run off of all piping and their diameters including soil, waste pipes and vertical stacks.
 - b) Ground and invert level of all drainage pipes together with locations of all manholes and connections, up to out fall.

- c) Run off of all water supply lines with diameters, location of control valves, access panels etc.

In case the contractor fails to supply "as built drawing" aforesaid within 30 days of the date of completion, then the recovery @ Rs.10,000/- each for such set of drawings shall be made from the contractor's final bill.

- 1.5. All china ware to be used on the work shall be of first quality.
- 1.6. The layout of sanitary can be changed at any stage if required by the concerned Executive Engineer and no claim in this connection will be entertained. However, the payment shall be made as per actual work done.
- 1.7. Pre-cast concrete G.T./ I.C. covers and frames shall have CHB logo and brand name engraved on them.
- 1.8. All the hidden items such as water supply lines, drainage pipes, sewers etc. are to be properly tested before covering.
- 1.9. A copy of plumber's license will be supplied by the firm at the time of allotment of work.
- 1.10. M.S. hooks shall be provided for CPVC pipes/G.I. pipes/PE-AL-PE composite pipe in chase wherever required as directed by E.I.C. and nothing extra shall be payable on this account.

PROFORMA OF SCHEDULES

SCHEDULE "A"

Minor Component i.e Electrical (E&M)- Electrical Installation work

Schedule of Quantities for Electrical (E&M) - Electrical Installation work (Enclosed)
which starts at page No. 175

SCHEDULE "D"

Extra schedule for specific requirements/ documents for the work if any:-	Nil
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SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

i)	Name of Work	Construction of 80 Nos. Two Room Flats (EWS) (S+4), for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
ii)	Estimated cost of Work Electrical (E&M)- Electrical Installation work	Rs.1,66,76,660/-
iii)	Earnest Money (for composite work)	As mentioned in Detail regarding Tendering Process.
iv)	Performance Guarantee	5% of the tendered value
v)	Security Deposit	2.5% of the tendered value
SCHEDULE "F"		
Reference to General Conditions of Contract		GCC 2020 with latest amendments issued up to the last day of the last date of submission of bid.

GENERAL RULES AND DIRECTIONS

Officers inviting tender :-	Executive Engineer-I Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3 & 12.5	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-V(Elect), Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.
2(x) Percentage on cost of materials and labour to cover all overheads	7.5% CP & 7.5 % OH.

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and profit	
2(xi) Standard Schedule of Rates	Delhi Schedule of Rates (DSR-E&M 2022) with correction slips issued up to the last day of the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD Specifications and as specified in Tender Document.
9(ii) Standard CPWD Contract form	CPWD form 7 as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee , programme chart (Time and progress) and applicable labour licenses , registration with EPFO, ESIC and BOCW welfare board or proof of applying thereof from the date of issue of letter of acceptance	As per Major component
ii) Maximum allowable extension beyond the period provided in 'i.' above Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per Major component
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, incharge of Major component
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at Mile stone at Page No.200-201	As per Major Component
Time allowed for execution of work	20 Months
Authority to decide:	
i. Extension of time	Superintending Engineer in Charge of Major Component
ii. Rescheduling of mile stones	Superintending Engineer in Charge of Major Component
iii. Shifting of date of start in case of delay in handing over of site	Superintending Engineer in Charge of Major Component
Clause 5 Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.
Complete Site	As per Major component

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Clause 7		
Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.		Rs.10.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)
Clause 7A		
Whether Clause 7A shall be applicable.		Yes Applicable
Clause 8A		
Authority to decide compensation on account, if Contractor fails to submit completion plans.		Executive Engineer in Charge of Major Component.
Clause 10 A		
List of testing equipments to be provided by the contractor at site lab. Equipments for Testing of Materials & Concrete at Site Laboratory All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipments shall be set up at site office laboratory:-		
Sl. No.	Equipment	Numbers (Minimum)
Testing equipments as per CPWD specification as required.		
Clause 10 B (ii)		
Whether Clause 10 B (ii) shall be Applicable		No
Clause 10 C Component of labour expressed as percent of value of work		Not applicable,
Clause 10 CC		Yes, Applicable
S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1.	Labour component	25%
2.	E&M (Electrical & Mechanical) component	75%
	Total	100%
Clause 11		
Specification to be followed for execution of work.		CPWD's general specification for Electrical Works Part-I Internal 2013 & Part-II (External) 1994, with up to date correction /amendments, relevant IE rules, and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part - IV

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		shall be applicable.		
Clause 12				
Authority to decide deviation upto 1.5 times of tendered amount.				
The deviation limit for construction work		100% for all the items		
Clause 16				
Competent authority for deciding reduced rates.		Superintending Engineer, incharge of Major component		
Clause 18				
List of mandatory machinery, Tools & Plants to be deployed by the contractor at site		Minor Component -Electrical (E & M) Works		
		1. Chase Making Machines		
		2. All Electrical Tool & Plants, Safety equipments, High rise ladder, Crimping tool kit etc.,		
Note: The above listed T&P can be modified as per site requirement and direction of Engineer-in-Charge.				
Clause 19				
Clause 19 C		Rs. 1000/- penalty for each default		
Clause 19 D		Rs. 1000/- penalty for each default		
Clause 19 G		Rs. 1000/- penalty for each default		
Clause 19 K		Rs. 1000/- penalty for each default		
Clause 25				
Settlement of Dispute by Conciliation and Arbitration :		CEO, CHB (Conciliator)		
Clause 32				
Requirement of technical representative(s) and recovery rates				
Requirement of Technical Staff		Minimum Experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
Qualification	Number (of Major +Minor component)			
Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project Manager-cum planning/quality / Site/billing Engineer	Rs. 15,000/- (Rs. Fifteen thousand) per month per person
Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.				

Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 34(i)	
Extent of GST payable by Contractor for Building and Construction works.	GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/ extended date of submission of tender will be adjusted accordingly
Clause 38	Not applicable

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ABSTRACT OF COST


Name of Work: - Construction of 80 Nos. Two Room Flats (EWS) (S+4), for
General Housing Scheme in Sector-53, Chandigarh. (Composite
work)


Electrical Installation work		
Sub Head	Description	Sub Head Total
'A'	WIRING	87,20,655.00
'B'	MCCB, MCB & DB'S	12,07,415.00
'C'	PIPES, CABLE TARYS, EARTHING & LIGHTNING CONDUCTOR	13,26,690.00
'D'	NON-SCHEDULED ITEMS	54,21,900.00
	Total:	1,66,76,660.00


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Chandigarh Housing Board,
Chandigarh


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SCHEDULE OF QUANTITIES FOR THE WORK: CONSTRUCTION OF 80 NOS. TWO ROOM FLATS (EWS) (S+4), FOR GENERAL HOUSING SCHEME IN SECTOR-53, CHANDIGARH. (COMPOSITE WORK)

Electrical(E&M) Work- E.I. work

S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
1	WIRING Point wiring in steel conduit, with modular type switch: Wiring for light point/fan point/exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc as required.					8720655.00
2	Group B Twin Control point wiring in steel conduit, with modular type switch:	1680	Point	1,622.00	27,24,960.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.	185	Point	2,159.00	3,99,415.00	
3	Circuit/sub main wiring in steel conduit:				-	
	Wiring for circuit/ sub main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required				-	
(a)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	3920	Mtrs	357.00	13,99,440.00	
(b)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	2960	Mtrs	467.00	13,82,320.00	
4	Wiring in existing conduit :				-	
	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.				-	
(a)	3 x 1.5 sq. mm	960	Mtrs	104.00	99,840.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
(b)	3 x 4 sq. mm	320 Mtrs	Metre	224.00	71,680.00	
(c)	2 x 6 sq. mm	785 Mtrs	Metre	235.00	1,84,475.00	
5	Telephone wiring in existing conduit: Supplying & drawing following pair 0.5sq mm FRLS PVC insulated copper conductor, unarmoured telephone cable in the existing surface/ recessed steel/PVC conduit as required.				-	
	2 Pair	2580 Mtrs	Metre	41.00	1,05,780.00	
6	S/F steel conduit: Supplying & fixing of following sizes of Steel conduit along with accessories in surface/ recess including cutting the wall & making good the same in case of recessed conduit as required.				-	
(a)	25 mm	320 Mtrs	Metre	279.00	89,280.00	
(b)	32 mm	1385 Mtrs	Metre	355.00	4,91,675.00	
7	S/F PVC conduit: Supplying & fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				-	
(a)	25 mm	3105 Mtrs	Metre	158.00	4,90,590.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
8	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc. as required.				-	
(a)	180 mm X 100 mm X 60 mm deep	30 Nos.	Each	267.00	8,010.00	
9	S/F modular type switch/socket:				-	
	Supplying and fixing following modular switch/socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				-	
(a)	Telephone socket outlet	160 Nos.	Each	161.00	25,760.00	
(b)	TV antenna socket outlet	160 Nos.	Each	161.00	25,760.00	
10	S/F modular type electronic fan regulator:				-	
	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	240 Nos.	Each	402.00	96,480.00	
11	S/F modular boxes, base & cover plate:				-	
	Supplying and fixing following size/modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required.				-	
(a)	1 or 2 Module (75mmX75mm)	320 Nos.	Each	325.00	1,04,000.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
12	S/F light plug point modular type accessories: Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	560 Nos.	Each	520.00	2,91,200.00	-
13	S/F power plug point modular type accessories: Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	320 Nos.	Each	638.00	2,04,160.00	-
14	Switch, connections etc. as required. Supplying and fixing 3 pin, 5 amp. ceiling rose on the existing junction box/ wooden block including connection etc as required.	240 Nos.	Each	94.00	22,560.00	-
15	S/F call bell/buzzer: Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.	80 Nos.	Each	108.00	8,640.00	-

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
16	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.	310 Nos.	Each	1,193.00	3,69,830.00	
17	Group C Supplying and fixing PVC batten/ angle holder including connections etc. as required.	1040 Nos.	Each	120.00	1,24,800.00	
Sub Head 'B'	MCCB, MCB & DB'S					1207415.00
18	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc.as required. (But without MCB/RCCB/Isolator)					
	8 way, Double door	5 Nos.	Each	2,804.00	14,020.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
20	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)				-	
(a)	4 way (4 + 18), Double door	80 Nos.	Each	4,459.00	3,56,720.00	
(b)	6 way (4 + 24), Double door	5 Nos.	Each	5,421.00	27,105.00	
21	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				-	
(a)	Single pole	1050 Nos.	Each	279.00	2,92,950.00	
(b)	Double Pole	10 Nos.	Each	715.00	7,150.00	
(c)	Triple pole and neutral	85 Nos.	Each	1,339.00	1,13,815.00	
21	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and				-	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
(a)	commissioning etc. as required.					
22	40 A Supplying and fixing Cable End Box (Loose Wire Box) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 Volts, on surface/ recess, complete with testing and commissioning etc., as required. For 4 way, Double door TPN MCBDB For 6 way, Double door TPN MCBDB	85 Nos.	Each	3,474.00	2,95,290.00	
(a)		80 Nos.	Each	1,178.00	94,240.00	
(b)		5 Nos.	Each	1,225.00	6,125.00	
Sub Head 'C'	PIPES, E A R T H I N G & L I G H T N I N G CONDUCTOR					1326690.00
23	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	187 Mtrs	Mtrs	1,690.00	3,16,030.00	
24	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	130 Mtrs	Metre	769.00	99,970.00	
25	Providing & fixing 25mmx5mm copper strip on surface or in recess for connections etc., as required	265 Mtrs	Metre	1,266.00	3,35,490.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
26	Providing & fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	20 Nos.	Each	564.00	11,280.00	
27	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	560 Nos.	Each	123.00	68,880.00	
28	Providing and fixing G.I. tape 20 mmx3 mm thick on parapet or surface of wall for lightning conductor complete as required. (For horizontal run)	1520 Mtrs	Metre	138.00	2,09,760.00	
29	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	300 Mtrs	Metre	215.00	64,500.00	
30	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				-	
(b)	3 1/2 X 150 sq. mm (50mm)	23 Nos.	Each	760.00	17,480.00	


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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
31	Providing and fixing circular/ Hexagonal GI box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick GI sheet with its top surface hacked for proper bonding, top lid shall be screwed into the GI box by means of 3.3 mm dia round headed screws, one lock at the corners, clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	320 Nos.	Each	195.92	62,694.40	
32	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc..direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.					
(a)	90 mm dia (OD-90 mm & ID-76 mm nominal)	458 Mtrs	Metre	307.00	1,40,606.00	
Sub Head 'D'	NON-SCHEDULED ITEMS					5421900.00
33	Supply and erection of G.I. Earth Plate of size 600mmx600mmx6mm thick 2.7mtr below ground level after digging trench of suitable size including refilling of soil and compaction after earth connections.	20 Nos.	Each	3,092.00	61,840.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
34	Supply and erection of Copper Earth Plate of size 600mmx600mmx6mm thick 2.7mtr below ground level after digging trench of suitable size including refilling of soil and compaction after earth connections.	23 Nos.	Each	10,031.00	2,30,713.00	
35	Supply, Installation, testing and commissioning of LED Surface Mounted Downlighter with a nominal system lumen output of 2000 lumens and a minimum system efficacy of 100lm/W. The luminaire shall have a rated system lifetime of 30,000 burning hours at L70B50. The luminaire should have a color temperature of 6500K and CRI>80. The luminaire shall meet IP20 rating with THD<30% and PF > 0.9. The luminaire housing should be made of high grade polycarbonate. The total power consumption should not exceed 18W (including driver). Similar to Philips Make SM251C LED20S-6500 PSU WH or equivalent. (305)	305 Nos.	Each	2,180.00	6,64,900.00	
36	Supply, Installation, testing and commissioning of LED not exceeding 10 Watt Bulk Head light fixture of Phillips make WT202W LED6S CW PSU S2 PC or equivalent.	30 Nos.	Each	1,812.00	54,360.00	

S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
37	Supply & laying of PVC insulated and PVC sheathed/XLPE power copper conductor cable of 1.1 KV of size 4x10sqmm on surface or in the existing Metal/ PVC pipe laid underground.	1950	Mtrs	754.00	14,70,300.00	
38	Meter Panel Design, Fabrication of cubical type, indoor type, Single door, floor mounted, fixed type, free standing single front, dust proof & compartmentalized indoor Meter Panel made out of M.S. CRC Sheet 14G/16G, & Base Frame 50X50X5mm dully painted with Siemens Grey Powder Coated Paint as specification. Approximate Size (H)1750MM X (W)1750MM (D)300MM X (L) 250MM The panel shall have 8 compartments to house one 3 phase energy meter and one MCBTP & N in each compartment. The cubical panel shall be comprising of the following items in detail	10	Nos.	1,96,834.00	19,68,340.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
	Incomer Supply Space for installation of MCCB 250A, TPN 36 KA with O/L and S/C protection = 1 Nos Spreader link 250A TPN = 2 Nos Indication lamp LED type Red -Yellow- Blue= 3 Nos SPMCB 6Amp = 3 Nos Bus bar 250A 4 strip Aluminium bus bar and earth strip as per design (Current density of Aluminium bus bar shall be 1 mm x 1mm = 1 Amp.) = 1 No Outgoing Space for 3 phase Kwh meter = 8 Nos. Space for MCB TPN 63A 10KA = 8 Nos				-	
	The job also include termination of the following cables					
	3½ x 150 sq.mm ; 1 No.				-	
	4 x 10 sq.mm ; 8 Nos.				-	
	The job includes all labour and petty material involved to complete the installation, Testing and commissioning of Meter Panel and site of work.				-	
	COMMON SERVICES PANEL				-	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
39	Design, Fabrication and installation of cubical type, indoor type, single door, Floor mounted, fixed type, free standing single front, dust proof & compartmentalized Common Service Panel made out of M.S. CRC Sheet 14G/16G & Base frame 50X50X5MM, duly painted with Siemens Grey Powder Coated Paint as per specification Approximate Size (H)1300MM X (W)1050MM X (D)350MMX (L)250MM. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire 50 HZ supply system. The Compartmentalized panel shall have the following provision: Incomers: Incomer from Energy meter-MCCB 4 pole 125 AMP 16 KA, 3 Phase, 415 volts 50 HZ Bus Bar: 200 AMP 4 strip as per design current density of Aluminium bus bar shall be 1mm X 1mm= 1 AMP Outgoings () Fire Fighting MCB TP & N 40 AMP, 415 volts, 50 HZ 1 No. Lifts MCB TP & N 40 AMP, 415 volts, 50 HZ 3 Nos.	1	Nos.	1,34,447.00	1,34,447.00	
					-	
					-	
					-	
					-	
					-	
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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
	Common Area Lighting MCB TP & N 40 AMP, 415 volts, 50 HZ					
	Digital voltmeter, Ammeter indicator lamp with suitable protection.					
	Cable alley: suitable cable alloy chambers shall be provided for entry of the following cables					
	PVC /XLPE insulated armoured 3 1/2 core Aluminium conductor cable 150 sq mm - 2 Nos.					
	PVC/XLPE insulated unarmoured 4 core copper conductor cable 10 sq mm - 5 Nos.					
	The job also include termination of existing earth and above cables for commissioning and testing of the panel including the cost of spreader links for MCCBs as required.					
40	Supply and Erection of 10 pair Krone for termination of incoming & outgoing cables. The junction box shall be gouted in wall/mounted on surface. The job also includes termination of 5 twin pair telephone cables.	20 Nos.	Each	451.00	9,020.00	

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S. No.	Description of Items	Qty	Unit	Rate	Amount	Sub Head Total
41	Supply & laying of PVC insulated and PVC sheathed/ XLPE, armoured Aluminium conductor cable of 1.1 KV of size 3 ½ x150sqmm on surface or in the existing Metal/ PVC pipe laid underground.	360	Mtrs	1,286.00	4,62,960.00	
42	Supply and making end termination with copper lugs/thimbles of PVC insulated and PVC sheathed /XLPE power copper conductor cable of 1.1 KV of size 4x10 Sq.mm.	160	Nos.	172.00	27,520.00	
43	Fabricating, Supply and installing of following size of GI Ladder type cable trays including GI horizontal and vertical bends, reducers, tees, cross members and other accessories as required, duly suspended on wall with fasteners including fabrication, painting etc. complete as required.					
	450mm width 50mm depth 1.6mm thickness	150	Mtrs	2,250.00	3,37,500.00	
	Total				1,66,76,660.40	


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Mile stone Programmer (Minor Component i.e. Electrical(E&M)-E.I. Work)					
(In Physical Terms)					
S. No.	Description of Milestone (Physical)			Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
	1st Quarter.	During the quarter (DUs.)	Cumulative (DUs.)		
1	WIRING	10	10	154 Days	0.03% of Tended Amount of composite work
2	MCCB, MCB & DB'S	0	0		
3	PIPES, CABLE TARYS, EARTHING & LIGHTNING CONDUCTOR	0	0		
4	NON-SCHEDULED ITEMS	0	0		
2nd Quarter.					
1	WIRING	25	35	304 Days	0.07% of Tended Amount of composite work
2	MCCB, MCB & DB'S	0	0		
3	PIPES, CABLE TARYS, EARTHING & LIGHTNING CONDUCTOR	20	20		
4	NON-SCHEDULED ITEMS	0	0		
3rd Quarter.					
1	WIRING	25	60	458 Days	0.10% of Tended Amount of composite work
2	MCCB, MCB & DB'S	0	0		
3	PIPES, CABLE TARYS, EARTHING & LIGHTNING CONDUCTOR	40	60		
4	NON-SCHEDULED ITEMS	0	0		

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Mile stone Programmer (Minor Component i.e. Electrical(E&M)-E.I. Work)					
(In Physical Terms)					
	4th Quarter.				
1	WIRING	20	80	608 Days	0.25% of Tendered Amount of composite work
2	MCCB, MCB & DB'S	80	80		
3	PIPES, CABLE TARYS, EARTHING & LIGHTNING CONDUCTOR	20	80		
4	NON-SCHEDULED ITEMS	80	80		

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General/Specific Conditions for Electrical (E&M) Component to be read in conjunction with General/Specific conditions of Major components of work as applicable:-

1. If the main contractor does not have authorization/ electrical license for carrying out the electrical work as per Government of India norms then main contractor have to associate or carry out the same from authorized electrical licensed contractor.
2. All the hidden items such as conduits etc. are to be properly tested before covering.
3. Contractor shall have to check the Site Order Book regularly for any instructions of the Engineer-in charge or his authorized representative and sign the site order book. He shall be bound to ensure compliance with the instructions recorded therein.
4. Routine type tests for the various items of equipment shall be performed at the Manufacturer works and tests certificates furnished.
5. All tools, instruments, plants and labour/operating personnel for the site test shall be provided by the contractor at his own cost.
6. **WARRANTIES/GUARANTEE:** All equipments shall be guaranteed for a period of 12 months during the Defects Liability Period to be considered from the date of overall completion of the project against unsatisfactory performance and /or break down due to defective design, workmanship of material. The equipment's of components, or any part thereof, so found defective during guarantee period shall be forth with repaired or replaced free of cost, to the satisfaction of the Engineer-in-charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regard shall be final.
7. The successful tenderer should furnish well in advance copy each of detailed instructions and manuals of manufactures for all items of equipments regarding installation, adjustments operation and maintenance.
8. All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by specification.
9. The contractor shall have to produce all the relevant records to ascertain the genuine equipment from the manufactures has been supplied and erected.
10. Contractor shall provide appropriate cover for all Electrical Panels etc. to protect them from rust/damages, during execution of work till the work is actually completed and handed over to the department.

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11. All concealed work and earthing shall be done in the presence of the Engineer-In-Charge or his authorized representative.
12. To provide all incidental items not shown or specified in particular but necessary for proper execution of works in accordance with the drawing, specification and schedule of items.
13. The electrical Installation work shall be carried out in accordance with Indian Standard Code of Practice. It shall also be in conformity with the current Indian Electricity rules and regulations and requirements of the Local Electricity Supply Authority and Fire Insurance regulations, so far as these become applicable to the installation.
14. Electrical work in general shall be carried out as per CPWD's general specification for Electrical Works Part-I Internal 2013 & Part-II (External) 1994, with up to date correction /amendments, relevant Indian Electricity Rules and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part – IV shall be applicable. In case of variation, nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read along with schedule of quantities for the work.
15. All Electrical installation shall comply with the requirements of Indian Electricity rules 1956 and Indian Electricity Act-1910 as amended up to date and bye laws of authority of State Government or any other department.
16. All electrical and other works will conform to various Indian Codes as listed in the Technical Specifications.
17. For the items not covered under any of the specifications stated above, the work shall be executed as per Manufacturer's specifications/ General Engineering Practice and / or as per direction of Engineer in Charge.
18. The bidder should note that the specifications furnished in the tender is of general nature only and it is the responsibility of the bidder to design, supply, install and commission the equipment and services required for the satisfactory performance of the installation. All the items of equipment required for the safe and satisfactory operation of the installation shall be supplied and installed by the bidder.
19. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation. However, major equipment not covered in the scope of the work and required subsequently as an additional feature, not covered in the contract specifications, shall be paid extra. The decision of the Engineer-In-Charge in the matter shall be final and binding upon the contractor.


CODES AND STANDARDS


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20. In addition to the requirements the design, manufacture, inspection and testing of the piping, fittings, valves and specialties covered under this specification shall conform, in general, to the standards and codes (latest edition) mentioned below:

IS : 694 - 1990	PVC insulated Electric cable for working voltage upto and including 1100 volts.
IS : 732 - 1989	Code of practice for electrical wiring and installation
IS : 1255 - 1983	Code of Practice for installation and maintenance of Power Cables upto and including 33 KV rating (Second Revision)
IS : 1258 - 1987	Bayonet lamp holders(Third revision)
IS : 1293 - 1988	Three pin plugs and sockets outlets rated voltage upto and including 250 volts and rated current upto and including 160 amps.
IS : 1554 - 1988 (Part - I)	PVC insulated (Heavy Duty) electric cables for working voltages upto and including 1100 volts.
IS : 1646 - 1982	Electrical installation fire safety of buildings (general) Code of practice.
IS : 1651 & 1652 - 1991	Stationary cell and batteries, lead acid type
IS : 1885 - 1971	Glossary of items for electrical cables and conductors
IS : 2309 - 1989	Protection of building and allied structures against lightning
IS : 2551-1982	Danger notice plate.
IS : 3043 - 1987	Code of practice for earthing.
IS : 3480 - 1966	Flexible steel conduits for electrical wiring.
IS : 3837 - 1976	Accessories for rigid steel conduit for electrical wiring.
IS : 4146 - 1983	Application guide for voltage transformers
IS : 4615 - 1968	Switch socket outlets.
IS : 5133 - 1969(Part -I)	Boxes for the enclosure of electrical accessories.
IS : 5216 - 1982(Part-I)	Guide for safety procedures and practices in electrical work.
IS : 5578 & 11353-1985	Marking and arrangement of bus bars
IS : 8623 -1977 (Part -I)	Factory built assemblies of switchgear and control gear

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	for voltages upto and including 1000 V AC and 1200 V D C.
IS : 8623 - 1980(Part -II)	Bus Bar trunking system
IS : 8828 - 1996	Miniature Circuit Breakers
IS : 9537 - 1981	Rigid Steel Conduits for electrical wiring (Second Revisions)
IS : 10810 - 1988	Methods of test for cables.
IS : 12640 - 1988	Earth Leakage Circuit Breakers
IS : 13947-1989	Moulded Case Circuit Breakers
IS : 13947 - 1993	General requirement for switchgear and control gear for voltage not exceeding 1000 Volts.
IS 1248 – 1968	Elect. indicating instruments.
IS 2705 – 1981	Current transformers
IS 3156 – 1965	Voltage transformers.
IS 3231 – 1965	Protective relays

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PROFORMA OF SCHEDULES

SCHEDULE "A"

Minor Component i.e Electrical (E&M)- Passenger Lift

Schedule of Quantities for Electrical (E&M) - Passenger Lift (Enclosed) which starts at page No. 202

SCHEDULE "D"

Extra schedule for specific requirements/ documents for the work if any:-	Nil
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SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

i)	Name of Work	Construction of 80 Nos. Two Room Flats (EWS) (S+4), for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
ii)	Estimated cost of Work Electrical (E&M)- Passenger Lift	Rs.81,00,705/-
iii)	Earnest Money (for composite work)	As mentioned in Detail regarding Tendering Process.
iv)	Performance Guarantee	5% of the tendered value
v)	Security Deposit	2.5% of the tendered value

SCHEDULE "F"

Reference to General Conditions of Contract	GCC 2020 with latest amendments issued up to the last day of the last date of submission of bid.
---	--

GENERAL RULES AND DIRECTIONS

Officers inviting tender :-	Executive Engineer-I Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3 & 12.5	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-V(Elect), Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.
2(x) Percentage on cost of materials and labour to cover all overheads and profit	7.5% CP & 7.5 % OH.

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2(xi) Standard Schedule of Rates	Delhi Schedule of Rates (DSR-E&M 2022) with correction slips issued up to the last day of the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD Specifications and as specified in Tender Document.
9(ii) Standard CPWD Contract form	CPWD form 7 as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee , programme chart (Time and progress) and applicable labour licenses , registration with EPFO, ESIC and BOCW welfare board or proof of applying thereof from the date of issue of letter of acceptance	As per Major component
ii) Maximum allowable extension beyond the period provided in 'i.' above Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per Major component
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, incharge of Major component
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at P-209	As per Major Component
Time allowed for execution of work	20 Months
Authority to decide:	
(iv) Extension of time	Superintending Engineer in Charge of Major Component
(v) Rescheduling of mile stones	Superintending Engineer in Charge of Major Component
(vi) Shifting of date of start in case of delay in handing over of site	Superintending Engineer in Charge of Major Component
Clause 5 Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.
Complete Site	As per Major component
Clause 7	

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Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.	Rs.25.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)	
Clause 7A		
Whether Clause 7A shall be applicable.	Yes Applicable	
Clause 8A		
Authority to decide compensation on account, if Contractor fails to submit completion plans.	Executive Engineer in Charge of Major Component.	
Clause 10 A		
List of testing equipments to be provided by the contractor at site lab. Equipments for Testing of Materials & Concrete at Site Laboratory All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipments shall be set up at site office laboratory:-		
Sl. No.	Equipment	Numbers (Minimum)
Testing equipments as per CPWD specification as required.		
Clause 10 B (ii)		
Whether Clause 10 B (ii) shall be Applicable		No
Clause 10 C Component of labour expressed as percent of value of work		Not applicable,
Clause 10 CC		Yes, Applicable
S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1.	Labour component	25%
2.	E&M (Electrical & Mechanical) component	75%
	Total	100%
Clause 11		
Specification to be followed for execution of work.	CPWD's general specification for Electrical Works Part-I Internal 2013 & Part-II (External) 1994, Part-III-Lift & Escalators -2003, with up to date correction /amendments, relevant IE rules, and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part - IV	

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		shall be applicable.		
Clause 12				
Authority to decide deviation upto 1.5 times of tendered amount.				
The deviation limit for construction work		100% for all the items		
Clause 16				
Competent authority for deciding reduced rates.		Superintending Engineer, incharge of Major component		
Clause 18				
List of mandatory machinery, Tools & Plants to be deployed by the contractor at site		Minor Component -Electrical (E & M) Works		
		1. Chase Making Machines		
		2. All Electrical Tool & Plants, Safety equipments, High rise ladder, Crimping tool kit etc.,		
Note: The above listed T&P can be modified as per site requirement and direction of Engineer-in-Charge.				
Clause 19				
Clause 19 C		Rs. 1000/- penalty for each default		
Clause 19 D		Rs. 1000/- penalty for each default		
Clause 19 G		Rs. 1000/- penalty for each default		
Clause 19 K		Rs. 1000/- penalty for each default		
Clause 25				
Settlement of Dispute by Conciliation and Arbitration :		CEO, CHB (Conciliator)		
Clause 32				
Requirement of technical representative(s) and recovery rates				
Requirement of Technical Staff		Minimum Experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
Qualification	Number (of Major +Minor component)			
Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project Manager-cum planning/quality / Site/billing Engineer	Rs. 15,000/- (Rs. Fifteen thousand) per month per person
Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.				

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Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 34(i)	
Extent of GST payable by Contractor for Building and Construction works.	GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/ extended date of submission of tender will be adjusted accordingly
Clause 38	Not applicable

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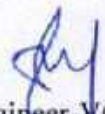
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ABSTRACT OF COST

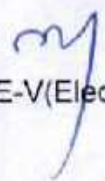
Name of Work: - CONSTRUCTION OF 80 NOS. TWO ROOM FLATS (EWS) (S+4), FOR GENERAL HOUSING SCHEME IN SECTOR-53, CHANDIGARH. (COMPOSITE WORK)

Electrical- Passenger Lift		
Sub Head	Description	Sub Head Total
I	Supply, installation, testing & commissioning of 13 passengers Lift complete as required.	81,00,705.00
	Total	81,00,705.00


Executive Engineer-V(Elect.)
Chandigarh Housing Board,
Chandigarh.


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SCHEDULE OF QUANTITIES FOR THE WORK: CONSTRUCTION OF 80 NOS. TWO ROOM FLATS (EWS) (S+4), FOR GENERAL HOUSING SCHEME IN SECTOR-53, CHANDIGARH. (COMPOSITE WORK)

Electrical (E&M) Work-- Passenger Lift

S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
1	Supply, installation, testing & commissioning of 13 passengers (884 kgs.) Machine Room Less lift having contract speed of 1.0 mps serving different floors in the lift shaft and barrier free requirement as per appendix 7 of CPWD General specifications for Electrical works (Part-III- Lifts & Escalators), 2003 and as per detailed specifications mentioned below:-	5	Nos.	16,20,141.00	81,00,705.00
i)	Type & Capacity				
ii)	Speed				
iii)	Floors to be served				
iv)	Travel				
v)	Type of drive				
vi)	Driver Motor				
vii)	Hoist way available				

S. No.	Description Of Item		Qty.	Unit	Rate (Rs.)	Amount
viii)	Car Size	2.2 sqm (Approx.)				
ix)	Car and Hoist way entrance	Centre opening power way entrance operated horizontal sliding doors in stainless steel scratch resistance Honeycomb/ Moon rock finish				
x)	Clear opening of doors	900mm (wide) x 2000mm (high)				
xi)	Door Operation	Automatic DC/AC V3F				
xii)	Car enclosures	Constructed out of stainless steel in scratch resistance, Honeycomb/Moonrock finish.				
xiii)	Control	Simplex full collective control with or without attendant.				
xiv)	Power	415 volts 3 phase. 50 Hertz A.C.				
xv)	Fan	1 No. with 300mm sweep suitably concealed behind the false ceiling with separate switch in car operating panel.				
xvi)	Flooring	Granite flooring with 16mm to 19mm thick granite stone.				
xvii)	Lighting	Diffused lighting in Car with suitable nos. of LED fittings Concealed by drop ceiling				

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
xviii)	Indicators Digital Direction and Position Indicators in both car and at all landings.				
xix)	Specifications CPWD specifications 2003 & National Building Code 2016				
xx)	Makes OTTIS/ KONE/ Mitsubishi/ Schneider/ Johnson.				
xxi)	Other Features a) Battery Operated Emergency Light with rechargeable battery b) Battery Operated Emergency Alarm with rechargeable battery c) Adjustable Guide shoes				
	d) Micro Movement LED based buttons				
	e) System capable of withstanding +10% to -20% variation in supply voltage fluctuations				
	f) Hands free press and speak intercom				
	g) Steel items such as machine beams, door frame, sill angles, fascia plates, spring buffers				
	h) Full height infrared safety curtain.				
	i) Car Platform constructed out of cold rolled grain oriented formed sheet of steel.				
	j) Fireman switch at main lobby				
	k) Car false ceiling in stainless in plain finish.				

S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
	l) Pit Ladder				
	m) Full height car operating panel.				
	n) Automatic rescue device to automatically bring the elevator to a landing in case of power failure with SMF battery backup of 30 minutes.				
	o) BHP rating and make of Driver Motor				
	p) Controller Make and Model No.				
	q) Digital lift announcement system				
	r) All signal fixtures will be in stainless steel face plates in plain finish.				
	s) A handrail not less than 600mm long at 900mm above floor level is to be fixed on 3 sides.				

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
xxii)	Standard & Rules the complete list including testing Commissioning and safety provision shall confirm to various Indian standard and rules with upto date amendments as mention below:- 1. IS 14665 (Part 1 to 3) : 2000 2. IS 14665 (Part 5) : 1999 3. IS 4591 :1908 4. IS 1735 :1975 5. Bombay lifts Act. 6. Indian Electricity Rules 1956				
xxiii)	To complete the job in all respects with providing and fixing guide rails, minor building works, scaffolding, putting into operation and final testing etc. as required.				
xxiv)	Providing and fixing of 0.5 HP water lifting pump of Crompton/ GEC/ Khaitan or equivalent as approved by the Engineer In-charge along with water level sensor for automatic switch ON/OFF the pump in the lift well to drain off water accumulated in the lift well. The water shall be				

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
	disposed off on the surface outside the lift well with the 15mm dia GI pipe up to the length of 3 mtr.				
	Total				81,00,705.00


Executive Engineer-V (Elect.)
Chandigarh Housing Board
Chandigarh


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**Mile stone Programmer (Minor Component i.e. Electrical(E&M) Work-Passenger Lift)
(In Physical Terms)**

S. No.	Description of Milestone (Physical)			Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
	1st Quarter.	During the quarter (Block of 16 DUs)	Cumulative (Block of 16 DUs)		
1	Guide rail frame work	0	0	154 Days	0% of Tendered Amount of composite work
2	Installation of Lift car & testing	0	0		
2nd Quarter.					
1	Guide rail frame work	0	0	304Days	0% of Tendered Amount of composite work
2	Installation of Lift car & testing	0	0		
3rd Quarter.					
1	Guide rail frame work	3	3	458 Days	0.07% of Tendered Amount of composite work
2	Installation of Lift car & testing	0	0		
4th Quarter.					
1	Guide rail frame work	2	5	608 Days	0.14% of Tendered Amount of composite work
2	Installation of Lift car & testing	5	5		

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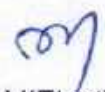
General/Specific Conditions for Electrical (E&M) Component to be read in conjunction with General/Specific conditions of Major components of work as applicable:-

Special conditions-Passenger Lifts:

1. The firm shall finalize the manufacturer within one month after the receipt of allotment of work and immediately arrange the shop drawings from the manufacturer.
2. The material for installation of lifts shall be brought at site strictly in accordance with the fixed milestones and actual progress of work.
3. In general, work shall be carried out as per CPWD's specifications; Part-III-Lift & Escalators -2003 with up to date correction /amendments, relevant Indian Electricity Rules and as per directions of Engineer-in-charge. In case of variation, nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read along with schedule of quantities for the work.
4. The firm shall ensure construction of lifts shaft well strictly as per CPWD specification and manufacturers requirement.
5. The firm shall supply type tests of all lift material from the manufacturer before dispatch.
6. Lifts shall be guaranteed for initial period of one year after handing over during which free maintenance and upkeep shall be provided by the manufacturer.


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PROFORMA OF SCHEDULES

SCHEDULE "A"

Minor Component i.e Electrical (E&M)- - Solar Photovoltaic Power Plant

Schedule of Quantities for Electrical (E&M) - Solar Photovoltaic Power Plant (Enclosed)
which starts at page No.217

SCHEDULE "D"

Extra schedule for specific requirements/ documents for the work if any:-	Nil
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SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

i)	Name of Work	Construction of 80 Nos. Two Room Flats (EWS) (S+4), for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
ii)	Estimated cost of Work Electrical (E&M)- - Solar Photovoltaic Power Plant	Rs.6,65,590/-
iii)	Earnest Money (for composite work)	As mentioned in Detail regarding Tendering Process.
iv)	Performance Guarantee	5% of the tendered value
v)	Security Deposit	2.5% of the tendered value

SCHEDULE "F"

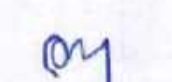
Reference to General Conditions of Contract	GCC 2020 with latest amendments issued up to the last day of the last date of submission of bid.
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GENERAL RULES AND DIRECTIONS

Officers inviting tender :-	Executive Engineer-I Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3 & 12.5	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-V(Elect), Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.
2(x) Percentage on cost of materials and labour to cover all overheads	7.5% CP & 7.5 % OH.


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and profit	
2(xi) Standard Schedule of Rates	Delhi Schedule of Rates (DSR-E&M 2023) with correction slips issued up to the last day of the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD Specifications and as specified in Tender Document.
9(ii) Standard CPWD Contract form	CPWD form 7 as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee , programme chart (Time and progress) and applicable labour licenses , registration with EPFO, ESIC and BOCW welfare board or proof of applying thereof from the date of issue of letter of acceptance	As per Major component
ii) Maximum allowable extension beyond the period provided in 'i.' above Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per Major component
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, incharge of Major component
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at P-219	As per Major Component Refer clause at Page No. 219
Time allowed for execution of work	20 Months
Authority to decide:	
(vii) Extension of time	Superintending Engineer in Charge of Major Component
(viii) Rescheduling of mile stones	Superintending Engineer in Charge of Major Component
(ix) Shifting of date of start in case of delay in handing over of site	Superintending Engineer in Charge of Major Component
Clause 5 Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.
Complete Site	As per Major component

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Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.		Rs.5.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)
Clause 7A		
Whether Clause 7A shall be applicable.		Yes Applicable
Clause 8A		
Authority to decide compensation on account, if Contractor fails to submit completion plans.		Executive Engineer in Charge of Major Component.
Clause 10 A		
List of testing equipments to be provided by the contractor at site lab. Equipments for Testing of Materials & Concrete at Site Laboratory All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipments shall be set up at site office laboratory:-		
Sl. No.	Equipment	Numbers (Minimum)
Testing equipments as per CPWD specification as required.		
Clause 10 B (ii)		
Whether Clause 10 B (ii) shall be Applicable		No
Clause 10 C Component of labour expressed as percent of value of work		Not applicable,
Clause 10 CC		Yes, Applicable
S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1.	Labour component	25%
2.	E&M (Electrical & Mechanical) component	75%
	Total	100%
Clause 11		
Specification to be followed for execution of work.		CPWD's general specification for Electrical Works Part-I Internal 2013 & Part-II (External) 1994, with up to date correction /amendments, relevant IE rules, and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part - IV

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	shall be applicable.		
Clause 12			
Authority to decide deviation upto 1.5 times of tendered amount.			
The deviation limit for construction work	100% for all the items		
Clause 16			
Competent authority for deciding reduced rates.	Superintending Engineer, incharge of Major component		
Clause 18			
List of mandatory machinery, Tools & Plants to be deployed by the contractor at site	Minor Component -Electrical (E & M) Works		
	1. Chase Making Machines		
	2. All Electrical Tool & Plants, Safety equipments, High rise ladder, Crimping tool kit etc.,		
Note: The above listed T&P can be modified as per site requirement and direction of Engineer-in-Charge.			
Clause 19			
Clause 19 C	Rs. 1000/- penalty for each default		
Clause 19 D	Rs. 1000/- penalty for each default		
Clause 19 G	Rs. 1000/- penalty for each default		
Clause 19 K	Rs. 1000/- penalty for each default		
Clause 25			
Settlement of Dispute by Conciliation and Arbitration :	CEO, CHB (Conciliator)		
Clause 32			
Requirement of technical representative(s) and recovery rates			
Requirement of Technical Staff	Minimum Experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
Qualification	Number (of Major +Minor component)		
Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project Manager-cum planning/quality / Site/billing Engineer
Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.			

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Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 34(i)	
Extent of GST payable by Contractor for Building and Construction works.	GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/ extended date of submission of tender will be adjusted accordingly
Clause 38	Not applicable

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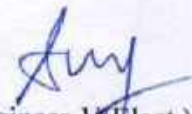
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ABSTRACT OF COST


Name of Work: - Construction of 80 Nos. Two Room Flats (EWS) (S+4), for
General Housing Scheme in Sector-53, Chandigarh. (Composite
work)

Electrical- Solar Photovoltaic Power Plant		
Sub Head	Description	Sub Head Total
I	Supply, Installation, Testing and Commissioning Solar Photovoltaic Power Plant complete as required.	6,65,590.00
	Total	6,65,590.00


Executive Engineer-V(Elect.)
Chandigarh Housing Board,
Chandigarh.


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SCHEDULE OF QUANTITIES FOR THE WORK: CONSTRUCTION OF 80 NOS. TWO ROOM FLATS (EWS) (S+4), FOR GENERAL HOUSING SCHEME IN SECTOR-53, CHANDIGARH. (COMPOSITE WORK)

Electrical (E&M)- Solar Photovoltaic Power Plant

S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
1	<p>Supply, Installation, Testing and Commissioning of on grid Solar Photovoltaic Power Plant conforming to MNRE specifications as amended, consisting of Mono/Poly Crystalline silicon solar cells, net metering facility, necessary protections, earthing, mounted on Aluminium/GI structure of suitable strength with following components complete as required:-</p> <p>a) Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 16.5%. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.</p>	10	kwp	66,559.00	6,65,590.00

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
	<p>b) Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 400 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C. The PCU shall adjust the voltage and frequency level to suit the Grid Voltage Frequency.</p> <p>c) Data Monitoring System complete with accessories.</p> <p>d) Fixing of Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required.</p> <p>e) Lightning and surge voltage protection.</p> <p>f) Connections & Interconnections by supplying & fixing required size XLPE insulated copper conductor 1.1 kV grade armoured power and control cables between solar modules, main power cable to grid supply PCU unit along with supplying & fixing of necessary channel/conduit lugs and other accessories etc. as required.</p>				
	Total				6,65,590.00

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Executive Engineer (Elect.)
Chandigarh Housing Board
Chandigarh

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**Mile stone Programmer (Minor Component i.e. Electrical(E&M) Work-
Solar Photovoltaic Power Plant)
(In Physical Terms)**

S. No.	Description of Milestone (Physical)			Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
	1st Quarter.	During the quarter (for 80 DUs)	Cumulative (for 80 DUs)		
1	Supply, Installation & testing of Solar Photovoltaic Power Plant	0	0	154 Days	0% of Tendered Amount of composite work
2nd Quarter.					
1	Supply, Installation & testing of Solar Photovoltaic Power Plant	0	0	304 Days	0% of Tendered Amount of composite work
3rd Quarter.					
1	Supply, Installation & testing of Solar Photovoltaic Power Plant	0	0	458 Days	0% of Tendered Amount of composite work
4th Quarter.					
1	Supply, Installation & testing of Solar Photovoltaic Power Plant	1	1	608 Days	0.02% of Tendered Amount of composite work

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General/Specific Conditions for Electrical (E&M) Component to be read in conjunction with General/Specific conditions of Major components of work as applicable:-

Special conditions-Solar Photovoltaic Power Plant

1. Solar Power Plant shall be installed strictly as per CPWD & MNRE guidelines/specifications with up to date correction /amendments, Indian Electricity Rules and as per directions of Engineer-in-charge. In case of variation, nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read along with schedule of quantities for the work.
2. The SPV Plant shall be guarantee for five years including which the agency will ensure upkeep of the system for initial one year after commissioning/handing over.


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PROFORMA OF SCHEDULES

SCHEDULE "A"

Minor Component i.e Electrical (E&M)- FIRE FIGHTING WORK

Schedule of Quantities for Electrical (E&M)- FIRE FIGHTING WORK (Enclosed) which starts at page No. 227

SCHEDULE "D"

Extra schedule for specific requirements/ documents for the work if any:-	Nil
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SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

i)	Name of Work	Construction of 80 Nos. Two Room Flats (EWS) (S+4), for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
ii)	Estimated cost of Work Electrical (E&M)- Fire Fighting Work	Rs.36,61,594/-
iii)	Earnest Money (for composite work)	As mentioned in Detail regarding Tendering Process.
iv)	Performance Guarantee	5% of the tendered value
v)	Security Deposit	2.5% of the tendered value

SCHEDULE "F"

Reference to General Conditions of Contract	GCC 2020 with latest amendments issued up to the last day of the last date of submission of bid.
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GENERAL RULES AND DIRECTIONS

Officers inviting tender :-	Executive Engineer-I Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3 & 12.5	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-V(Elect), Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.
2(x) Percentage on cost of	7.5% CP & 7.5 % OH.

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materials and labour to cover all overheads and profit	
2(xi) Standard Schedule of Rates	Delhi Schedule of Rates (DSR-E&M 2022) with correction slips issued up to the last day of the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD Specifications and as specified in Tender Document.
9(ii) Standard CPWD Contract form	CPWD form 7 as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee , programme chart (Time and progress) and applicable labour licenses , registration with EPFO, ESIC and BOCW welfare board or proof of applying thereof from the date of issue of letter of acceptance	As per Major component
ii) Maximum allowable extension beyond the period provided in 'i.' above Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per Major component
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, incharge of Major component
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at Mile stone at Page No 238-239	As per Major Component
Time allowed for execution of work	20 Months
Authority to decide:	
i. Extension of time	Superintending Engineer in Charge of Major Component
ii. Rescheduling of mile stones	Superintending Engineer in Charge of Major Component
iii. Shifting of date of start in case of delay in handing over of site	Superintending Engineer in Charge of Major Component
Clause 5 Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.

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Complete Site	As per Major component	
Clause 7		
Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment	Rs.5.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)	
Clause 7A		
Whether Clause 7A shall be applicable.	Yes Applicable	
Clause 8A		
Authority to decide compensation on account, if Contractor fails to submit completion plans.	Executive Engineer in Charge of Major Component.	
Clause 10 A		
List of testing equipments to be provided by the contractor at site lab. Equipments for Testing of Materials & Concrete at Site Laboratory All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipments shall be set up at site office laboratory:-		
Sl. No.	Equipment	Numbers (Minimum)
Testing equipments as per CPWD specification as required.		
Clause 10 B (ii)		
Whether Clause 10 B (ii) shall be Applicable	No	
Clause 10 C		
Component of labour expressed as percent of value of work	Not applicable,	
Clause 10 CC	Yes, Applicable	
S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1.	Labour component	25%
2.	E&M (Electrical & Mechanical) component	75%
	Total	100%
Clause 11		
Specification to be followed for execution of work.	CPWD's general specification for Electrical Works Part-I Internal 2013 & Part-II (External) 1994, Part V Wet Riser & Sprinkler Systems – 2020, Part VIII Gas Based Fire Extinguishing System 2013 with up to date correction /amendments, relevant	

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		IE rules, and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part – IV shall be applicable.		
Clause 12	Authority to decide deviation upto 1.5 times of tendered amount.			
Clause 16	The deviation limit for construction work			
Clause 18	100% for all the items			
Clause 16	Competent authority for deciding reduced rates.			
Clause 18	Superintending Engineer, incharge of Major component			
Clause 18	List of mandatory machinery, Tools & Plants to be deployed by the contractor at site			
	Minor Component -Electrical (E & M) Works			
	1. Chase Making Machines			
	2. All Electrical Tool & Plants, Safety equipments, High rise ladder, Crimping tool kit etc.,			
Note: The above listed T&P can be modified as per site requirement and direction of Engineer-in-Charge.				
Clause 19	Clause 19 C			
	Rs. 1000/- penalty for each default			
	Clause 19 D			
	Rs. 1000/- penalty for each default			
	Clause 19 G			
	Rs. 1000/- penalty for each default			
	Clause 19 K			
	Rs. 1000/- penalty for each default			
Clause 25	Settlement of Dispute by Conciliation and Arbitration :			
	CEO, CHB (Conciliator)			
Clause 32	Requirement of technical representative(s) and recovery rates			
Requirement of Technical Staff	Minimum Experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling	
Qualification	Number (of Major +Minor component)			

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Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project Manager-cum planning/quality / Site/billing Engineer	Rs. 15,000/- (Rs. Fifteen thousand) per month per person
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Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 34(i)	
Extent of GST payable by Contractor for Building and Construction works.	GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/ extended date of submission of tender will be adjusted accordingly
Clause 38	Not applicable

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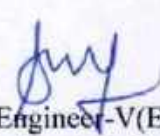
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ABSTRACT OF COST

Name of Work: - Construction of 80 Nos. Two Room Flats (EWS) (S+4), for
General Housing Scheme in Sector-53, Chandigarh. (Composite
work)


Electrical (E&M)- FIRE FIGHTING WORK		
Sub Head	Description	Sub Head Total
I	WET RISER SYSTEM - PUMPING EQUIPMENTS	1,30,899.00
II	HYDRANTS SYSTEM	6,91,325.00
III	PIPING, VALVES AND ACCESSORIES	16,27,549.00
IV	FIRE EXTINGUISHERS	4,07,350.00
V	MOTOR CONTROL PANELS	1,01,470.00
VI	CABLE TRAY, CABLING AND EARTHING	82,835.00
VII	FIRE ALARM SYSTEM	6,20,166.00
	Total	36,61,594.00


Executive Engineer-V(Elect.)
Chandigarh Housing Board,
Chandigarh.


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SCHEDULE OF QUANTITIES FOR THE WORK: CONSTRUCTION OF 80 NOS. TWO ROOM FLATS (EWS) (S+4), FOR GENERAL HOUSING SCHEME IN SECTOR-53, CHANDIGARH. (COMPOSITE WORK).

Electrical (E&M) - FIRE FIGHTING WORK

S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
	SUB HEAD - I - (WET RISER SYSTEM - PUMPING EQUIPMENTS)					130899.00
1	Supplying, installation, testing and commissioning of electric driven terrace pump suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump)					
a)	(a) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical confirming to IS : 1520					
b)	b) Suitable HP squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horizontal foot mounted type with Class-F insulation, conforming to IS-325.					
c)	M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required.					

S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
d)	Suitable cement concrete foundation duly plastered and with anti vibration pads. 900 lpm at 35 m Head	1	Set	1,11,015.00	1,11,015.00	
2	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required. 1.2 Meter high and 250 mm dia	1	Set	19,884.00	19,884.00	691325.00
3	SUB HEAD - II - (HYDRANTS SYSTEM) Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required : Single headed Stainless steel	25	Set	6,691.00	1,67,275.00	
4	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required : Stainless Steel (Grade 304)	50	Set	4,848.00	2,42,400.00	

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
5	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required : Stainless Steel (Grade 304)	25 Nos.	Each	1,811.00	45,275.00	
6	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required.				-	
(a)	20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585				-	
(b)	20 mm nominal internal dia gun metal globe valve & nozzle.				-	
(c)	Drum and brackets for fixing the equipments on wall.				-	
(d)	Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket. (30m)	25 Set	Set	9,455.00	2,36,375.00	
	SUB HEAD - III - (PIPING, VALVES AND ACCESSORIES)				-	1627549.00
	SLTC of M.S. pipe on surface				-	

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
7	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	150 mm dia	200	Metre	3,896.00	7,79,200.00	
b	80 mm dia	17	Metre	2,054.00	34,918.00	
c	25 mm dia	58	Metre	810.00	46,980.00	
8	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :				-	
a	150 mm dia	25	Set	9,766.00	2,44,150.00	
b	80 mm dia	25	Set	5,430.00	1,35,750.00	
9	Providing, installation, testing and commissioning of non-return valve of following sizes conforming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required :				-	
	150 mm dia	1	Set	19,385.00	19,385.00	

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
10	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) : 25 mm nominal bore	25 Set	Set	563.16	14,079.00	
11	Providing & Fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required.	26 Nos.	Each	1,487.00	38,662.00	
12	Supplying and fixing of Fire Man's axe with heavy insulated rubber as per standard conforming to IS 926.	25 Nos.	Each	964.00	24,100.00	
13	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. Circular tank	25000 Litre	Per Litre	10.25	2,56,250.00	
14	Providing & fixing Auto Air vent for water supply risers, suitable for pressure not less than 15 Kg/Sq.cm.				-	
	25 mm nominal bore	25 Nos.	Each	1,363.00	34,075.00	
	SUB HEAD - IV - (FIRE EXTINGUISHERS)				-	407350.00

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
15	Supply, installation, testing and commissioning of ISI marked (IS:15683:2006) portable chemical fire extinguisher, water (gas pressure) type capacity 9 litres with gun metal cap and nozzle and complete in all respects including initial fill and wall suspension brackets as required as per specifications.	25 Nos.	Each	3,851.00	96,275.00	
16	Providing and fixing fire extinguisher of carbon dioxide type consisting of brand new high pressure steel cylinder bearing IS: 7285 mark and having the approval of controller of explosives Nagpur, wheel type valve bearing IS:3224 mark internal discharge tube, 1 meter long high pressure discharge hose, non conducting horn, suspension bracket, fully charged bearing IS: making fixed to wall as directed conforming IS : 15683:2006					
	4.5kg capacity cylinder	25 Nos.	Each	8,973.00	2,24,325.00	
17	Supply, installation, testing and commissioning of ISI marked (IS:15683:2006) ABC type fire extinguisher, capacity 5 KG with gun metal cap and nozzle and complete in all respects including initial fill and wall suspension brackets as required as per specifications.	25 Nos.	Each	3,470.00	86,750.00	
	SUB HEAD - V - (MOTOR CONTROL PANELS)					101470.00

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
18	Starter Panel for Fire Terrace Tank Fabrication, Supplying, Installation, Testing & Commissioning of Electrical Fire Motor Control Panel of cubical construction, floor mounted type, fabricated out of 2mm. thick CRCA sheet, compartmentalized with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 9 tank treatment process, cable alley, interconnection with solid aluminium strip / single core PVC insulated FRLS copper conductor cable, having suitable mountings for switchgears and accessories and internal control & power wiring with suitable rating PVC insulated FRLS copper conductor, earth terminals, numbering etc. complete in all respects, suitable for operation on 415 V, 3 phase 50 HZ AC supply with enclosure protection class IP 67 body with 100 Amp aluminium bus bar etc complete as required.				-	
i)	Operation of Pump shall be controlled with the help of flow switch mounted in the fire pipe line.				-	
	Incoming				-	
a)	63 Amp 4 Pole 25 KA MCCB microprocessor based release for O/C, S/C and E/F protection.- 1 No.				-	

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
b)	Digital Ammeter (0 - 63 A), 96 mm. sq. CT operated with inbuilt selector switch with 3 Nos. CT's of ratio 63/5 A, 15 VA burden and accuracy of class 1.0 - 1 No.				-	
c)	Digital Volt Meter (0- 500 V) 96 mm. sq. with inbuilt selector switch and control MCBs - 1 No.				-	
d)	Phase Indicating coloured LED (RYB) with control MCBs - 1 No.				-	
e)	Fully Automatic Star Delta Starter suitable for Fire Pump motor of minimum 20.0 HP and (as per the commendation of pump manufacturer) complete with over load protection, current sensing type single phase preventer complete with contactors, push button, indicators LED type Auto/manual selector switches all accessories and FRLS copper conductor wiring etc. as required - 1 No.				-	
	Fire panel as above	1	Set	1,01,470.00	1,01,470.00	
19	SUB HEAD - VI - (CABLE TRAY, CABLING AND EARTHING)				-	82835.00
	CABLES				-	

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
	Supplying of XLPE insulated, PVC sheathed aluminium conductor 1.1 KV grade armoured U.G. Cable of following sizes on surface/in existing cable tray duly clamped as required. 3 Core 6 Sq.mm.	75 Metre	Metre	761.00	57,075.00	
20	Supplying and making termination with brass compression gland & Al. lugs for following sizes of XLPE insulated, PVC sheathed Al. conductor armoured cables of 1.1KV grade as required. 3 Core 6 Sq.mm.	8 Set	Set	295.00	2,360.00	
21	Providing and fixing 6 SWG dia. GI wire on surface or in recess for loop earthing along with the existing surface / recessed conduits / sub main wiring / cable as required.	75 Metre	Metre	46.00	3,450.00	
22	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc, as required SUBHEAD VII (FIRE ALARM SYSTEM)	75 Metre	Metre	266.00	19,950.00	
23	Supplying, installation, testing & commissioning of manual call boxes of MS construction in surface/recess with stainless steel chain & hammer assembly complete with glass and push button etc. as required.	25 Nos.	Each	517.00	12,925.00	620166.00

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
24	Supplying, installation, testing & commissioning fire alarm sounder with facility to make announcement, mounted in M.S. box (16 SWG) with hinged cover plate & suitable for operation with amplifier i/c line matching transformer etc. complete as required.	25 Nos.	Each	986.00	24,650.00	
25	Supplying, installation, testing & commissioning sector panel suitable for following zones, complete with visual indications for short circuit, open circuit fault, fire condition and all other standard facilities as per IS 2189 with mimic diagram for all area/zone covered, complete with all connections, interconnections as required. 6 zone					
26	Supplying, installation, testing & commissioning of fire fighter phone jack complete as required.	6 Nos.	Each	13,273.00	79,638.00	
27	Supplying & laying of 2x1.5 sqmm fire survival armoured cable , 600/1000V rated with annealed copper conductor having glass mica fire barrier tape covered by an extruded layer of Cross Linkable Ethylene Propylene Rubber (EPR) insulation and LSZH inner bedding, steel wire armouring & LSZH outer sheath complete as required.	25 Nos.	Each	1,744.00	43,600.00	
a)	2x1.5 sqmm fire survival armoured cable	183 Metre	Metre	391.00	71,553.00	

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
S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount	Sub Head Total
28	Providing and fixing weather proof lockable "FIRE HOSE" cabinet door of size not less than 1200mmx2100mm made out of MS sheet 1.6mm thick and MS angle 40mmx40mmx6mm complete with glass including necessary locking arrangement and shall be painted with one coat of primer and two coats of synthetic enamel paint of approved shade as required as per specifications. The door to be fixed on existing fire hydrant shaft with hold fasts making necessary repairs etc.	25 Nos.	Each	15,512.00	3,87,800.00	
	TOTAL				36,61,594.00	


[Signature]
Executive Engineer-V (Elect.)
Chandigarh Housing Board,
Chandigarh

Mile stone Programmer (Minor Component i.e. Electrical (E&M) Work-Fire Fighting)					
(In Physical Terms)					
S. No.	Description of Milestone (Physical)			Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
	1st Quarter.	During the quarter (Block of 16 DUs)	Cumulative (Block of 16 DUs)		
1	Wet Riser System - Pumping Equipments	0	0	154 Days	0% of Tendered Amount
2	Hydrants System	0	0		
3	Piping, Valves And Accessories	0	0		
4	Fire Extinguishers	0	0		
5	Motor Control Panels	0	0		
6	Cable Tray, Cabling And Earthing	0	0		
7	Fire Alarm System	0	0		
	2nd Quarter.				
1	Wet Riser System - Pumping Equipments	1	1	304 Days	0.01% of Tendered Amount of composite work
2	Hydrants System	1	1		
3	Piping, Valves And Accessories	1	1		
4	Fire Extinguishers	0	0		
5	Motor Control Panels	0	0		
6	Cable Tray, Cabling And Earthing	0	0		
7	Fire Alarm System	0	0		
	3rd Quarter.				
1	Wet Riser System - Pumping Equipments	3	4	558 Days	0.04% of Tendered Amount of
2	Hydrants System	3	4		


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Mile stone Programmer (Minor Component i.e. Electrical (E&M) Work-Fire Fighting)					
(In Physical Terms)					
3	Piping, Valves And Accessories	3	4		composite work
4	Fire Extinguishers	0	0		
5	Motor Control Panels	0	0		
6	Cable Tray, Cabling And Earthing	0	0		
7	Fire Alarm System	1	1		
4th Quarter.					
1	Wet Riser System - Pumping Equipments	1	5	608 Days	0.05% of Tended Amount of composite work
2	Hydrants System	1	5		
3	Piping, Valves And Accessories	1	5		
4	Fire Extinguishers	5	5		
5	Motor Control Panels	5	5		
6	Cable Tray, Cabling And Earthing	5	5		
7	Fire Alarm System	4	5		

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General/Specific Conditions for Electrical (E&M) Component to be read in conjunction with General/Specific conditions of Major components of work as applicable:-

Special conditions- Fire Fighting work :

1. Fire fighting installation shall be in conformity with the regulation of local fire department and National Building Code.
2. In general, Fire fighting work shall be carried out as per CPWD's specifications; Part V Wet Riser & Sprinkler Systems – 2020 with up to date correction /amendments; relevant Indian Electricity Rules, as per the requirement of local concerned authority and as per directions of Engineer-in-charge. In case of variation, nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read along with schedule of quantities for the work.
3. The contractor shall be responsible for obtaining the approval of local fire department for installation done under the scope of work. The work will not be considered a complete unless the NOC from local fire department is provided which has to be arranged by the contractor except the official fee/charges for conducting inspection by the departments if any shall be borne by the department.
4. The installation must be tested both on electricity / diesel pump. Diesel and generator for the testing have to be arranged by the contractor.

CODES AND STANDARDS

5. In addition to the requirements the design, manufacture, inspection and testing of the piping, fittings, valves and specialties covered under this specification shall conform, in general, to the standards and codes (latest edition) mentioned below:

IS : 780	Specification for sluice valves for water works purposes (50 mm to 300 mm size).
IS : 5312 (Part 1)	Specification for swing check type reflux (non return) valves: part 2 Multi door pattern.
IS : 5312 (Part 2)	Specification for swing check type reflux (non return) valves: part 2 Multi door pattern.
IS : 12992 (Part 1)	Safety relief valves, spring loaded : Design
IS : 13095	Butterfly valves for general purposes.
TAC	Tariff Advisory Committee fire protection manual Part-I.
TAC	Rules of Tariff Advisory Committee for automatic sprinkler system.
NFPA : 12 , 1993	Standards on Carbon Dioxide Extinguishing System
IS : 636	Non-percolating flexible fire fighting delivery hose.

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IS : 884	Specification for first aid hose reel for fire fighting.
IS : 901	Specification for couplings, double male and double female, instantaneous pattern for fire fighting.
IS : 902	Suction hose couplings for fire fighting purposes.
IS : 903	Specification for fire hose delivery couplings, branch pipe, nozzles and nozzle spanner.
IS : 904	Specification for 2-way and 3-way suction collecting heads for fire fighting purposes.
IS : 907	Specification for suction strainers, cylindrical type for fire fighting purposes.
IS : 908	Specification for fire hydrant, stand post type.
IS : 909	Specification for underground fire hydrant, sluice valve type.
IS : 1648	Code of practice for fire safety of building (general): Fire fighting equipment and its maintenance.
IS : 2171	Specification for portable fire extinguishers dry powder (cartridge type)
IS : 2190	Selection, installation and maintenance of first aid fire extinguishers – Code of practice.
IS : 2871	Specification for branch pipe, universal, for fire fighting purposes.
IS : 2878	Specification for fire extinguishers, carbon dioxide type (portable and trolley mounted).
IS : 3844	Code of practice for installation and maintenance of internal fire hydrants and hose reel on premises.
IS : 5290	Specification for landing valves.
IS 5714	Specification for coupling, branch pipe, nozzle, used in hose reel tubing for fire fighting.
IS : 8423	Specification for controlled percolation type hose for fire fighting.
IS : 10658	Specification for higher capacity dry powder fire extinguisher (trolley mounted).
IS : 1309	External hydrant systems – Provision and maintenance – Code of practice.
IS : 1520	Specification for horizontal centrifugal pumps for clear cold fresh water.
IS : 8418	Specification for horizontal centrifugal self priming pumps.
IS : 1239 (Part 1) & (Part 2)	Mild steel, tubes, tubular and other wrought steel fittings: Part 1 Mild Steel tubes. Part 2 Mild Steel tubular and other wrought steel pipe fittings.
IS : 4711	Methods for sampling steel pipes, tubes and fittings.
IS : 6392	Steel pipe flanges

PROFORMA OF SCHEDULES

SCHEDULE "A"

Minor Component i.e Electrical (E&M) work- CCTV

Schedule of Quantities for Electrical (E&M) work - CCTV (Enclosed) which starts at
page No. 248

SCHEDULE "D"

Extra schedule for specific requirements/ documents for the work if any:-	Nil
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SCHEDULE "E"

Reference to General Conditions of contract of 2020 with amendments upto date

	Name of Work	Construction of 80 Nos. Two Room Flats (EWS) (S+4), for General Housing Scheme in Sector-53, Chandigarh. (Composite work).
i)	Estimated cost of Work Electrical(E& M) work -CCTV)	Rs.6,97,122/-
ii)	Earnest Money (for composite work)	As mentioned in Detail regarding Tendering Process.
iii)	Performance Guarantee	5% of the tendered value
iv)	Security Deposit	2.5% of the tendered value

SCHEDULE "F"

Reference to General Conditions of Contract	GCC 2020 with latest amendments issued up to the last day of the last date of submission of bid.
---	--

GENERAL RULES AND DIRECTIONS

Officers inviting tender : -	Executive Engineer-I Chandigarh Housing Board, Chandigarh.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2, 12.3 & 12.5	Refer Clause-12.
Definitions	
2(v) Engineer-in charge	Executive Engineer-V(Elect), Chandigarh Housing Board, Chandigarh.
2(viii) Accepting Authority	Chandigarh Housing Board, Chandigarh.
2(x) Percentage on cost of materials and labour to cover all	7.5% CP & 7.5 % OH.

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overheads and profit	
2(xi) Standard Schedule of Rates	Delhi Schedule of Rates (DSR-E&M 2022) with correction slips issued up to the last day of the last date of submission of bid.
2(xii) Department	Chandigarh Housing Board, Chandigarh
2(xiii) Specifications	Latest CPWD Specifications and as specified in Tender Document.
9(ii) Standard CPWD Contract form	CPWD form 7 as modified & corrected up to last date of receipt of tender.
Clause 1	
i) Time allowed for submission of Performance Guarantee , programme chart (Time and progress) and applicable labour licenses , registration with EPFO, ESIC and BOCW welfare board or proof of applying thereof from the date of issue of letter of acceptance	As per Major component
ii) Maximum allowable extension beyond the period provided in 'i.' above Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per Major component
Clause 2	
Authority for fixing compensation under clause-2	Superintending Engineer, incharge of Major component
Clause 5	
Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given at Page No.251	As per Major Component
Time allowed for execution of work	20 Months
Authority to decide:	
i. Extension of time	Superintending Engineer in Charge of Major Component
ii. Rescheduling of mile stones	Superintending Engineer in Charge of Major Component
iii. Shifting of date of start in case of delay in handing over of site	Superintending Engineer in Charge of Major Component
Clause 5 Schedule of handing over of site	
Description	Time Period for handing over reckoned from date of issue of letter of intent.
Complete Site	As per Major component

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Clause 7		
Gross work to be done together with net payment/ adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.		Rs.2.00 Lakh subject to one payment per month. (However bill of lesser amount may be paid as per discretion of EIC)
Clause 7A		
Whether Clause 7A shall be applicable.		Yes Applicable
Clause 8A		
Authority to decide compensation on account, if Contractor fails to submit completion plans.		Executive Engineer in Charge of Major Component.
Clause 10 A		
List of testing equipments to be provided by the contractor at site lab. Equipments for Testing of Materials & Concrete at Site Laboratory All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipments shall be set up at site office laboratory:-		
Sl. No.	Equipment	Numbers (Minimum)
Testing equipments as per CPWD specification as required.		
Clause 10 B (ii)		
Whether Clause 10 B (ii) shall be Applicable		No
Clause 10 C Component of labour expressed as percent of value of work		Not applicable,
Clause 10 CC		Yes, Applicable
S. No.	Relevant component of material/ Labour for price escalation.	Percentage of total value of work
1	Labour component	25%
2	E&M (Electrical & Mechanical) component	75%
	Total	100%
Clause 11		
Specification to be followed for execution of work.		CPWD's general specification for Electrical Works Part-I Internal 2013 & Part-II (External) 1994, with up to date correction /amendments, relevant IE rules, and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part – IV

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		shall be applicable.		
Clause 12				
Authority to decide deviation upto 1.5 times of tendered amount.				
The deviation limit for construction work		100% for all the items		
Clause 16				
Competent authority for deciding reduced rates.		Superintending Engineer, incharge of Major component		
Clause 18				
List of mandatory machinery, Tools & Plants to be deployed by the contractor at site		Minor Component -Electrical (E & M) Works		
		Chase Making Machines		
		All Electrical Tool & Plants, Safety equipments, High rise ladder, Crimping tool kit etc.,		
Note: The above listed T&P can be modified as per site requirement and direction of Engineer-in-Charge.				
Clause 19				
Clause 19 C		Rs. 1000/- penalty for each default		
Clause 19 D		Rs. 1000/- penalty for each default		
Clause 19 G		Rs. 1000/- penalty for each default		
Clause 19 K		Rs. 1000/- penalty for each default		
Clause 25				
Settlement of Dispute by Conciliation and Arbitration :		CEO, CHB (Conciliator)		
Clause 32				
Requirement of technical representative(s) and recovery rates				
Requirement of Technical Staff		Minimum Experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
Qualification	Number (of Major +Minor component)			
Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project Manager-cum planning/quality / Site/billing Engineer	Rs. 15,000/- (Rs. Fifteen thousand) per month per person

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Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.
Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 34(i)	
Extent of GST payable by Contractor for Building and Construction works.	GST 18% Applicable. Any Increase/ decrease in the rate of GST as on the last date/ extended date of submission of tender will be adjusted accordingly
Clause 38	Not applicable

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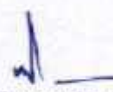
ABSTRACT OF COST

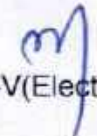
Name of Work: - Construction of 80 Nos. Two Room Flats (EWS) (S+4), for General Housing Scheme in Sector-53, Chandigarh. (Composite work)


Electrical (E&M) Work- CCTV		
Sub Head	Description	Sub Head Total
I	Supply, Installation Testing and Commissioning of CCTV Camera complete in all respect as required.	6,97,122.00
	Total	6,97,122.00


Executive Engineer-V(Elect.)
Chandigarh Housing Board,
Chandigarh.


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SCHEDULE OF QUANTITIES FOR THE WORK: CONSTRUCTION OF 80 NOS. TWO ROOM FLATS (EWS) (S+4), FOR GENERAL HOUSING SCHEME IN SECTOR-53, CHANDIGARH. (COMPOSITE WORK).

Electrical (E&M) Work- CCTV

S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
1	Supply, Installation Testing and Commissioning of 2MP HD Indoor Dome Camera, H264/H.265, DWDR,AWB,AGC,BLC,HLC with IR upto 30mtrs. , 2.8/3.6 mm fixed lens, IP67,POE, complete with required accessories as required at site to the entire satisfaction of the engineer-in-charge.	10 Nos	Each	7,218.00	72,180.00
2	Supply, Installation Testing and Commissioning of 2MP HD bullet Camera, H264/H.265, 30fps@2MP ,DWDR,AWB,AGC,BLC,HLC with IR upto 30mtrs., 2.8/3.6 mm fixed lens, IP67,POE, complete with required accessories as required at site to the entire satisfaction of the engineer-in-charge.	5 Nos	Each	8,633.00	43,165.00
3	Supply, Installation Testing and Commissioning of 64 Ch NVR, H.265 / H.264, Dual Output (HDMI/VGA), Quad Core Embedded Processor, 8 SATA HDD Slot upto 8 TB each, 4 nos. USB port, 1 eSATA port, 1 RS232, 1 RS485. including the cost of 2 Nos 8GB SATA HDD, complete as required at site to the entire satisfaction of the engineer-in-charge.	1 No	Each	3,60,150.00	3,60,150.00
4	Supply, Installation Testing and Commissioning of 24 port jack loaded panel complete as required at site to the entire satisfaction of the engineer-in-charge..	1 No	Each	8,604.00	8,604.00
5	Supply, Installation Testing and Commissioning of 24 port POE switch complete as required at site to the entire satisfaction of the engineer-in-charge..	1 No	Each	33,759.00	33,759.00

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
6	Supply, laying, Testing and Commissioning of Cat-6 UTP patch cord 1 meter complete as required at site to the entire satisfaction of the engineer-in-charge.	15 Nos	Each	582.00	8,730.00
7	Supply, laying, Testing and Commissioning of Cat-6 UTP unarmoured cable in under ground HDPE pipe including the cost of digging & back filling the trenches also including the cost of sand for cushioning and bricks complete as required at site to the entire satisfaction of the engineer-in-charge..	60 Metre	Metre	365.00	21,900.00
8	Supply, laying Testing and Commissioning of Cat-6 UTP unarmoured cable on existing cable tray / conduit complete as required at site to the entire satisfaction of the engineer-in-charge..	600 Metre	Metre	66.00	39,600.00
9	Supply, Installation Testing and Commissioning of IP-66 Outdoor Junction Box with accessories for power supply complete as required at site to the entire satisfaction of the engineer-in-charge..	1 No	Each	2,625.00	2,625.00
10	Supply, Installation Testing and Commissioning of 9U Network Rack with Accessories complete as required at site to the entire satisfaction of the engineer-in-charge..	1 No	Each	5,687.00	5,687.00
11	Supply, Installation Testing and Commissioning of 32mm PVC Conduit with Accessories complete as required at site to the entire satisfaction of the engineer-in-charge..	70 Metre	Metre	109.00	7,630.00
12	Supply, Installation Testing and Commissioning of 25mm PVC Conduit with Accessories complete as required. at site to the entire satisfaction of the engineer-in-charge.	160 Metre	Metre	70.00	11,200.00

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S. No.	Description Of Item	Qty.	Unit	Rate (Rs.)	Amount
13	Supply, Installation Testing and Commissioning of 25mm MS Conduit with Accessories complete as required at site to the entire satisfaction of the engineer-in-charge..	20	Metre	182.00	3,640.00
14	Supply, Installation Testing and Commissioning of 25mm PVC Flexible pipe including connection modules complete as required at site to the entire satisfaction of the engineer-in-charge.	10	Metre	41.00	410.00
15	Supply, Installation Testing and Commissioning of 25mm MS Flexible Pipe including connection modules complete as required at site to the entire satisfaction of the engineer-in-charge.	2	Metre	131.00	262.00
16	Supply, Installation Testing and Commissioning of 600VA UPS with 10 Min Backup complete as required at site to the entire satisfaction of the engineer-in-charge..	1	No	4,666.00	4,666.00
17	Supply, Installation Testing and Commissioning of all the above equipment and Set up for Control Room without furniture's and table complete as required at site to the entire satisfaction of the engineer-in-charge..	1	Set	72,914.00	72,914.00
	TOTAL				6,97,122.00

[Signature]
Executive Engineer-V (Elect.)
Chandigarh Housing Board
Chandigarh

**Mile stone Programmer (Minor Component i.e. Electrical(E&M) Work-CCTV)
(In Physical Terms)**

S. No.	Description of Milestone (Physical)			Time allowed in Days (from date of start).	Amount to be withheld in case on non achievement of respective milestone.
	1st Quarter.	During the quarter (Block of 16 DUs)	Cumulative (Block of 16 DUs)		
1	Pipe & Cable work	0	0	154 Days	0% of Tendered Amount of composite work
2	Installation of CCTV Cameras	0	0		
3	Installation of control room & testing	0	0		
2nd Quarter.					
1	Pipe & Cable work	0	0	304 Days	0% of Tendered Amount of composite work
2	Installation of CCTV Cameras	0	0		
3	Installation of control room & testing	0	0		
3rd Quarter.					
1	Pipe & Cable work	2	2	458 Days	0% of Tendered Amount of composite work
2	Installation of CCTV Cameras	0	0		
3	Installation of control room & testing	0	0		
4th Quarter.					
1	Pipe & Cable work	3	5	608 Days	0.02% of Tendered Amount of composite work
2	Installation of CCTV Cameras	5	5		
3	Installation of control room & testing	5	5		

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General/Specific Conditions for Electrical (E&M) Component to be read in conjunction with General/Specific conditions of Major components of work as applicable:-


Special conditions-CCTV

1. The firm shall supply the detailed specifications of the manufacturer before procurement of all CCTV items.
2. The system shall be tested and commissioned after configuring all the cameras at the specific control room location.
3. The system shall be accepted only after successful working of CCTV cameras as per the requirement at site and to the satisfaction of the Engineer in charge.


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ABSTRACT OF COST


Name of Work: - Construction of 80 Nos. Two Room Flats (EWS) (S+4),
for General Housing Scheme in Sector-53, Chandigarh.
(Composite work)

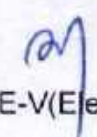
Minor Component i.e. Electrical (E&M) Work

Sub Head	Description	Sub Head Total
Building Work :	Electrical & Mechanical work	
1.	E.I. Work	1,66,76,660.00
2.	Passenger Lift	81,00,705.00
3.	SPV System	6,65,590.00
4.	Fire Fighting & Fire Alarm	36,61,594.00
5.	CCTV	6,97,122.00
	Total	2,98,01,671.00



Executive Engineer-V,
Chandigarh Housing Board,
Chandigarh


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Annexure 'A'

(To be executed On Judicial Stamp paper worth Rs.100/- between Contractor, Manufacturer & Engineer-in-charge of the work)

GUARANTEE BOND

This agreement made this ___ day of ___ between M/s. _____ & M/s _____ (hereinafter called the Guarantors which expression shall include where the context so admits the representative successors or his/its assignees of the one part) and the Engineer-in-charge on behalf of Chandigarh Housing Board, Chandigarh constituted under Section -III of the Haryana Housing Board Act, 1971 as extended to the Union Territory, Chandigarh having its principal office at 8 Jan Marg, Sector 9-D, Chandigarh (hereinafter called the Board which expression shall unless repugnant to the context or meaning thereof including its successor and assignees of the other part).

Whereas this agreement is supplementary to the contract (hereinafter called the Sub Contract) dated----- made between the Guarantors of the one part and Board of the other part, whereby the contractor & manufacturer, inter alia, undertook to render the buildings and structures and supply of _____ (Name of item) conforming to the prescribed specifications. Wherein, the material in question have been used in between Block No. ___ Unit No. ___ at _____ (Location) during the period between ___ to ___ at the site of work.

And whereas the Guarantors agreed to give a guarantee to the effect that the said material will remain defect free for the next five years to be reckoned from the date of completion of the work under the contract Agreement No. ___ dated ___.

During this period of guarantee, the Guarantors shall make good all manufacturing defects and for that matter, shall replace at his risk and cost such defective material(s) as observed to the satisfaction of the Engineer-in-charge, and shall commence the works of such rectification within seven days from date of issuing notice from the Engineer-in-charge calling upon him to rectify the defects, failing which the work shall be got done by the Department by some other Contractor/ manufacturer at the Guarantor's cost and risk, and in the later case the decision of the Engineer-in-charge as to the cost recoverable from the Guarantors shall be final and binding.

That if the Guarantors fails to replace the defective material(s) or commits breaches hereunder then the Guarantors will indemnify principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the Guarantor in performance and observance of this supplemental agreement. As to the amount of loss and/or damage and/or cost incurred by the Board, the decision of the Engineer-in-charge will be final and binding on the parties. In case of failure to replace the defective material, in addition to the recovery, stated here, the Guarantors and the Contractor shall be black listed.

In witness whereof these presents have been executed by the Obligor _____ and by _____ for and on behalf of the Chairman, CHB on the day, month and year first above written.

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Signed, sealed and delivered by OBLIGOR in the presence of

1.

2. (Contractor)

2. (Manufacturer)

Signed for and on behalf of The Chairman, CHB by EE _____ in the presence of.


1.

2.

Note:- This Guarantee Bond shall be signed by the manufacturers individually, if the manufacturer of _____ are different agencies.


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List of material to be covered under the Guarantee for Civil Component: -

Sr. No.	Description
1.	Water Proofing
2.	Vitrified, Ceramic, Glazed Tiles in Flooring
3.	Flush Door Shutters

List of material to be covered under the Guarantee for PH Component:-

Sr. No.	Description
Brass Fittings	
1.	Brass stop cock 15 mm/id
2.	Brass stop cock 20 mm/id
3.	Brass stop cock 25 mm/id
4.	Brass stop cock 40 mm/id
5.	Brass ball valve 15 mm/id
CP Fittings	
1.	CP Brass Angle Valve 15 mm i/d
2.	CP Brass Bottle trap 32 mm i/d
3.	CP Brass over head shower 15 mm i/d with shower arm
4.	CP Brass Basin Mixer 15 mm i/d
5.	CP Brass Waste 32 mm i/d
6.	CP Brass Health faucet
7.	CP Brass Sink Mixer 15 mm i/d
8.	CP Brass Single Lever Diverter (Three way)

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
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List of material to be covered under the Guarantee for Electrical Component: -

Sr. No.	Description
1.	MCB /RCCB/ MCCB/BDB's
2.	Modular Switches, Socket & Accessories
3.	Lifts
4.	Solar System- Photo Voltaic cells and Inverter Panel
5.	Fire Pump with motor
6.	CCTV Camera


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**APPROVED MAKES OF VARIOUS ITEMS (WHEREVER PRESCRIBED) FOR
USE UNDER THIS CONTRACT**

Sr. No.	Item, Work	BRANDS
1	Cement	ACC, ULTRATECH, VIKRAM, SHREE CEMENT, AMBUJA, JAYPEE CEMENT, CENTURY CEMENT & JK CEMENT
2	Reinforcement Steel (TMT)	SAIL, TATA STEEL LTD. RINL, JINDAL STEEL & POWER LTD- PANTHER AND JSW STEEL LTD.
3	Structural Steel/M.s Tube	SAIL, RASHTRIYA ISPAT NIGAM, TATA, JINDAL STEEL & POWER LTD, JSW STEEL LTD
4	Plasticizer, super plasticizer, admixtures, other construction chemicals	M.C, BAUCHEMIE, FOSROC, SIKA, BAUCHEMIE, CICO, PIDILITE, BASF
5	Water proofing, compound (Crystalline)	ACCOPROOF, XYPEX, BASF, SIKA, PENETRON, KESHUN
6	Flush door Shutters/ Factory made Paneled door shutters	ARCHID, CENTURY, GREEN, MERINO, DURO
8	Hardware/ Fittings (SS)	DORMA, HETTICH, GODREJ, EVERITE, DORSET
	Hardware/ Fittings (Aluminium) ISI Marked	CLASSIC, NULITE AND CROWN.
9	Premium acrylic emulsion paints	DULUX- WEATHER SHIELD, NEROLAC EXCEL, ASIAN APEX PAINTS, BERGER-WEATHER COAT
10	Wall Putty	BIRLA WALL CARE, JK WHITE, SAINT GOBAIN, FERROUS CRETE
11	Oil Bound washable distemper	ASIAN PAINTS, AKZONOBEL DULUX, BERGER, ICI, NEROLAC
12	Acrylic Distemper	BERGER- BISON, ASIAN-TRACTOR, DULUX-PROMISE, NEROLAC-BEAUTY
13	Wax Polish	RECKITT & COLMAN, ICI, MODI

14	Cement Primer (Interior)	BP WHITE (BERGER), DECOPRIME WT (ASIAN) AKZONO BEL (DULUX) NEROLAC
	Cement Primer (Exterior)	ASIAN-TRUE CARE, BERGER-WEATHER COAT, NEROLAC-NEROLAC EXTERIOR
15	Steel/ Wood Primer	AKZONOBEL (DULUX) NEROLAC, ASIAN PAINTS, BERGER, JENSON & NICHOLSON
16	Synthetic Enamel paint	AKZONOBEL (DULUX), ASIAN (APCOLITE), KANSAI NEROLAC (SYNTHETIC ENAMEL), BERGER-LUXOL.
17	Epoxy paint premium quality	KANSAI NEROLAC, ASIAN, AKZONOBEL (DULUX), FOSROC, ICI
18	Epoxy grouting mortar/ Admixtures	MBT, SIKA, STP
19	Float Glass	SAINT GOBAIN, MODIGUARD, ASAHI INDIA, GOLD PLUS.
20	Mirror	ATUL, BELGIUM GLASS HOUSE, SWASTIK
21	Concrete additive	SIKA, FOSROC, STP, CICO
22	Expansion/ Rebar/ Anchor Fastener	HILTI, FISCHER, DASH, ANCHOR, BOSCH, FISHER
23	Aluminum Sections	INDIAN ALUMINIUM CO., HINDUSTAN ALUMINIUM JINDAL, BHARUKA
24	Glass processors for toughened/ insulating/ bevelled glass etc.	GOLD PLUS. ALLIED GLASS, GSC, GURIND, MIRAGE GLASSES, T.L. VERMA & CO. & SHIVA TUFF
25	Tile Joint Filler	ROFF RAINBOW TILE MATE' OF ROFF CONSTRUCTION CHEMICALS PVT. LTD., WINSIL 20, SILICON SEALANT OF GE BAYER SILICON, MATRIX GROUP.
26	Silicon Sealants	G.E. BAYER DOW CORNING, WACKER
28	False Ceiling-Metal	SAINT GOBAIN, ARMSTRONG, HUNTER, DOUGLUS

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29	Gyp Board	SAINT GOBAIN, LAFARGE, BORAL
30	Ceramic Tiles/ Glazed Tiles (Wall)	DIGITAL SERIES OF FIRST PREMIUM QUALITY OF KAJARIA, NITCO, RAK
31	Ceramic tiles(Floor)	ANTI-SKID OF FIRST PREMIUM QUALITY OF KAJARIA, NITCO, RAK
33	UPVC window shutters with frames	REHAU, FENESTA, NCL VEKA
34	Hardware accessories of UPVC windows	ASSABLOY, ROTO, SINGANIA
43	UPVC Pipe (ISI Marked)	ASTRAL, ASHIRWAD, AJAY, SUPREME, JAIN IRRIGATION (DULY ISI MARKED)
44	ACP Sheet	ALSTRONG, ALUCOBOND, ADU DÉCOR
45	Mortice Locks	DORMA, HETTICH, GODREJ, EVERITE, DORSET
46	GI section for Door Frames	TATA, JINDAL, APL APOLLO
47	Stainless Steel hollow section	TATA, JINDAL
48	Polymer Bonding agent	SIKA, PIDILITE, NITOBOND, CICO
49	White Vitreous Chinaware Counter Top Wash basin	JAQUAR (SOLO-SLS WHT 6601, HINDWARE(VIENNE OVAL-10038), PARRYWARE (CASCADE NXT-C0431)
50	White Vitreous Chinaware Wash basin	JAQUAR(FNS WHT 40801), HINDWARE(Neptune Cat No. 10072)
51	EWC with Solid plastic seat Cover & Lid	JAQUAR(SOLO-SLS WHT 6851 S 300PP, HINDWARE(DOVE-92582), PARRYWARE (REEVE-C8900)
52	EWC with Solid plastic seat & Lid	JAQUAR (LYS WHT 38751S), HINDWARE(Rene) Cat No. 92088
53	Centrifugally Cast (Spun) iron pipes & fittings IS 3989 (ISI Marked)	Any reputed ISI Marked Make
54	HCI Gully Trap	NIF,NIC,NECO,HTM
55	CPVC Pipes (ISI Marked) & Fittings,	ASTRAL , ASHIRWAD ,AJAY,SUPREME,JAIN Irrigation
56	GI Pipes (ISI Marked)	TATA, Jindal (Hissar)

57	GI Fittings (ISI Marked)	AVR, R, NVR
58	Brass fitting (ISI Marked) i.e. Brass stop cock, Brass ball valve	KPR, PRIMA or Any other reputed make
59	CP Brass Fixtures/Fittings	JAQUAR (Lyrics), JAL (Nalini), PRIMA (AURA)
60	S.S.grating for Floor Trap	Chilly, Jayna, Jal, Viking
61	Salem Stainless Steel Sink (ISI Marked)	NEELKANTH, NIRALI, JAYNA, SILVER LINE (BLUESTAR SANITARY IND PVT LTD)
63	Precast Gully trap cover & frame with CHB logo	Any reputed Make
64	Polyethylene Water Storage Tanks (ISI Marked)	SINTEX, KAVERI, DIPLAST
65	Pig lead	Hindustan Zinc Limited, Vedanta, POCL
66	XLPE Cable : 11 KV , PVC insulated XLPE aluminium conductor armoured cables 1100V grade, Control Cable, Copper Conductor PVC Insulated Wires/ Stranded Flexible Wires (FRLS), Telephone Wires/ Telephone Cables, Communication Cables /FRLS Cables/Wires	Finolex, Polycab, RR Kabel , KEI
67	Modular Switches Socket Outlets and wiring Accessories with Moulded Cover Plate	ABB (Tvisha), Legrand (Arteor), Schneider (Livia), Gold Medal Air, North West (Venia) by Wipro
68	MCCB	ABB (Tmax), Schneider (NSX), L&T (Dsine) Siemens (3VL)
69	MCB/DBS/RCCB/SPD	ABB (SH 200 M), Legrand (DX3), Hager, Schneider (Acti-9) , Siemens (3VL), L&T
70	GI Pipe	TATA, Jindal Hisar
71	MS Pipe	TATA, JINDAL
72	MS Conduits (ISI Marked)	AKG, BEC
73	PVC Conduit (FRLS) & Accessories	Diplast, AKG, Precision, BEC Plast , Polypack

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74	Electronic Digital Meter(A/V/PF/HZ/KWH) with LCD Display	Schneider, Siemens, Neptune, L&T
75	Cable Trays	Indeana, OBO, BEC, Cooper
76	Steel Wire Rope Hangers & Supports	Hilti, Gripple, Dobby Grip(ZECO), Zip Clip, Birla
77	Fire Sealant	3 M India Ltd. , HILTI, Fischer
78	Butterfly Valve (ISI marked), NRVs and other Valves	ZOLOTO, Audco (L & T), Kirloskar, Advance, ATAM
79	Single Headed Hydrant Vavles, Fire Brigade inlet, branch pipe & Shut off nozzle	Exflame, Newage, Life Guard , Minimax , Getech
80	20 mm dia rubber pipe for hose reel	Exflame, Newage, Life Guard , Minimax , Getech
81	Starters, switches, T.P. N switches	L & T, Siemens, Schneider
82	Pressure Switch	Indfoss, Switzer
83	Pressure Gauges	H-GURU , FEIBIG , General Instrument, Emerald.
84	Pumps	Mather & Platt, Kirloskar, Grundfos, KSB
85	Motor	ABB, Siemens, Kirloskar
86	Fire Extinguisher, RRL Hose, Hose Drum	Exflame, Newage, Life Guard , Minimax , Getech
87	Thermoplastic Hose Reel	Guards, Kasera, Maitras
88	Rubber Gaskets	CIC, Varuna
89	Flow Switch	Switzer , Dwyer , Siemens , Danfoss , Honeywell
90	Pipe Fittings	Unik, VS, Zoloto M
91	Sprinklers	Tyco, HD, G Tech
92	Flexible Coupling	Resistoflex , Easyflex
93	Diesel Engine	Cummins, Caterpillar, MTU
94	Alternator	Stamford, Marthon, Leroy Somer, Crompton
95	Battery	Exide , Luminous , Tata Power , Okaya

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96	Lifts	Johnsons, Schindler, Mitsubhushi Corporation, Otis, KONE
97	Solar System	Greentek, Vega, Sunusa, Jackson
98	Solar Digital Inverters/PCUs	Fronius, Polycab, Delta, Jackson
99	Contactors	ABB-AF , L&T-MO , Schneider-LCID
100	Timers	ABB, L&T, Schneider
101	Double wall corrugated Duct (ISI Marked)	Duraline, Rex, Jain irrigation
102	Axial Flow fan	CRISTAL AIR, BALANCE AIR, HUMIDIN
103	Propeller Fan	MARATHON, CROMPTON GREAVES, KHAITAN
104	G.I. sheets/ MS Sheet	Tata , Nippon , SAIL
105	Factory fabricated Ducts	DUSTECH, DUCTOFAB, ECO DUCT, ZECO
106	Grilles/Diffusers / VCD/ Louvers	CONAIR, DYANAMIC, MAPRO, TRI-STAR
107	Dumpers	CONAIR, DYANAMIC, MAPRO, TRI-STAR
108	Fasteners (Duct support system)/ Pipe Supports (Band Hanger)	HILTI, ZIP CLIP, BOSCH
109	CCTV Camera	Honeywell, Bosch, CP Plus, Samsung, Hikvision
110	Network Video Recorder (NVR)	Honeywell, Bosch, CP Plus , Samsung, Hikvision

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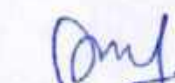
**Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme
(Composite Work) in Sector -53, Chandigarh**

General abstract of cost

1	i)Civil Work	128627571.00
	ii)Boundary wall along with Sentry Posts	13274295.00
2	Public Health Work	14755839.00
	Electrical & Mechanical work	
3	Electrical Installation	16676660.00
4	Passenger Lifts	8100705.00
5	SPV System	665590.00
6	Fire Fighting System and Alarm System	3661594.00
7	Providing CCTV	697122.00
	Total	186459376.00


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FINANCIAL BID FOR CONSTRUCTION OF 80 TWO ROOM FLATS (EWS) (S+4) FOR GENERAL HOUSING SCHEME (COMPOSITE WORK) IN SECTOR - 53, CHANDIGARH.

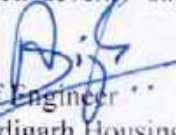
Part	Description	Amount
1	Construction of 80 Two Room Flats (EWS) (S+4) for General Housing Scheme (Composite Work) in Sector -53, Chandigarh. (DNIT AMOUNT)	Rs.18,64,59,376/-
I/we will charge % (in figures) i.e (a)* percent (in words) (b)* (write above or below) on the total Composite cost of Rs. _____ (Rs. _____ Only). The overall amount of the Tender comes out to be Rs. _____ (in figures) (Rs. _____ (c)* (in words) with my quoted Rates.		
* Note:		
1.	For filling up the portion marked (a)* above the agency is to quote the percentage in figure and words. Percentage is to be quoted up to three digits after decimal.	
2.	For filling up the portion marked (b)* above, the agency is to quote either above or below	
3.	For filling up the portion marked (c)* above the agency is to quote the amount in figures and words.	
4.	In case of any ambiguity or difference between the quoted percentage and amount, the amount worked out at '(c)' above will be considered as correct and the percentage will be considered accordingly.	
Dated		Signature of the Bidder (s)

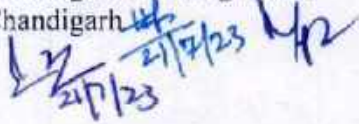

Superintending Engineer-I
Chandigarh Housing Board
Chandigarh


Superintending Engineer-II
Chandigarh Housing Board
Chandigarh


Executive Engineer-I,
Chandigarh Housing Board
Chandigarh

This NIT containing 265 pages as per Index amounting Rs18,64,59,376/- (Rs Eighteen crore sixty four lakh fifty-nine thousand three hundreded seventy six Only) is hereby approved.


Chief Engineer
Chandigarh Housing Board
Chandigarh


21/7/23


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EE-V(Elect)

