

THE AMARYLLIS
AT
NEW ROHTAK ROAD, DELHI



CONTRACT DOCUMENTS
(Plumbing Works in Tower 1, 10 & 11 A&B of Phase 1)

OWNER : M/s BASANT PROJECT LIMITED

CONSULTANT : M/s SCENARIO INDIA



UN/TA/17-18/WO-20/AMEND-01

14th September, 2018

M/s SCENARIO INDIA,
E-32, Ground Floor,
Greater Kailash, Part - II,
New Delhi - 10048.

Ref: Agreement No UN/TA/17-18/WO-20 Dated 15-02-2018

Project : "THE AMARYLLIS", New Rohtak Road, Delhi.

Subject: Amend No - 1: Work Order for Plumbing Works in Tower 1, 10 & 11 A&B of Phase 1 of "The Amaryllis" Project at New Rohtak Road, Delhi.

Kind Attn : Mr V P JOY.

Sir,

This is with reference to the Agreement dated 15th Feb 2018 between M/s SCENARIO INDIA and M/s BASANT PROJECTS Ltd for Plumbing Works in Tower 1 & 11 A & B of Phase 1 of "The Amaryllis" Project at New Rohtak Road, Delhi.

As per our recent discussions, your scope of work has been revised as per attached BOQ.

Your contract amount is revised from Rs. 5,25,00,858/- (Rs Five Crores Twenty Five Lacs Eight Hundred and Fifty Eight Only) to Rs. 10,37,01,287/- (Rs. Ten Crores Thirty Seven Lacs One Thousand Two Hundred Eighty Seven Only).

All other Terms & Conditions, as detailed in the subject Contract shall as per attached Agreement & Annexures.

The Bill of Quantities (BOQ) for Tower 1, 10 & 11 A & B for the above is enclosed as annexure to the above referred Contract Agreement.



BASANT PROJECTS LIMITED

For SCENARIO INDIA

Partner



This amendment is issued, in duplicate, and please return a copy of this amendment duly signed as an acknowledgement of your acceptance.

Yours Faithfully,

Accepted

For **BASANT PROJECTS LIMITED.**



Authorized Signatory

For **M/s SCENARIO INDIA**

For SCENARIO INDIA

Partner

Authorized Signatory

Approved
[Signature]
30/11

BASANT PROJECTS LIMITED



UN/TA/17-18/WO-20/REV-01

11th September, 2018

M/s SCENARIO INDIA,
E-32, Ground Floor,
Greater Kailash, Part - II
New Delhi - 10048.

Ref: Agreement UN/TA/17-18/WO-20 Dated 15-02-2018

Project : "THE AMARYLLIS", New Rohtak Road, Delhi.

Subject: Revision No.01

Sir,

With reference to the earlier Agreement dated 15th Feb 2018 ("Erstwhile Agreement"), accepted by you, wherein you have been appointed as Contractor for "Plumbing Works in Towers 1 and 11 A&B of Phase 1 of "The Amaryllis" project at New Rohtak Road, Delhi" and subsequent discussions held with you, we offer you for execution, as mutually agreed upon, the attached Agreement in suppression of the Erstwhile Agreement for "Plumbing Works in Towers 1, 10 and 11 A&B for Phase 1 of "The Amaryllis" project at New Rohtak Road, Delhi".

Yours Faithfully,

Accepted

For BASANT PROJECTS LIMITED.

For M/s SCENARIO INDIA



Authorized Signatory

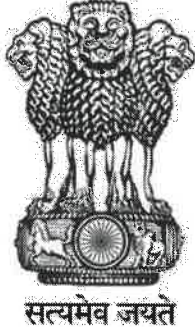
For SCENARIO INDIA

- Partner
Authorized Signatory

BASANT PROJECTS LIMITED

G-3, Aggarwal Corporate Tower, 23 Rajendra Place, New Delhi – 110008. P + 91 11 25806666
W www.unitygroup.in, E info@unitygroup.in

CIN NO U74899DL1996PLC078373

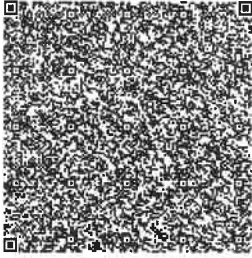


INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

e-Stamp

Certificate No. : IN-DL67516773275058Q
Certificate Issued Date : 21-Aug-2018 12:32 PM
Account Reference : IMPACC (IV)/ dl896403/ DELHI/ DL-DLH
Unique Doc. Reference : SUBIN-DL89640339139444875186Q
Purchased by : BASANT PROJECTS LTD
Description of Document : Article 5 General Agreement
Property Description : Not Applicable
Consideration Price (Rs.) : 0
(Zero)
First Party : BASANT PROJECTS LTD
Second Party : Not Applicable
Stamp Duty Paid By : BASANT PROJECTS LTD
Stamp Duty Amount(Rs.) : 100
(One Hundred only)



Please write or type below this line

CONTRACT NO: BPL/SCENARIO/AMARYLLIS/PH-1/WC-08/18

Date: 14-09-2018

AGREEMENT

This Agreement made on the 14th day of September 2018

Between



[Handwritten signature]

Page 1 of 4

For SCENARIO INDIA

[Handwritten signature]
Partner

Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at "www.sholiesstamp.com". Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

M/s BASANT PROJECTS LIMITED, a company registered under Companies Act 1956, having its Registered Office at GF, Aggarwal Towers, Rajendra Place, New Delhi (hereinafter called the "Owner" which includes its successors and assigns) through its Authorised Signatory.

AND

M/S SCENARIO INDIA, a Partnership firm, having its registered office at E-32, Ground Floor, Greater Kailash, Part-II New Delhi - 48, India. (Hereafter called 'Contractor') through its Partner **Mr. V P JOY**.

And WHEREAS, the OWNER intends to develop "THE AMARYLLIS" Project at New Rohtak Road, Delhi" on the basis of various approvals as available with him, hereinafter called as "Project"

And WHEREAS, the OWNER intends to carry out the "**Plumbing Works in Tower 1, 10 & 11 A,B of Phase 1**" on the basis of various approvals as available with him, hereinafter called as "Works" for the purposes of this agreement wherever this context permits, to be performed by the contractor for this project.

AND WHEREAS the Contractor represents and warrants to the OWNER that it lawfully owns and controls up-to-date infrastructure, expertise, safety equipment and various other technical skills with manpower having necessary qualifications, expertise, benchmarking to the International Standards of safety & quality, legal compliances with a reputation for satisfactory performance and completion of Works in accordance law and terms and conditions as set out in this Contract Agreement.

And Whereas the Contractor has assured the OWNER that it shall execute the Works taking care of all materials, labour, legal requirements and would be in a position to complete the Works in a manner as desired by the OWNER within the time schedule agreed between the parties.

And Whereas the Contractor has further assured the OWNER, it shall, for the purposes of these Works, act as a Principal Employer taking on itself all legal, construction, monetary liabilities and would be answerable at all times to any



Competent Authority, Courts, investigative agencies for all acts of omission and commission attributable to its employees, agents, Sub-Contractors, ~~third parties~~ and all persons connected with it.

AND WHEREAS the OWNER, based on mutually concluded negotiations, has trusted the Contractor's representations in good faith and also assurances that the Contractor will execute the Works with Top Class International Standards to the full satisfaction of the OWNER and has, at the behest of the Contractor, agreed to enter into this Contract Agreement and the Contractor, hereby agrees to accept and execute the Works on the representations made above and the terms and conditions set out herein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Contract Agreement, words and expressions shall have the same meaning as are respectively assigned to them in the Contract Documents referred in Para 2 below.
2. The following documents shall be deemed to form and be read and constitute as part of this Agreement viz.
 - a) Special Conditions of Contract - Annexure - I.
 - b) General Conditions of Contract - Annexure - II.
 - c) Scope of work, Specification and Bill of Quantities - Annexure - III.
3. In consideration of the payments to be made by the OWNER to the Contractor, as hereinafter mentioned, the Contractor hereby covenants with the OWNER, to construct, complete and maintain the Works in conformity in all respects with the provisions of this Contract Agreement and the Contract documents.
4. The Owner hereby covenants to pay to the Contractor in consideration of the carry out execution, completion and maintenance of the Works, a contract Price of **INR 10,37,01,287/- (Rs. Ten Crores Thirty Seven Lacs One Thousand Two Hundred Eighty Seven Only)** inclusive of all taxes but excluding Goods & Service Tax, which shall be paid extra



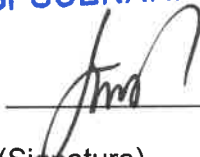
subject to adjustments in accordance with the provisions of the contract GCC and SCC.

5. This Contract Agreement constitutes the entire Contract between the parties and it revokes and supersedes all previous correspondence, discussions, representations, arrangements or agreements, pertaining to the Works, between the parties, concerning the matters covered herein whether written, oral or implied. In case of any inconsistency between this Contract Agreement and Contract Documents, this Agreement, in order of preference and the Special Conditions of Contract shall take precedence over the remaining Contract Documents mentioned in Para 2 above.

IN WITNESS whereof the parties hereto have hereunto set their respective hands and seals, the day and the year first above written.

SIGNED BY


(Signature)

SIGNED BY
For **SCENARIO INDIA**


(Signature) **Partner**

For & on Behalf of
BASANT PROJECTS LTD.

For & On Behalf of
M/S SECNARIO INDIA

IN THE PRESENCE OF

IN THE PRESENCE OF

NAME _____

ADDRESS _____

NAME _____

ADDRESS _____

SPECIAL CONDITION OF CONTRACT

1. GENERAL :

These conditions shall be read in conjunction with the General Conditions of Contract. Wherever the Special Conditions are at variance with the General Conditions and/or the Specifications, then in that case the Special Conditions shall prevail if the context so permits as determined by the Engineer. The General Conditions of Contract shall also be referred as GCC and Special Conditions of Contract as SCC.

2. START AND COMPLETIONS PERIOD :

A) COMMENCEMENT OF WORKS:-

10 days from date of issue of LOI or Work order and handing over of the site, whichever is later.

B) COMPLETIONS PERIOD :-

Date of Completion 12 Months from the date of Agreement.

3. Contract Rates:

The work shall be carried out on item rate basis. The final contract value is **Rs. 10, 37, 01,287.00 (Rs. Ten Crores Thirty Seven Lacs One Thousand Two Hundred Eighty Seven Only)**. The prices are inclusive of freight, Loading and unloading, transit insurance, erection / installation, insurance premiums, contributions towards employees benefits including ESI, PF, etc. or any other statutory/financial obligations etc. However, GST (CGST, IGST, SGST) shall be paid extra as per actual. This is an item rate contract and quantity and contract price is derived from a tentative quantity assumptions and the actual payment shall be made as per the work done and actual measurements on site.

4. TAXES:

The quoted rates shall be exclusive of GST (Goods and Service tax), which shall be paid extra, as applicable. All the statutory deductions i.e. TDS pertaining to Income Tax will be made by the Owner against payment made to the contractor as per respective prevailing rate. TDS certificate shall be provided by the Owner. Any such withholding of tax by the Owner shall have no effect on the rates and prices for the Works and such rates and prices.



For SCENARIO INDIA

Partner
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shall not be liable to increase because of any withholding of tax.

5. PAYMENT PLAN:

The payment of every Monthly Running Account Bill (R/A Bill) shall be made within 15 working days from submission of complete bill along with certified measurement sheet by the Engineer-in-charge (EIC) in hard copy and soft copy along with certified measurement sheets. After due checking & verification, EIC may process the bill for payment but only after receiving all certified copies of Legal Compliance & certified copies of measurement records etc. and after adjustment of any advances.

Payment Stage of Item Rate:

- a) 10% as Advance.
- b) 52.5 % of composite rate against delivery of material.
- c) 22.5% of composite rate on installation of Material.
- d) 5% of composite rate against testing on pro rata basis.
- e) 5% of composite rate against commissioning on pro rata basis.
- f) 5% of composite rate against handing over.

6. CONTRACT PERFORMANCE INDEMNITY BOND

The Contract Performance Indemnity Bond (Strictly as per the format given by Owner) shall be furnished within 15 days of award of this contract for amount of Rs 1,03,70,128.00 (Rs One Crore Three Lacs Seventy Thousand One Hundred Twenty Eight only.

The above Contract Performance Indemnity Bond shall be valid till the expiry of the Defect liability Period which is 12 Months from the date of Certified Completion of contract plus a grace period of 03 Months for lodging the claim.

7. Approved Makes and Discount:

Contractor to use following makes with minimum discounts as mentioned;

SR NO	MATERIAL	MAKE	DISCOUNT ON LIST PRICE
1	HUBLESS CI PIPE	PAM	46.9%
2	CPVC PIPE	ASHIRWAD	60%
3	UPVC PIPE	ASHIRWAD	57%
4	VALVES	ZOLOTO	50%



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8. SECURITY DEPOSIT:

Security Deposit shall be recovered / withheld from each R/A Bill and Final Bill @ 5% of the Gross value of work done.

The Retention Money held shall be released to the Contractor on expiry of Maintenance Period and after the Engineer has issued a Maintenance Certificate, certifying that all defects notified up to the date of expiry of Maintenance Period, to the Contractor, have been rectified to his satisfaction and there are no further defects to be rectified by the Contractor.

After the release of the payment against the Final Bill, on the Contractor's request, the Engineer may at his sole discretion allow for the release of a part or full amount of the Retention Money, against an unconditional and irrevocable Performance Bank Guarantee for a sum equivalent to the amount to be released to the Contractor strictly as per format given by owner.

No interest shall be payable to the contractor on the amount withheld in cash towards Security Deposit.

9. PRICE ESCALATION:

The Item Rate of this work contract shall remain firm till 15 April 2019.

However escalation shall be admissible as per the following terms:

a) Escalation and De-escalation will be applicable on the items where base price are given in Bills of Quantities. Escalation will be calculated as per the formula given below :

$$ME = \text{Invoice Price} - \text{Basic Price} = \text{Difference Amount} + \text{Wastages} + \text{OHP} \times \text{Quantity}$$

b) Labour escalation will be allowed from 15.04.2019 as per the formula given below:

c)

$$LE = 0.85 \times 0.35 \times W (L1 - L0) / L0$$

Whereas L is the Labour Escalation

W = Gross Work done during the period.

L1 = Revised minimum labour wages for Delhi as per Govt. Notifications for the period.

L0 = Minimum labour wages for Delhi in the month of April 2018



10. FREE ISSUE MATERIAL:

For SCENARIO INDIA

[Signature]
Partner

- a) The Owner will only free issue the material specifically mentioned as free issue, to the contractor free of cost, based on their requirement to be projected by the contractor at least 21 days in advance.
- b) This requisition for Owner issue material shall be supported by a detailed statement showing item wise quantities that the Contractor expects to execute during the month, to enable the Engineer to verify the same.
- c) The material shall be generally issued in standard sizes and quantities as obtained from the manufacturers / dealers or in the form of fabricated panels.
- d) It shall be responsibility of the contractor to take the delivery of the material as soon as it arrives at the Owner's store/site and arrange for the transportation if any, and unloading of the same at his own cost. It shall be the duty of the contractor to inspect materials supplied to him, at the time of taking delivery and satisfying himself that they are in good condition. No representation regarding the poor quality, damaged condition etc. Of the material shall subsequently be entertained by the Owner. The Owner shall not be liable for delay in supply or non-supply, where such failure or delay is due to reason beyond the control of the Owner. In no case the contractor shall be entitled to claim any compensation on this account.
- e) The contractor shall also be fully responsible and accountable for the material issued to him by the Owner from time to time and shall ensure their safe custody as trust properties and shall use the same exclusively for executing the works under the Contract. All such material shall be issued by the Owner against requisition / indent by the Contractor.
- f) The contractor shall submit a material consumption/reconciliation statement at the end of each quarter along with his running bills as well as on completion of work/fore-closure of contract due to any reason. The same shall be got approved from engineer after due verification of physical stock at site.
- g) Recovery of the excess consumption shall be made @ 1.0 Times of Material Value including all taxes and freight.



11. EXTRA ITEMS:

For SCENARIO INDIA

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The Contractor will execute Extra Items/ Substituted Items / Deviated Items as required by the Engineer in Charge / Owner / authorized representative of Owner only after the written approval from Owner / Engineer In Charge (EIC). The rates of such items will be worked out from the existing rates of similar items. However if the rates of items for which rates cannot be worked out from the similar existing BOQ items, the rates will be worked out on market rate as below:

- i) Landed cost of material as verified by Engineer - in - Charge to be consumed in the item including permissible wastage as per CPWD / ISI codes or actual, whichever is less.
- ii) Cartage
- iii) Cost of PPE and EHS
- iv) Labour cost.
- v) 15% over and above on total of labour and material cost towards, scaffolding (labour + material), sundries, contingency, Lead & Lift, Labour compliance, contractor's overheads & profit.
- vi) GST, as applicable, shall be paid extra.

12. INSURANCES:

Workmen's Compensation policy shall be taken by the contractor for the entire duration of the contract and copy of the same shall be submitted to the Engineer-in-Charge.

In the event of any claim in respect of which the Contractor would be entitled to receive indemnity under the policy, being brought or made against the Owner, the insurer will indemnify and hold harmless the Owner, the Engineer, and all persons who may be associated with or connected with the Owner or the Engineer against such claims and any costs, charges and expenses in respect thereof.

If the Contractor shall fail to effect and keep in force insurance, as per the terms of Contract, the Owner may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Owner as aforesaid from any monies due or which may become due to the Contractor, or recover the same from the Contractor.

It shall be the responsibility of the Contractor to lodge and settle all insurance claims, which may arise. The responsibility



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and liability of making good losses shall rest with the Contractor irrespective of the status of settlement of claims and the Owner shall not be liable for any additional cost on this account.

Insurance policies procured and maintained by the Contractor or any Sub-Contractor shall include a waiver of any right of subrogation of the insurers thereunder against the Owner, the lenders to the Owner, and their respective assigns, subsidiaries, affiliates, parent companies, employees, and of any right of such insurers under such policies to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy. The Contractor further releases, assigns and waives any and all rights of recovery against the Owner, the lenders to the Owner, and their respective assigns, subsidiaries, affiliates, parent companies, employees, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss covered by the policies of insurance maintained or required to be maintained by the Contractor pursuant to the Contract or because of deductible clauses in, or inadequacy of limits of, any such policies of insurance.

13. MODE OF MEASUREMENT:

The method of measurement shall be as per the mode of measurement described in the latest CPWD specification / Indian standards / IS Codes of plumbing works as applicable.

14. INCLUSION IN ITEM RATES:

The Item rates are inclusive of all material, labour, Loading & unloading of material at all level, floor, height, lead & lift, and all statutory compliances. Nothing extra shall be payable in this regard.



15. WATER & ELECTRICITY:

The Owner shall provide Water and Electricity free of cost at one point only. Further distribution lines shall be installed by the Contractor at his own cost. The installation shall be maintained by the Contractor with due regard to the safety and laws applicable.

16. DEFECT LIABILITY PERIOD:

The Defect liability period shall be Twelve (12) months from the date of issue of completion certificate by the owner.

17. INCLUSIONS AND EXCLUSIONS

1. Rates quoted for core cutting is for 150mm thickness and for fire sealant Thermocol and Silicon filling is considered.
2. Pipe sleeves are not included in piping rates, if used shall be paid extra.
3. For Sub head 2.0 Soil, Waste, Vent & Rain Water Pipes & Fittings; Item no 2.1, Rates are exclusive of WC Connector DN 100.
4. Scaffolding; if required, erected scaffolding of the main contractor will be used.
5. Bend Connector will be an additional item, if required.

18. TOOLS, PLANTS & MACHINERY:

No plant and machinery will be arranged or issued by the Owner and the Contractor shall mobilize and deploy at his own cost all plant, machines, shuttering and scaffolding, tools and tackles necessary/incidental to due performance of the Contract.



For SCENARIO INDIA
 . Partner

GENERAL CONDITIONS OF CONTRACT

1. The Contractor, on signing of tender / contract, shall be furnished by the Owner, free of cost, with one certified true copy of the Contract Agreement and two copies of all the drawings required during the progress of work. Any further copies of such drawings required by the contractor shall be on payment basis. The Contractor shall keep one certified copy of the contract of the agreement and all drawings on the work site and the Owner/ Architect or his representative shall at all reasonable time have access to the same.

2. SCOPE OF CONTRACT:

1. The contractor shall carry out the said work completely in every respect in accordance with this contract and as per the directions and to the satisfaction of the Owner.
- i. The contract is inclusive of all labour, materials, tools plant equipment and transport which may be required for the full and entire execution, completion of the works and shall unless otherwise stated, include wastage and materials, carriage and cartage, carrying or empties, hoisting setting, fitting and fixing in position, testing and commissioning of aforesaid work in accordance with good Engineering practice and recognized principles.
- ii. The contractor shall provide everything necessary for the proper execution of the work according to the intent and meaning of the specifications and drawings taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from and if the Contractor finds any discrepancy in the specifications and drawings or between the drawings then he shall immediately in writing refer the same to the Owner who shall decide which is to be followed. Before execution of work, contractor shall check all drainage, structure for space required to install the fire fighting equipment's / shafts as per norms.
- iii. The Contractor has to make good all wall, floor, ceiling after chase cutting for piping or any other work without any extra cost to the owner related to this work order & B.O.Q.
- iv. The Items rates are inclusive of providing and applying plaster after cutting and chase cutting, drilling, chiselling and making it good for entire length of chase cutting in brick Work, RCC or any other Place, Nothing Extra shall be paid on this account to the contractor.



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Partner

3. OWNER SUPPLIED ITEMS:

The Owner will supply CP Fittings, Chinaware and Accessories as per BOQ at site free of cost. The contractor shall be responsible for the receipt of such material and they are the custodian of such material supplied by the owner and accordingly the contractor shall use and preserve the entire supply stock with absolute diligence and in an equitable manner as their own materials and equipment. Such materials shall be fully accounted for as required hereinafter and in accounting for the same, permissible wastage at the rate of 3% of Developer Supplied Materials against each item except chinaware and CP fittings, is deemed to cover all wastage and losses that may be incurred in the process of handling, storing, shifting, cutting, fabrication, fixing and installation all complete. The Contractor shall submit a consolidated statement of reconciliation along with final Bill.

4. EMERGENCY WORK:

Emergency works means, any urgent measures which, in the opinion of the Owner, become necessary during the progress of the works to obviate any risk of accident or failure or which become necessary for security, or rectifications to essential services during the defects liability period. If any Emergency works become necessary and the contractor is unable or unwilling to carry them out, then the Owner may get these works carried out by any other agency at the Risk and cost of Contractor. All expenses incurred on these works shall be recoverable from the contractor.

5. MANDATORY REQUIREMENT:

- i. The contractor shall confirm to the provisions of all the Statutory Acts, Laws, Rules etc. relating to the works, and to the regulations and by-laws of any authority, Local bodies and service provider with whose system the structure is proposed to be connected, and shall before making any variation from the drawings or specification that may be necessitated, conform to the Owner by written notice, specifying the variation proposed to be made and the reason for making it, and seek for instructions and approval of owner.

The contractor shall indemnify the Owner or any agent, servant or employee of the Owner against any action, claim or proceeding relating to the infringement of design, rights or any patent etc. and shall defend all actions arising from such claims and itself pay any royalties, license fees, damages, cost of all and every sort including other charges which may be payable or accrue in respect of any articles or material or part thereof legally used in respect of the contract. In the event of any claim being made or action being brought against the Owner or any agent, servant



For SCENARIO INDIA
Partner
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or employee of the Owner in respect of any such matters aforesaid, the contractor shall be informed and the contractor will assume the responsibility of the same and the contractor shall bear the consequences and shall pay any royalties or other charges payable in respect of any such use.

- iii. The contractor shall be liable for all kind of claims of his employee(s) and sub-contractors if any, and the contractor shall indemnify the Owner against all claims which may be made upon the Owner under Workmen Compensation Act or under common law or any other law or act in respect of any employee of the contractor or any sub-contractor. Further the contractor shall at his cost obtain an insurance policy in the Owner's name to cover the work against all the compensation which may accrue during the course of work.
- iv. The contractor shall also be responsible for every injury to persons, animals, or things which may arise from the operation or neglect of himself or of any subcontractors whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with carrying out this contract. The contractor shall indemnify Owner and keep him harmless in respect of all and any liability or expense arising from such injury or damage to persons, animals or things as aforesaid and also in respect of any claims made in respect of injury or also in respect of any Award of Compensation or damage consequent upon such claims.
- v. The contractor shall be responsible for all structural and other damage to any property which may arise from the operation or negligence of him or of any subcontractors or arising out of neglect, carelessness, use of defective material or any other cause whatsoever in any way connected with the carrying out of this contract. This clause shall be deemed to include INTER ALIA, any damage to buildings, whatever immediately adjacent or otherwise, and any damage to roads, streets, footpaths, bridges or ways as well as damage caused to the building and works. The contractor shall indemnify the Owner against all such claims in respect of any cost, charge/expense arising out of any claim or proceedings and also in respect of any award of compensation or damage arising there from any such claims.
- vi. The Owner shall be at liberty and is empowered to deduct the amount of any damage, compensation, costs, charges and expenses arising or accruing from or in respect of any such above said claim or damage from any sum or sums due or to become due to the contractor, for which the Owner will be the sole deciding authority.

- vii. The liability of the Contractor is absolute and full for the execution of the work. Contractor will keep the Owner indemnified



For SCENARIO INDIA

Partner

at all times and will be liable for any omission / commission, default, shortening, deficiency, accident, compensation for the work executed by it, both civil and criminal. Further the contractor is bound to comply with all the rules / regulations, notifications, circulars and relevant Acts / Laws concerning the work and will be liable for any default.

6. ADMISSION TO SITE:

- . The Owner and its representatives shall at all times have free access to the works and/or the workshop, factories, or other places where materials are lying or from which they are being obtained and the contractor shall give all necessary facilities to the Owner/or his representative for inspection and examination and test of the materials and workmanship. No person unless authorized by the Owner shall be allowed on the works / site at any time.
- i. The officials of the Owner connected with the contract shall have the right of entry to the site at all times.
- ii. The contractor will not be permitted to enter (other than for inspection purposes) or take possession of the site until instructed to do so by the Owner. The portion of the site to be occupied by the contractor and the area of land allotted for the purpose of erection of temporary workshop, stores etc. will be clearly defined and / or marked on the site plan, and the contractor will not be allowed to extend beyond that areas. The contractor shall provide if necessary, or if required on the site all temporary access thereto and shall alter, adopt and maintain the same as required from time to time and shall take up and clear way as and when no longer required and make all good.
- iii. The Owner reserve the right to use the premises or any portion of the site for execution of any work not included in this contract which he may desire to be carried out by other agency or persons, and the contractor will allow all reasonable facilities for the execution of such work.
- iv. The Owner reserves the right of taking over any portion of the site, which may be required and the Contractor shall at his own expenses clear such portion forthwith.

Site is handed over to contractor only for execution or work, not for any other job and the possession of contractor is deemed to be terminated on the completion of work or as may be decided by the Owner.



For SCENARIO INDIA
Partner

7. TEMPORARY WORKSHOPS / STORES ETC:

- I. The contractor shall during the progress of the works build and maintain at his own expense temporary workshops and stores as required for proper and efficient execution of the works.
- II. On completion of works, the whole of such temporary building shall be cleared away and the site be reinstated and left clean to the satisfaction of the Owner at the expense of Contractor.

8. NUISANCE:

The contractor will not at any time do, cause or permit any nuisance on the site or do anything which shall cause unnecessary disturbance or inconvenience to the owners, tenants or occupiers of other properties near the site and to the public generally.

9. WORKING HOURS

The contractor shall work only on and during the hours of working day unless he obtains the prior written approval of Owner to do otherwise. If such approval is given, no liability in respect of any excess cost arising there from shall be incurred by the Owner.

10. RIGHT OF INSPECTION

The Owner shall be entitled, at any time, to inspect and examine any materials intended to be used in or on the works, either on the site or at the Factory or workshop or other place where such materials are assembled, fabricated or manufactured or at any place(s) where these are lying or from which these are being obtained and the contractor shall give facilities as may be required for inspection and examination.

11. REJECTION OF MATERIALS:

The Owner shall have full powers to reject / remove any or all the materials brought to site by the Contractor which are not brand new and in accordance with the contract specifications or does not confirm in character or quality to sample approved by the Owner. In case of default on the part of the contractor in removing rejected materials, Owner shall be at liberty to have them removed by other means at the contractor's expense and risk. The Owner shall have full powers to permit or to approve other materials to be substituted for rejected materials at the cost of contractor.

12. CARE AND CUSTODY:

Materials required for the works whether brought by the contractor or supplied by the Owner shall be stored by the Contractor only at place approved by the Owner and storage and safe



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custody of materials shall be at the risk and the responsibility of the contractor. The contractor shall be liable for any loss or damage to such materials due to the neglect, theft or fire and shall make good at his cost and expense. Wherein by any running bill the contractor has claimed payment and the Owner has included the value of any unfixed materials intended for incorporation in works, then these materials shall become the property of the Owner and they shall not be removed except for use upon the works, without the written authority and the Owner.

13. SURPLUS MATERIALS:

Whenever the works are finally completed and advance if any in respect of any such materials is fully recovered, the contractor shall at his own expense forthwith remove from the site all surplus materials arranged by him. Before removal of such stores from site he shall obtain clearance in writing from the Owner.

14. WORKMAN'S COMPENSATION INSURANCE:

Policy to cover Contractor's liability under Workmen's Compensation Act 1923, this shall be valid for the period up to Final completion of the work.

15. PLANT EQUIPMENT:

The contractor shall at his own cost and expenses arrange all tools plants, equipment required for the execution of the work at site.

All tools, plant and equipment brought to the site shall not be removed off the site without the prior written approval of the Owner. But whenever the works are finally completed or the contract is terminated the contractor shall forthwith remove from the site all tools, plants and equipment but before removal of tools, plants and equipment from site he shall obtain clearance in writing from the Owner.

16. CONTRACTOR'S SUPERVISION:

- i) The contractor shall give all necessary personal superintendence during the execution of the works, and as long thereafter as the Owner may consider necessary until the expiry of the "Defect Liability Period".

ii) Orders given to the contractor or his authorized agent shall be considered to have the same force as, if they had given to the contractor himself.

- iv) Where the Contractor is not qualified engineer or even if he is so qualified, he cannot, in the opinion of the Owner give his full personal attention to the works, he shall, at his own expense employ any experienced engineer as his authorized agent to supervise the works and receive instruction from the Owner.



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- v) The contractor or his agent shall be available at the site during all working hours and shall supervise the execution of the works with such additional assistance as the Owner may consider necessary. Contractor shall not remove labour & equipment from site without written permission from Owner. The contractor or his authorized agent shall attend, when required and without making any charge for doing so, either at works site or at the office of the Owner to receive instructions from the Owner.

17. SETTING OUT OF WORKS:

The contractor shall set out the works and shall provide and fix all setting out apparatus required and solely responsible for the true and perfect setting out the same and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. The contractor shall take in writing the approval of the Engineer-In-Charge for setting out the levels before starting the work.

18. APPROVAL BY STAGES:

All work embracing more than one process shall be subject to examination and approval at each stage thereof as stipulated by the Owner and the contractor shall give reasonable notice in writing to the Owner when each stage is ready. In default of such notice received, the Owner shall be entitled to appraise the quality and extents thereof and in the event of any dispute the decision of the Owner thereon shall be final binding. Record of such approval will be maintained.

19. COVERING OF WORK:

The contractor shall give reasonable notice in writing to the Engineer-in-Charge whenever any work is to be permanently covered or concealed, whether by earth or other means and in default of so doing, shall, if required by the Engineer-in-Charge, uncover such work at his own expense.

20. ARCHITECT INSTRUCTIONS:

The variation or modification of the design, quality or quantity of works or the addition or omission or substitution or any work shall be done with the prior approval of the Owner. The removal and/or re-execution of any works executed by the Contractor. The opening up for inspection of handy work covered up. The amending and making good of any defect.

21. VARIATIONS /ADDITIONAL/ALTERED /SUBSTITUTED ITEMS:

No alteration, omission or variation by owner shall vitiate this contract. In case the Owner thinks proper, at any time during the progress of the works, to make any alterations in or omission from the works or any alteration in the kind or quality of the materials to be issued therein then, the Owner, shall give notice



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thereof in writing well in advance under his hand to the contractor, the contractor shall alter, add to or omit from, as the case may require, in accordance with such notice. The value of such extra alteration, addition or omissions shall in all cases be determined by the Owner. The same shall be added to or deducted from the Contract amount accordingly.

22. DEFECTIVE WORK:

- a. The Owner shall, during the progress of the works, have power to order in writing from time to time the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions, and contractor shall forthwith carry out such order at his own cost. In case of defaults on the part of the contractor to carry out the same and all expense consequent thereon or incidental thereof as certified by the Owner shall be borne by the Contractor or may be deducted by the Owner from any money due or that may become due to the contractor against this contract or any other contract with the Owner.
- b. The contractor is responsible and shall ensure that there are no leakages or seepage in roofs, ceilings, walls, or floors or in the water supply, electrical or sewage system. Contractor shall do the complete stage or work to the satisfaction of Owner. If these defects are not rectified in 15 days time then the Owner shall be at liberty to recover an amount equivalent to the cost of redoing the complete stage of work and recovery be affected from any money or that may become due to the contractor against this contract or any other contract with Owner or from his Security Deposit with the Owner.

23. ORDERS UNDER THE CONTRACT:

- a. All directions, notices etc. to be given under the contract shall be in writing, type script or printed and if sent by registered post to the last known place of abode or business of the contractor shall be deemed to have been served on date when in the ordinary course of post it would have been delivered to him.
- b. If the contractor after receipt of written notice from the Engineer-in-Charge requiring compliance, fails to comply within ten days with such further drawings and / or instructions, the Owner may employ and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the contractor by the Owner as a debt or may be deducted by him from any money due to / become due to the contractor.



24. MEASUREMENTS

The measurements shall be taken jointly by the Owner or any person or persons duly authorized by him and the contractor's representatives, immediately on completion of the item or work.

The contractor shall without extra charge, provide assistance with every applicable and other thing necessary for measurements. Measurements shall be entered in the measurement book as applicable and signed and dated by both parties (Engineer-in-Charge and the contractor) immediately on recording the same. If the contractor objects to any of the measurements recorded by or on behalf of the Owner, a note to that effect will be made in the measurement book as applicable against the item or items objected to, and such note shall be signed and dated by both the parties engaged in taking measurements. Decisions of the Owner in disputed cases will be final and binding.

- i. If the contractor does not attend or neglect to attend the measurement then the Engineer-in-Charge shall have power to proceed by himself to take measurement and in that case the measurement shall be taken by the Engineer-in-Charge shall be final.
- ii. If any alteration or additions (other than those authorities to be executed for an agreed sum) have covered up by the Contractor without his having given notice of his intention to do so, the Engineer-in-Charge shall be entitled to appraise the value thereof and in the event of any dispute the decision of the Owner thereon shall be final and binding.
- iii. The measurement and valuation in respect of the contract shall be completed within one month of the completion of the contracted works as defined in clause 4.29.4 thereof.

29. CERTIFICATE OF COMPLETION OF WORK:

- i) Immediately after completion of a part of a work or the work for which a separate period of completion has been mentioned in the contract, the contractor shall give notice thereof to the Owner. The work shall be completed to the entire satisfaction of the Owner. If satisfied, the Owner shall issue certificate of completion for the particular phase of work or the contract as a whole as the case may be.
- ii) If, however the work is progressing distinctly slow and is delayed without any justification, the Owner at his sole discretion may allow the work to progress. The RA payments will be made only to the extent of the cash flow necessary for the physical completion of work, notwithstanding the provisions of security deposit.
- iii) The Owner reserves the right to enforce the penalty clause to be levied in these cases and at any stage of construction.
- iv) In the case of groups of items of works for which separate period of completion are not mentioned in contract, the Owner may take



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over from the contractor such individual items as are completed to the satisfaction of the Owner before the completion of the particular phase or the contract, but for all purpose of the contract; such as extension of time, compensation for delay, incentive for early completion etc. the completion of the phase or complete contract as applicable shall be taken into account.

- v) Before the completion certificate recorded by the Project-in-Charge the contractor shall, at his own risk and cost clear the site of all surplus materials, temporary stores, temporary barricades, plants & equipment etc. as per the directions and to the entire satisfaction of Project-in-Charge.
- vi) The works shall not be considered as completed unless the Owner has certified in writing that they have been accepted, and then defects liability period as mentioned in para no. 30 shall commence from the date certified by the Owner as date of completion.

30. DEFECTS LIABILITY PERIOD:

Defects liability period shall be 12 (Twelve) calendar months after completion of the works as certified by the Owner. Any defects in material or workmanship observed in the entire work during execution of work or within defect liability period shall be notified in writing by the Owner to the Contractor and shall be rectified by contractor at his own cost within time as specified by the Owner.

- i. To facilitate prompt attention to the defects the contractor shall comply a team of tradesmen like Masons, Plasterers, Carpenters, Plumbers, Fitters and Labours covering all trades along with necessary materials and spares. A supervisor will also be available along with the maintenance team to take instructions from Owner. The maintenance team will be available throughout the defects liability period. The composition of the tradesmen may vary according to the nature of recurring defects noticed in the buildings.
- ii. In case of defects, the Owner may employ any other person to rectify or make good such defects. All expense consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Owner and shall be deducted from R/A bills or any other amount withheld by the Owner.
- iii. The contractor shall be liable for all kind of claims made by his employees / vendors during this period also.
- iv. Should any defective works have been found or material supplied by any sub-contractor, the contractor shall be liable to make good in the same manner as if such work or material had been supplied by the contractor. The contractor shall remain liable



under the provisions of this clause notwithstanding the signing by the Owner of any certificate or passing any account.

- v. The Owner shall also certify at the end of the defects liability period regarding the state of rectification pointed out during defect liability period.

31. RUNNING ACCOUNT PAYMENTS:

- i. Any certificate relating to work done or materials delivered may be modified or corrected by any subsequent running account certificates or by the final certificate and no certificate of the Owner supporting on advance payment shall of itself be conclusive evidence that any work or materials to which it relates, are in accordance with the contract.
- ii. The Engineer-in-Charge shall have full authority to reduce /part /withheld the rates of various items if respective item is not upto the satisfaction or is yet to be completed at its own discretion in R/A as well as in final bill.
- iii. The payment of Monthly Running Account Bill shall be made within 15 working days from submission of complete bill in hard and soft copy along with certified measurement sheets, theoretical consumption statements and reconciliation of owner supplied material after adjustment of any advances and deduction of Security Deposit.

33. DETERMINATION OF CONTRACT:

- a) The Owner may without prejudice to any other right, claim or remedy which shall have occurred or shall accrue thereafter to the Owner, cancel the contract in part or whole in any of the following cases:
If Contractor:
 - b) Being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have receiving order or orders for administration of his estate, or,
 - c) Being a company, the court makes an order for the liquidation of its affairs, or,
 - d) Assigns, transfers or attempts to assigns, transfer or sublet any portion of the works without the prior written approval of the Owner, or,
 - e) Makes defaults in commencing the work within a reasonable time from the date of handing over of the site and continues in that state after reasonable notice from the Owner, or,



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- f) In the opinion of the Owner at any time whether before or after the date or extended date for completion makes defaults in proceeding with the works with due diligence and continues in that state after reasonable notice from the Owner, or,
 - g) Fails to comply with any of the terms and conditions of the contract after notice in writing with directions properly issued there under, or,
 - h) Fails to complete the works, work order and items of work with individual dates for completion and clear the site on or before the date of completion.
- ii) In case of failure contractor to complete the work as per schedule the Owner may exercise his authority to cancel the contract, complete the works by any means at the contractors risk and expense provided always that in event of cost of completion after alternative arrangements have been finalized by the Owner to get the works completed or estimated cost of completion (as certified by the Owner) and being less than contract cost, the advantage shall accrue to the Owner. If the cost of completion after the alternative arrangements have been finalized by the Owner to get the work completed or estimated cost of completion exceeds the money due to the contractor under this contract, the contractor shall either pay the excess amount assessed by the Owner or the same shall be recovered from the contractor.
- iii) The Owner shall also be at liberty to use the materials and other stores on site of the contractor as the Owner thinks proper in completing the work and the contractor will be allowed the necessary credit. The amount of credit to be allowed in completing the work shall be assessed by the Owner and the amount so assessed shall be final and binding.

34. SPECIFICATIONS / QUALITY OF WORK:

The work shall be carried out in accordance with technical specifications, IS Codes, BOQ and approved makes. In case of any contradiction, ambiguities or absence of any specifications, CPWD/BIS specifications as per decision of owner shall be final and binding to both the parties. No compromise on quality or workmanship shall be allowed.

All materials and workmanship shall be the best of the respective kinds described in the Contract and in accordance with instructions and directions of the Engineer and shall be subjected, from time to time, to such tests as the Engineer may direct at the place of manufacture or fabrication or on the Site or at such other places as may be directed by the Engineer. However all expenses for inspection & test will be born by Owner. The Contractor shall ensure that all materials, fittings,



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fixtures etc. will be new, unused, not reconditioned and of utility-grade quality and in full conformity with the specifications for which they are intended and be free from defects and defective workmanship and that the Contractor shall not use any materials for incorporation into the Works which are generally recognised as being deleterious or to be avoided in any case for the purpose for which they are to be applied.

No work shall be covered up or put out of view without the approval of the Engineer and the Contractor shall afford full opportunity to examine and measure any work which is about to be covered up or put out of view and to examine foundations before further work is executed. The Contractor shall give due notice to the Engineer whenever any such work or foundation is/are ready or about to be ready for examination and he shall, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such work or of examining such foundations.

The Contractor shall open any part or parts of the Works as the Engineer may from time to time direct and where the Engineer reasonably believes that such part or parts of the Works are defective. The Contractor shall reinstate and make good such part or parts to the Satisfaction of the Engineer. However, upon opening up it's found that such part or parts of the works are not defective; the Contractor shall be entitled for the cost of such opening up and reinstatement.

Compliance with the Quality Assurance System shall not relieve the Contractor of any of his duties, obligations or responsibilities under this Contract.

35. SUB-LETTING/ SUB-CONTRACTING:

The Contractor shall not be permitted to Sub-Let/Sub-Contract the whole of the Works. Further the Contractor shall not Sub-let any part of the Works without the prior written consent of the Owner's Representative except as provided for in these conditions, and such consent shall not be unreasonably withheld. Such consent, if given, shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Sub-Contractor(s), his/their agents, servants or workmen as fully as if they were acts, defaults or neglects of the Contractor himself, his agents, servants or workmen. Engagement of labour contractor on a piecework basis shall not be deemed to be a Sub-Letting/Sub-Contracting under this Clause.

36. REMOVAL OF IMPROPER WORK AND MATERIALS:

The Engineer shall have full powers to order in writing:

- a. The removal from the Site, within such time as may be specified in the order, of any materials which, in the opinion of the Engineer are not in accordance with the Contract.



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b. The substitution of proper and suitable materials, and
c. The removal and proper re-execution, notwithstanding any previous test thereof or interim payment thereof or of any work which in respect of materials or workmanship is not; in the opinion of the Engineer in accordance with the Contract.
In case the Contractor defaults in carrying out such order, the Owner shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Owner or may be deducted by the Owner from any monies due or which may become due to the Contractor.

37. FORECLOSING OF WORK:

- i) If at any time after the acceptance of the tender the Owner shall for any reason forecloses the whole or any part of the works, to be carried out, the Owner shall give notice in writing of the fact to the contractor, who shall have no claim to any payment of compensation or otherwise, whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the foreclosing of whole or part of the works.
- ii) The Contractor shall be paid at contract rates the full amount of the executed works including such additional work e.g. clearing of site etc. as may be rendered necessary by the said foreclosing.

38. DISPUTE:

- i) Any new incidence of the tax whether direct or indirect or statutory levy will be borne by the Contractor after the award of the contract.
- ii) Provided however the fresh law or rules or order pursuant to said amendment to constitution reduces the contractor's liability under the contract the amount of such reduction shall be recovered from the contractor.
- iii) Under the provisions of the Goods and Service Tax Act, Income Tax Act or applicable act of the Central / State Government, deduction will be made as laid down in said Act, in running account payments, by Owner as applicable.
- iv) The contractor will necessarily and properly keep all the records, documents and payments vouchers etc. for the purpose of tax assessment by concerned authority. Any claims for refund if applicable shall be filed by the contractor directly with the GST or appropriate authority.



25. LAWS GOVERNING THE CONTRACT:

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- a) This contract shall be governed by the Laws in-force in Delhi, India.
- b) The contract is confidential and must be strictly confined to the purposes of the contract. The original and duplicated copies of the Contract Agreement shall be signed by the OWNER and the Contractor or their authorized representative. The original shall be kept with the Owner and the duplicate copy shall be handed over to the Contractor.

39. PROGRESS EVALUATION:

The CONTRACTOR must submit the following details to OWNER in writing each week on approved Performa.

- a) Number of men employed by Contractor
- b) No. of major equipment employed.
- c) Progress achieved.
- d) Expected date for completion of work.

Any actual or potential delay in program caused by the action or inaction of Contractors at Site.

37. POWERS TO OWNER'S REPRESENTATIVE:

- i. OWNER / OWNER'S representative shall have general supervision and give direction of work. He has authority to stop WORK, whenever such stoppage may become necessary to ensure the proper execution of work under this CONTRACT. He shall also have authority to inspect and reject any WORK and materials which do not conform to the specifications, and to give instruction for deployment of Contractor's forces to any portion of WORK which the outer fit, the work force and to decide questions which arise in execution of WORK. No claim, whatsoever will be entertained by OWNER on this account.
- ii. The above inspection shall however not relieve CONTRACTOR of his responsibilities with regard to defective materials or workmanship and necessity for rectifying or replacing the same.

38. USE OF MATERIALS:

The Contractor shall use Equipment/Machinery /Materials only after approval of OWNER is obtained before incorporation of the same into WORK.

39. WEATHER CONDITIONS:

Owner may order contractor to suspend any work which in the opinion of owner may be subject to damage due to prevailing weather conditions.

40. COMMERCIAL TERMS:

The Contractor should quote for complete work and Contract Price inclusive of the cost of the following but not limited to.

- Cost of completing the work in all aspects including the provisions of all necessary Construction Equipment.



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- All huts, stores and accommodation for Contractor's staff and workmen.
- Cost of providing Suitable storage facilities for contractor's/Owner's equipment and materials including the provision of covered sheds for storage of materials.
- The rates quoted by the tenderer shall cover the cost of all loading, transporting to site, shifting, handling, unloading, storing under covers as required, assembling or joining the several parts together as necessary and incorporating or fixing materials in the work including all preparatory work or whatsoever description as may be required and of closing, preparing, loading, returning empty case of containers to the place of issue.
- Handing over of the work as per the modalities and directions as given by and to the entire satisfaction of the Project-in-Charge.

43. NO COMPENSATION FOR ALTERATION IN OR RESTRICTION OF WORK TO BE CARRIED OUT:

If, at any time after commencement of work, Owner, for any reason whatsoever, not require the whole work thereof as specified to be carried out, then Owner shall give notice in writing of the fact to Contractor who shall have no claim of any payment of compensation whatsoever on account of any profit or advantage which he might have derived from the execution of work in full but which he did not derive in consequence of the full amount of work not having been carried out. Contractor shall not have any claim for compensation by reasons of any alterations having been made to original specifications, drawing and instructions which shall invoice any curtailment of work as originally contemplated.

44. QUOTED RATES:

The rates shall be deemed to allow for all minor extras and constructional details which are not specifically shown in the drawings or given in the specifications but are essential in the opinion of OWNER for execution of work to conform to latest C.P.W.D. Specifications, I.S. Codes and for good workmanship and sound engineering practice.

The judgment of Owner for determining the category of an item not mentioned in the schedule of items indicated shall be final and binding on Contractor.

45. DEVIATION / VARIATION EXTENT AND PRICING:

The Owner/ Engineer-in-Charge shall have power

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- (a) To make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and
- (b) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Owner / Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.
- (c) In case, due to revision of Local bye laws additional areas is allowed to be constructed then such variation/excess quantity shall be executed by the contractor on the agreement rates and nothing extra shall be payable.
- (d) "Market Rate" means the rate as decided by the Engineer-in-Charge on the basis of cost of materials inclusive of any tax, duty, octroi, or statutory in position, at the time of work and cost of labour at site where the work is to be executed plus the percentage to cover all overhead and profit.

46. FINAL BILL:

Within 90 days after completion of work, the Contractor shall submit the final bill in 3 copies along with detailed measurements of work done, accountable of the materials, plant and machinery issued by the Engineer-in-Charge and all other statements, supporting documents required for finalization of the bill. The final bill should be accompanied by following documents. Item wise reconciliation shall be submitted to the Owner / Engineer - in - charge of all the material supplied by the Owner along with all RA bills claimed by the Contractor.

Soft Copy of the detailed measurement book with hard copy duly signed on each page.

As built drawings in four sets of hard copy and one set of soft copy in CDs.

Measurements and documents submitted by the Contractor shall be scrutinized by the Engineer-in-Charge or his representative and in case the same are found not in order the Engineer-in-Charge shall direct the Contractor to re-submit the final bill along with all details. On receipt of all requisite details and final bill from



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the Contractor, the Engineer-in-Charge shall have the final measurements taken, recorded and signed jointly. An account of any plant, equipment and materials issued by the Engineer-in-Charge to the Contractor, shall also be prepared and signed jointly. Based on the final measurements, and materials, plant & equipment account statements, the Engineer-in-Charge shall prepare the final bill. The time allowed for final certifications by the Engineer-in-Charge is 45 days from the date of submission of proper bill by the Contractor.

The Contractor shall sign the Engineer-in-Charge's copy of the Final Bill Account in token of acceptance of the full and final value of the works performed under the contract, and submit a "No Claim Certificate" on the prescribed proforma. The Engineer-in-Charge shall then arrange to make payment against the final bill. The Contractor shall not be entitled to make any claim whatsoever against Engineer-in-Charge under or arising out of this contract, nor shall Engineer-in-Charge entertain or consider any such claim, if made by the Contractor after he shall have signed a "No-Claim certificate" in favour of the Engineer-in-Charge. In case, the contractor submits a list of unsettled claims along with the "No Claim Certificate", he shall not be entitled to submit any additional claims other than those submitted along with "No Claim Certificate".

53. EXTENSION OF TIME:

The time allowed for execution of this work shall be the prime consideration of Contract. If work is delayed apart from Force Majeure conditions by any other condition which in the absolute discretion of Owner is beyond the control of Contractor then upon happening of any such event involving delay, Contractor shall immediately give notice thereof in writing to Owner, but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of Owner to proceed with work, Request for extension of time to be eligible for consideration shall be made by Contractor in writing within 7 (seven) days of the happening of the event causing delay. Contractor may also, if applicable indicate in such a request the period for which extension is desired. Owner's decision will be final and binding.

54. SCHEDULE OF CONTRACT EXECUTION:

This schedule shall if required to be split up in monthly/weekly schedules for smooth implementation, monitoring of execution of work, the same shall be done by the Contractor and got approved from Engineer-in-Charge and ensure actual progress in accordance with such schedules.



55. PRINCIPAL-TO-PRINCIPAL BASIS:

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Notwithstanding anything contained herein or any of the documents referred to hereof, it is expressly agreed and understood that the transaction between Owner and Contractor shall always be on a principal-to-principal basis and that neither party shall be deemed to be the agent of the other and that this Contract shall always be construed accordingly.

56. LABOUR:

All personnel engaged by the Contractor on the Works shall remain the sole responsibility of the Contractor and no claim shall lie against the Owner by them or Contractor or the Sub-Contractor or any person claiming on their behalf against the Owner in respect of any right or benefit due to the personnel in their employment. The Contractor shall indemnify the Owner against all or any payments to be made under and for observance of any Act, rules and regulations aforesaid without prejudice to his right to claim indemnity from his Sub-Contractors. The Contractor shall submit to the Owner an Indemnity Bond as per format given by owner in this regard.

Construction of labour hutments will be allowed as per availability in the labour camp only. However the Contractor shall at its own cost make all arrangement for space, lodging, transportation etc. for labours.

The Contractor shall ensure that no personnel stay in the Site premises. The Contractor will therefore ensure that the personnel on the close of their shift timings or duties leave the Site. Any personnel if found staying at the Site after his duty hours would be treated as an unauthorized person and shall not have the approval of the Owner nor the Owner shall be liable for any claim(s), if on account of the unauthorized conduct of such personnel, any injury is caused to him.

The Contractor shall not give, barter or otherwise dispose off to any persons any arms or ammunition of any kind, or permit such actions at Site by his agents, personnel or Sub-Contractors or personnel of the Sub-Contractors.

57. ASSIGNMENT / SUB LETTING:

The Contractor shall ensure that all Sub-Contractors, engaged by him, exercise all such skill, care and technical competence and possessed a high standard within their respective professions or trades as is appropriate and required for the satisfactory execution of their work and services.

The Contractor shall not assign/sublet any part of this Contract to any other Contractor without the consent of the Project-in-Charge/Owner / Developer. The Owner / Developer / Project-in-Charge reserves the right to review and approve each Sub-Contractor which the Contractor recommends at any time to engage to perform any services before such Sub-Contractor is hired or performs any service



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The Contractor shall be responsible for the care of the Work and Proper management and supervision of entire work to be executed as per the Contract including the work(s) executed through the Sub-Contractors.

Notwithstanding anything contained or written in this tender / contract, it has been specifically understood and agreed by the Contractor that for any loss / damage / accident / violation of any law by the Contractor or its employees or nominees whether civil, criminal or monetary will be borne by the Contractor and the Owner will be kept indemnified at all times during the pendency of this tender / contract.

58. CASH FLOW ESTIMATE

The Contractor shall, within 10 days of the date of issue the Letter of Intent, provide to the Engineer for his information a detailed cash flow estimate, in quarterly periods, of all payments to which the Contractor will be entitled under the Contract and the Contractor shall subsequently supply revised cash flow estimates at quarterly intervals, if required to do so by the Engineer.

59. QUANTITIES

The Contract is an item rate contract, which includes all works as per BOQ. The Contractor shall study the drawings prior to quoting their rates.

60. TERMINATION OF CONTRACT

The Employer shall in addition to any other power enabling him to determine the Contract, have power to determine the Contract at any time by giving not less than 7 (seven) days notice in writing to the Contractor and on the expiry of such notice the Contract shall forthwith stand determined but without prejudice to the claims of either party in respect of any antecedent breach thereof.

(i) Compliance with Engineer's direction on determination

If the Contract shall be determined under the provisions of the Contract, the Contractor shall with all reasonable dispatch comply with the directions of the Engineer in respect to:

- (a) Cancellation of outstanding commitments
- (b) Performance of further work required for the protection of work executed.
- (c) The removal of Constructional Plant Temporary Works and materials from the Site
- (d) Any other matters arising out of the Contract with regard to which the Engineer decides and gives directions as are necessary or expedient.



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(ii) **Payment on determination**

In the event of the Contract being determined under the provisions of this Clause the sum payable to the Contractor shall be such sum as would have been payable under the provisions of the Contract, if the contract had been determined by the Employer under the provisions of the Contract and

- (a) The reasonable cost of complying with the Engineer's' directions under sub-clause (ii) hereof and
- (b) Such reasonable sum as may be agreed between the parties or in default of agreement settled by conciliation or arbitration in respect of the Contractor's overheads including any sums properly and necessarily incurred as the direct result of such determination.
- (iii) The Engineer has a right to ascertain the happening of any contingency, including but not limited to the contingencies listed below, which would vest in the Employer certain powers including, but not limited to, taking possession of the work so far as it has been performed, and to completing the work either by himself or by employing some other Agency, retaining property of the Contractor, such as materials, plant or money already due to the Contractor:
 - a) Failure of the Contractor to proceed with or complete the works in the time or manner stipulated
 - b) The Contractor's insolvency
 - c) Failure of the Contractor to commence the- work
 - d) Failure of the Contractor to regularly proceed with the work for a certain fixed period
 - e) Failure of the Contractor to proceed with the work to the satisfaction of the Engineer or the Employer
 - f) Failure of the Contractor to proceed with the work for any reason independent of prevention by the Employer
 - g) If in the Engineer's opinion, the Contractor is not exercising due diligence and proceeding with such dispatch as will enable the works to be duly completed in time
 - h) Failure of the Contractor in complying with the orders and directions given by the Engineer
 - i) Failure of the Contractor in complying with the Specification, stipulations, conditions or Drawings
 - j) The Contractor being guilty of any default in the fulfilment of the contract
 - k) The Contractor leaves the work unfinished
 - l) Failure of the Contractor, after due notice, to rectify defective work
 - m) The Contractor renouncing materials from site and
 - n) Failure of the Contractor to maintain the works.



War, invasion, revolution, riot, sabotage, lockout, strike, work shut down imposed by Govt. acts of legislative or other authorities, stoppage in supply of raw materials, fuel or electricity, breakdown of machinery by mob or mass, acts of God, epidemic, fires, earth quakes, floods, explosives, accidents and navigation blockages, or any other acts or events whatsoever, which are beyond reasonable control of contractor and which shall directly or indirectly prevent completion of project within the time specified in the agreement, will be considered force majeure conditions. Necessary suitable time extension to cover delays caused due to force majeure conditions, as in the opinion of Accepting Authority, shall be accorded and shall be final and binding.

62. ARBITRATION

All or any disputes arising out of, connected with, touching upon, concerning or in relation to the terms of this Contract, including the interpretation and validity of the Contract, in relation to work or any term(s) hereof and the respective rights and obligations of the Parties shall be settled amicably by mutual discussions co-operation and consultation in first place.

Failing the amicable settlement of disputes, as aforesaid, by mutual discussions, the same shall be resolved through Arbitration, which shall be the only mode of resolution of disputes, as aforesaid. The Arbitration shall be governed by the Arbitration and Conciliation Act, 1996 or any statutory amendments/ modifications thereof for the time being in force. The Parties have agreed that the Arbitration proceedings shall be held at an appropriate location as may be decided by the Owner. The Arbitration proceedings shall be conducted by a Sole Arbitrator who shall be appointed by the Owner and whose decision shall be final and binding upon the Parties. The Contractor hereby confirm(s) that he shall have no objection to such appointment even if the person so appointed as the Sole Arbitrator by the Owner is an advocate or employee/personnel of the Owner not connected with the Contract/ Works or is otherwise connected with the Owner and the Contractor agrees and confirms that notwithstanding such relationship or connection he shall not raise any dispute at the time of the Arbitration Proceedings as to the independence or impartiality of the Arbitrator appointed by the Owner. The Arbitration Proceedings shall be conducted in English Language only and the place of arbitration shall be [New Delhi]. Costs of Arbitration shall be shared equally between the Parties.

Subject to Clauses 21.1 and 21.2, the Courts in Delhi alone and the High Court of Delhi at New Delhi alone shall have jurisdiction concerning all matters in terms of the Contract including the Arbitration Proceedings.

Performance under the Agreement shall continue unabated during Arbitration Proceedings and no payment due or payable by one party to the other shall be withheld unless any such payment is



or forms as part of the subject matter of the Arbitration Proceedings.

The party invoking arbitration shall specify the disputes to be referred to Arbitration under this clause together with the amounts claimed or any other remedy demanded in respect of each such dispute.

The Arbitral Proceedings in respect of particular dispute shall commence on that date on which a request for reference of that dispute for arbitration is received by the other side.

The Arbitrator shall give his award separately on each individual item in dispute. The Arbitrator shall also give reasons for arriving at the conclusion separately for each item in dispute.

The Award of the Arbitrator shall be final, conclusive and binding on both the parties to this Contract.

63. SITE ORDER BOOK / HINDRANCE REGISTER:

Site Order book and Hindrance Register should be maintained for the comments of Project Head and Contractor with signature.

The Engineer shall communicate or confirm their instructions to the Contractor in respect of the execution of work during site inspections in a "Works Site Order Book" maintained at the Site Office of the Engineer. The Contractor or his authorised representative shall confirm receipt of such instructions by signing against the relevant orders in the book. If desired, the Contractor shall be furnished a copy of such instructions.

64. P.F. & E.S.I COMPLIANCES:

The Contractor shall be responsible for fulfilling all statutory Requirement of ESIC and PF as per statutory laws. Obtaining ESIC & PF registration is essential, which is one of the pre-requisites of this contract awarded to Contractor. The Contractor will be responsible to pay ESIC and PF as and when demanded by the concerned authorities and indemnify the Owner in this regards. On instance of non-compliances of PF and ESIC Registrations, all the payments due to you under this contract shall be withheld and shall be released only on submission of above registration certificates and dues with the respective statutory bodies. The rates quoted by the contractor shall deemed to include all these elements.

The Contractor shall obtain a valid license under the Contract Labour (Regulation and Abolition) Act, 1970 and registration under Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 before the commencement of the work and continue to have a valid license and registration until the completion of work or expiry of maintenance period, if applicable. The submission of Form V by the Owner shall not absolve the Contractor in any manner whatsoever of its liabilities and responsibility regarding Contract Labour Regulation and Abolition Act and the rules and regulations thereunder.



It is clearly understood and agreed to by the Contractor that it is the statutory obligation on the part of the Contractor as a Principal Employer to faithfully comply with the provisions of all the statutory enactments that are applicable to it including the Employees Provident Fund and Miscellaneous Provisions Act and the scheme framed there-under. The Contractor shall with effect from the date of the appointment of each personnel including those engaged through a Sub-Contractor shall be covered by the provisions of the EPF and MP Act and their PF contribution both employer and employee, shall be deposited with the Regional Provident Fund Commissioner. In the event if it is found either by the Office of the RPFC or otherwise that the Provident Fund contributions are not being paid or deposited in respect of all the personnel including those engaged through a Sub-Contractor and a liability on this account is created and is required to be paid to the RPFC by the Owner, such amount shall be recovered from the bills that would be payable to the Contractor by the Owner and the Contractor shall not be entitled to raise any dispute in this regard.

It is clearly understood and agreed to by the Contractor that if by virtue of the Works undertaken by him and personnel deployed by the Contractor at the said project, the Owner is saddled with any liability, financial or otherwise under any statutory enactment or otherwise, the amounts which may be payable shall be recovered from the Contractor upon any such liability coming to the notice of the Owner.

65. No Liability towards Staff Employed:

The Contractor shall employ person/s to carry out the work as defined under scope of work & BOQ. Person/ Persons engaged by you to carry out the aforesaid activities shall work under your direct control and supervision. Nothing herein shall be construed as establishing any relationship of employer and employee between us and the person/s engaged by you to carry out work awarded to you. You shall be liable for payment of all remuneration statutory dues in respect of persons engaged by you.

You shall also comply with all laws, bye-laws, rules and regulations as are or shall be applicable on you /your establishment. You shall keep us harmless and indemnified against any claim or demand, litigation, loss or expenses that may be suffered or incurred by us on account of any claim or demand raised by the person/s appointed by you including claim for wages/compensation and/or other dues whether statutory or not on any account whatsoever and/or on account of any violation of law/s, rules, regulations etc. committed by you/persons employed by you.

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66. VIRTUAL COMPLETION CERTIFICATE

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The "Virtual Completion Certificate" shall mean the certificate to be issued by the Project Manager or the owner when all the requirement of the contract has been met and complied with and all known defective items of the works and defective work/materials have been replaced and/or rectified and made good and have been

67. FINAL COMPLETION CERTIFICATE

The "Final Completion Certificate" in relation to a work means the certificate regarding the satisfactory compliance of various provisions of the contract by the Contractor issued by the Owner or his authorized representative after all the defective items of Work and defects have been attended/made good and the period of defect liability is over.

68. CLEANING UP AND HANDING OVER:

Before the Engineer issues the Certificate of Completion, the Contractor shall clear away and remove from the Site, all Constructional Plant, surplus materials, rubbish and Temporary Works of every kind and leave the whole of the Site and Works clean and in workmanlike condition to the satisfaction of the Engineer and the local authority.

Upon completion of the work all the areas should be cleaned. All floors, surface, area etc., shall be cleaned down in a manner which will render the work acceptable to the Project Manager. All rubbish due to any reason, shall be removed daily from the site and an area of up to fifty meters on the outer boundaries of the premises will be cleaned by the contractor as a part of the contract. Upon completion of the project, the contractor shall handover to the Project Manager the following:

- a) Written guarantees and certificates.
- b) Maintenance manuals, if any.

The Contractor shall during the course of execution, mark and keep updated a complete set of "as-built" drawings, recording all Works on the blue prints, which shall be corrected daily, if necessary, to show each and every change from the Contract Drawings/As-approved working drawings, shop drawings and the exact 'as built' locations, sizes and kinds of work etc. This set of drawings shall be kept on the Site and shall be used for record purposes. Changes recorded shall be countersigned by the Engineer and the Contractor. Copies of "as-built" drawings shall be supplied to the Architect and the Engineer on request.

The Contractor shall submit complete "as-built" drawings as directed by the Engineer within 30 days of the completion of entire Works

69. SITE MEETINGS

Progress and quality evaluation meeting will be held at the site every week. The Contractor's senior representative / in charge of the project along with his site and other staff including staff of approved sub-contractors and suppliers as required



shall participate in these progress review meetings to ensure all follow up actions. Any additional review meetings shall be held if required, as decided by the Engineer-in-Charge, which also shall be attended by the above- referred representatives. The points/ issues discussed and decisions taken shall be recorded and these issued within 48 hours of the meeting. Apart from review of previous points, the contractor's representative shall present the works completed and those scheduled along with proposed resources to be employed.

SAFETY MEASURES TO BE TAKEN AT SITE

INTRODUCTION

The policy is to clearly define responsibilities and then to obtain the commitment of all Contractors to maintain a high safety standard compatible with this policy.

Safe methods of working shall be a main consideration in all operations. Contractors will provide Project Manager with details of their methods of work, highlighting the safety aspect and they will update this information as necessary. It is the responsibility of all persons employed on this project to act responsibly to prevent accidents to themselves and others. Notwithstanding the provisions contained herein the Contractor is not exempted from the operation of any Act or Rule enforce.

Each Contractor is responsible for the safety of his work by:

1. Providing safe plant, equipment and working conditions.
2. Ensuring the establishment of safe working procedure.
3. Providing suitable protective equipment and clothing gloves, ear muffs and goggles.
4. Providing adequate job training.
5. Providing fire extinguishers and first aid box.
6. Reporting all accidents and dangerous occurrences, with copies to TCG.
7. Ensuring that hazardous materials, if necessary on site, will be stored and used in a safe Manner.

It is the duty of all persons employed on site:

1. To report defect in any plant or equipment to his supervisor and to cease using that equipment if it in a dangerous condition.
2. To comply with all safety procedures necessary at his place of work as defined by legislation.
3. To wear the personal protective equipment required for his own safety
4. To co-operate with management in creating and maintaining a high standard of safety, health and welfare.



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5. To familiarize themselves and comply with the agreed methods and systems for working.
6. To assist management by taking all possible steps to avoid accidents.

Persons responsible for safety:

It remains the responsibility of each Contractor to name his Site Manager, who will be responsible for the safety of his work, and also his company safety officer and the place at which he can be contacted.

SAFETY AT WORK SITE:

The Contractor will take care for the security, safety and welfare of all his workers as per applicable Local / State / Central Govt. Rules & Regulations etc.; without any additional cost to the owner. The contractor will be responsible for all injury to its employees / workmen / any third party and shall take necessary insurance for them. Also the contractor will be responsible for the security & Safety of the site premises for this work; for the duration when contractor workers and staff are going to execute this work therein.

No materials on the site of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

The Contractor shall notify the Engineer immediately of any occurrence of mishaps or accidents that results in death or injury (including grievous injury) as defined in the Indian Penal Code. Such initial notification may be verbal and confirmed in writing thereafter and shall be followed by a comprehensive written report within 24 hrs of the occurrence/incident. The Contractor shall duly complete standard forms as required by the Engineer and Statutory Authorities. It is made clear that the Contractor alone as the Principal Employer, is answerable and liable to all investigating and legal authorities including Court of Law for all injury to its employees / workmen and the Owner shall not have any part or liability in this regard.

All consequences, damages or losses arising by reason of any violation of the safety requirements resulting in any injury or loss of life to the Contractor's or his Sub- Contractor's Employees/Staff/personnel and Workers (non-fatal/fatal) shall be met by the Contractor who alone will be responsible for handling and disposal of the accidental cases with Government/non-Government authorities. The Contractor shall be bound to pay compensation to the persons for the injuries sustained or death owing to neglect of the safety precautions should any claim proceedings be filed against the Owner/Engineer.

RULES FOR SAFETY AND LABOUR WELFARE (AS PER BIS SAFETY PROCEDURES)

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I. FIRST AID POST:

The Contractor shall provide and maintain in a readily accessible place for FIRST AID appliances including adequate supply of Partner



sterilized dressing, gauge, cotton wool and requisite medicines. In case of a large work place the FIRST AID POST shall be run by a trained compounder. In case of accident, the contractor shall provide suitable transport facility.

II. SAFETY EQUIPMENT

All necessary personal safety equipment such as Helmets, protective footwear goggles/eye shields, life jackets, Gas masks, safety belts etc. as considered necessary by the Engineer-In-Charge shall be available for use of persons employed on the Site and maintained in conditions suitable for immediate use; and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.

- Workers employed on mixing asphaltic materials, cement and lime mortars/concrete shall be provided with protective footwear and protective goggles.
- Those engaged on handling any materials which is injurious to eyes shall be provided with protective goggles.
- Those engaged in welding work shall be provided with welder's protective eye-shields.
- Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that manholes covers are opened and manholes are ventilated at least for an hour before workers are, allowed to get into them. Manholes so opened shall be cordoned off with suitable railing and providing with warning signals or boards to prevent accident to public.
- The contractor shall not employ workers below the age of 18 and women on the work of painting with products containing lead in any form. Whenever worker above the age of 18 are employed on the work of lead painting, the following precautions shall be taken:
 - No paint containing lead products shall be used except in the form of paste or readymade paint.
 - Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
 - All equipment shall be supplied by the contractor to workmen and adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

SAFETY PRECAUTIONS:

Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be



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so stacked or placed as to cause danger or inconveniences to any person or the public. The contractor shall provide all necessary fencing and lights to protect public & workers from accidents and shall be bound to bear expenses for defense of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damage and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the contractor be paid to compromise any claim by any such person.

IV. **SCAFFOLDINGS**

Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand-holes shall be provided on the ladder and the ladder shall be given an inclination and not steeper than $\frac{1}{4}$ to 1 (1/2 horizontal and 1 vertical).

V. **GUARD RAILS**

Scaffolding or staging more than 3.25 meters above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

VI. **RIGID DESIGN**

Working platform, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25 meters above ground level or floor level, it shall be closely boarded, have adequate width and be suitably fenced.

VII. **OPENING GUARDED:**

Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 meter including temporary closure of openings at alternate floors.

EXCAVATIONS SAFETY:

All excavation, 1.0 meters or more in depth, shall be supplied with at least one ladder for each 30 meters in length or fraction thereof, ladder shall be extended from bottom or trench to at least 1 meter above surface of the ground.



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of a trench which is 1.0 meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. Excavated material shall not be placed within 1.0 meters of edge of excavations or half of depth to excavations whichever is more. Cutting shall be done from top to bottom. Under no circumstances shall under-mining or under-cutting be done.

IX. DEMOLITION:

Before any demolition work is commenced and also during the process of the work:

- All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by operator shall remain electrically charged.
- All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion, or flooding. No floor, roof or other part of a building shall be so overloaded with debris or materials as to render it unsafe.

X. SAFETY AGAINST DROWNING

When work is done near any place where there is risk of drowning, all necessary equipment shall be provided and kept ready for use all necessary steps taken for prompt rescue of any person in danger and adequate provisions be made for prompt first aid and treatment of all injuries likely to be sustained during the course of the work.

NOTE:

All scaffolding, ladders, First Aid Equipment/Medicines and other safety devices mentioned or described herein shall be maintained in a safe condition. Necessary warning signboards in Red / White paint, with proper lighting arrangements for nights are to be provided at prominent locations

SITE SAFETY POLICY

This section covers safety objectives. Detailed procedures are given in the Site Safety Manual

1. Safety Plan:

The Safety Plan is to be prepared by the Site Safety Officer and is to cover all of the following:

Damage Avoidance

Planning and coordinating all work to avoid bodily injury, property damage and loss of productive time

Detection & Correction

Establishing and maintaining a system for prompt detection and

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correction of unsafe practices and conditions. Assuring the availability and use of personal protective equipment.

Inspection & Maintenance Establishing and maintaining an effective and comprehensive inspection and maintenance system and record.

Training Establishing and supporting an educational and job skill training programme designed to ensure a safe working environment.

Investigations Investigating accidents to determine cause and take the necessary corrective action.

Control / Protection Providing visitor control and hazard protection

Site Security Providing project site security.

Material Storage Controlling the placement of material received consistent with the traffic control pattern established.

Compliance to Regulations Ensuring compliance with the laws, ordinances, rules and regulations issued or promulgated by state, local and governmental agencies.



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**TECHNICAL SPECIFICATION AND BILL OF QUANTITIES
FOR SANITARY PLUMBING INSTALLATION
BLOCKS-1A-B, 1C-D & 11A-B**



A handwritten signature in blue ink, appearing to be "P. K. Singh".

SERVICES CONSULTANTS : **KRIM ENGINEERING SERVICES PVT. LTD.**

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A handwritten signature in blue ink, appearing to be "J. M. Singh".

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SCOPE OF WORK & TECHNICAL SPECIFICATIONS

1.0 SCOPE OF WORK

This part of the Contract shall generally include the following services:

- i) Installation of sanitary fixtures, faucets and toilet requisites,
- ii) Installation of internal water supply distribution network,
- iii) Installation of above ground drainage system.

The Contractor shall include for the supply, unless otherwise mentioned, delivery, installation, connection, commissioning and testing of all materials and equipment to provide a complete sewerage, drainage and water supply installation as described hereunder.

It is proposed that the Owner at his cost shall procure certain items of the works. The procurement of such equipment/material shall be done as per the advise of Architect / Consultant after necessary input from the Contractor as stated hereafter. The equipment/material shall be handed over to the Contractor at site. Thereafter it shall be Contractor's responsibility to take-over the possession of all such equipment, its insurance, safe custody etc. until installation, testing, commissioning and successful handing over the plant to the Owner for its beneficial use

2.0 GENERAL

2.1 STATUTORY REGULATIONS AND APPROVALS

All sanitary and water supply works shall be carried out only by those Contractors who are licensed by the concerned local authorities to execute this type of work. It shall be the responsibility of the Contractor to comply with the regulations as laid down by the local authorities.

2.2 SITE CONDITIONS

It is assumed that before tendering the Contractor would have visited the site and familiarized himself with all the local conditions and means of transportation and communications. No claim of whatsoever nature would be entertained at a later date on account of the Contractor's ignorance of the local conditions.



2.3 STANDARD AND CODES OF PRACTICE

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The work shall be carried out as per the enclosed Specifications of Work and the construction drawings to be issued from time to time. These specifications shall be read in conjunction with

- a) CPWD specifications 2009 (with up-to-date correction slips),
- b) National Building Code 2016,
- c) Handbook on water supply and drainage (with special emphasis on plumbing) - SP: 35 issued by Bureau of Indian Standards (B.I.S. - all with the latest amendments),
- d) Uniform Plumbing Code of India - UPCI-2011
- e) Relevant Codes of Practice and Standards as issued by Bureau of Indian Standards (B.I.S. - all with the latest amendments), wherever applicable.
- f) Reputed international codes and standards for materials and systems for which references are not available in Indian codes of practice and standards.
- g) Manufacturers' Technical literature for special items and systems

2.4 WORKMANSHIP

All the work shall be carried out in a workmanship like manner and as per the best practices of the trade.

2.5 DRAWINGS AND DOCUMENTS

(1) Tender Drawings and Technical Specifications

i) The drawings provided with the Specification shall be treated as confidential documents and must not be copied or loaned to any other party without the express permission of the Engineer-in-Charge.

ii) The tender drawings are intended as a guide to the firms tendering and give approximate positions of pipes, conduits, cable runs and/or equipment only and in measuring from these drawings, the Tenderer must make due and proper allowance for all necessary diversions from the straight line, rises or falls as may be required for the proper execution of the works.

In any case of doubt as to the interpretation of either Drawings and/or Specification, the Contractor must refer the matter to the Engineer-in-Charge prior to the submission of his Tender.

iii) It is to be clearly understood that this Tender is to be absolutely inclusive for the proper completion of the whole of the works specified to the true intent and meaning of the specification and/or Drawings and the description therein contained shall be read conjointly and together and no error, inconsistency, discrepancy in the Drawings and/or Specification will relieve the Contractor of his obligations to include for an hand-over the work in the true meaning and intent of the Specification and/or Drawings, complete in every respect.



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Should any portion of the works which would reasonably and obviously be inferred as necessary for the installation as a whole not be expressly specified, the Contractor shall provide and execute such work as part of the Contract and shall not be entitled to any extra payment of that account.

(2) Working Drawings

- i) If and wherever found necessary, the exact positions of pipework, plant and/or equipment will be decided by the issue of further drawings, but no claim for extra payment due to such deviations from the tender drawings will be entertained.
- ii) The working drawings issued from time to time to the Contractor are diagrammatic but shall be following as closely as actual construction work will permit. If modifications are necessary, the Contractor shall submit modifications to the Engineer-in-Charge for approval before such modifications are executed. The architectural drawings shall take precedence over the services drawings as far as the Civil and other trades works are concerned.
The Contractor shall execute the work in accordance with the decision of the Engineer-in-Charge.
- iii) All Drawings and Specification are the property of the Engineer-in-Charge.

(3) Shop Drawings

- i) The Contractor will be required to collect the latest architectural drawings, structural drawings and all other relevant drawings of other disciplines. With the design intent available to him in the form of tender drawings and working drawings, the Contractor will prepare the detailed shop drawings for the approval of the Consultant.
- ii) The Contractor shall submit to the Engineer-in-Charge for approval, before the work is commenced, two copies of all shop drawings at every stage of approval and once the approval is obtained will submit the required number of prints as per conditions of the contract. In addition, the Contractor shall also supply sufficient copies of the drawings for the use of the Owner/Civil Work Contractor etc.
 - iii) Shop drawings must be submitted by the Contractor as soon as possible after the order is placed to give ample time for all parties concerned to study and comment thereon.

iv) Details in the Shop Drawings:

The shop drawings shall be very elaborate and detailed showing the pipe routings, valves and other appurtenances, positioning of these with respect to structure, crossing of structural elements, cross-sections wherever required, distribution diagrams, protection details, supports and hangers details etc.

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Pipework drawings must be fully detailed, showing all pipework in double line and indicating the precise size of fittings, valves and equipment, position of hanger supports with reference numbers must be indicated and a large scale detail must be given, showing the type and method of installation of each type of hanger. A schedule is to be included on each drawing, showing details of the type of hanger fixings and references number for each type.

All general layout drawings shall be drawn 1/50 scale, unless agreed otherwise with the Engineer-in-Charge. Toilet piping layouts, details and hangers, cleanouts, methods of fixing of all fittings and fixtures including pipes, detailed cross sections of service ducts, etc., are to be drawn to 1/10 scale.

The equipment layout is to be detailed on the drawings, showing the exact method of installing and clearly illustrating components to be used in making all connections.

The Shop Drawings shall clearly show precise details of holes in concrete, block works etc., base frames or support required and the like. These Drawings shall also show in detail the builder's work required to be performed by all other trades for the mechanical and electrical installations.

- v) The Contractor, while preparing the shop drawings, shall ensure that he co-ordinates drawings of all other trades that might interfere with the proper installation of his work. No payment shall be made for any variations or alterations on site due to lack of knowledge of other trades. Any unresolved conflict between various trades shall be referred to the Engineer-in-Charge
- vi) Amended or altered drawings shall show the nature of the amendment or alteration in a revision block on the drawing, together with the revision number or letter and the date of the revision.
- vii) Should the Contractor prove unable to produce satisfactory "Shop Drawings" or be unable to produce drawings to conform to the progress of the work, the Engineer-in-Charge reserves the right to take whatever steps are necessary to have drawings undertaken by others and debit the Contractor's account.

Any decision taken by the Engineer-in-Charge to have working drawings produced elsewhere will not relieve the Contractor of his contractual obligations and the Contractor must provide to the Engineer-in-Charge all necessary details, physical dimensions, descriptive literature, etc., of all equipment to be incorporated on drawings within 10 days of a request from the Engineer-in-Charge.

(4) Manufacturers' Technical Literature and Data

- i) Manufacturers' performance data, certified factory drawings of apparatus, giving full information as to capacity, dimensions,



materials and all information pertinent to the adequacy of the submitted equipment shall be submitted for approval.

Manufacturer names, sizes, catalogue numbers and/or samples of all materials shall be submitted for approval.

Submittals and working drawings should, as far as possible be complementary so that drawings and submittals can be cross checked.

- ii) Order of equipment submitted for approval must be accompanied by relevant drawings, technical data, catalogues and samples, Where data, certified drawings or other required information is not available until after orders have been placed, the Engineer-in-Charge will give provisional approval until all requested drawings and information have been supplied to the Engineer-in-Charge and approved by him. It is the Contractor's responsibility to ensure that all necessary information is supplied to the Engineer-in-Charge in accordance with the progress of the work.

(5) Operation and Maintenance Manuals

- i) The Contractor shall furnish six copies in bound form of an instruction manual containing all information applicable to this section of the Works. This manual is to be similar in design and content to those to be provided under other services.

The manual shall contain a comprehensive written description of the Works, outlining the operation of the systems and maintenance procedures.

(6) "As Installed " Drawings

- i) The Contractor shall arrange to keep on Site a full set of drawings showing the progress of the Works, which must be kept upto date.

The Contractor shall keep a record as the work proceeds of any work installed not in accordance with the drawings. On completion of the Works the Contractor shall supply three clear colored prints of each applicable drawing, showing the exact position of all apparatus, pipe lines, services, control valves, switchgear, etc., together with diagrams, schedules, etc. to the Engineer-in-Charge's requirements and in addition one complete set of plastic negatives.

The word "AS INSTALLED DRAWINGS" shall be clearly indicated on all drawings adjacent to the title block.

(7) Discrepancies In The Drawings

Should there be any discrepancy due to in-complete description, ambiguity or omission in the drawings and other documents relating to this Contract found by the Contractor either before



starting the work or during execution or after completion, the same shall be immediately brought to the attention of the Engineer-in-Charge and his decision would be final and binding on the Contractor.

2.6 WORK AND TIME SCHEDULE

The Contractor shall prepare a work and time schedule in a format as approved by the Engineer-in-Charge. The schedule shall be submitted to the Engineer-in-Charge within ten days of the award of the Contract. It shall indicate the expected date of commencement and completion of each item of work. The chart shall also indicate the Scheduling of samples, shop drawings and approvals. In addition to this, the Contractor shall also furnish to the Engineer-in-Charge fortnightly progress reports indicating percentage completion of each item of work.

2.7 RATES

The rates quoted for any particular item by the Contractor shall be inclusive of the cost of material, erection, connection, testing, labour, supervision, tools, plant, transportation, excise duties and taxes, contingencies, breakage, wastage and all other sundries unless specified otherwise in the conditions of contract or fiscal aspects.

The rate shall also be inclusive of cutting holes, making chases in RCC and making good the same unless specified otherwise either in Special Conditions of the Contract, Technical Specifications or the description of the item in BOQ. No claim for extra would be entertained on this account.

2.8 MATERIALS

All materials to be supplied by the Contractor shall be new. All packed items shall arrive at site in original packing only. Any items found defective or damaged shall be replaced by the Contractor at his own expenses. The Contractor shall get the `seal` of containers opened in front of Engineer-in-Charge or his authorized representative and maintain a record jointly signed by him and Engineer-in-Charge or his authorized representative. No empty containers shall be removed from the site till completion of work or without the written approval of Engineer-in-Charge.

2.9 STORAGE OF MATERIALS

All the materials brought at site shall be stored and stacked in a proper manner. The materials requiring protection from the Sun and rain shall be kept inside the temporary structures to be erected at site by the Contractor. The Contractor shall also follow the Manufacturers' instructions for storing and stacking the materials.



The storage facilities are to be created by the Contractor at his own expenses unless otherwise specified in the Conditions of Contract.

2.10 INSTRUMENTS FOR MEASUREMENT AND TESTING

The Contractor shall provide, free of cost, all equipment, instruments, labour and all other allied assistance required by the Engineer-in-Charge or their representatives for measurement and testing of the works.

2.11 CO-ORDINATION WITH OTHER TRADES

The Contractor shall be responsible for coordinating this work with works of other trades sufficiently ahead of time to avoid unnecessary hold ups. Hangers, sleeves, recesses etc. shall be left in time as the work proceeds.

2.12 SITE ORDER BOOK

The Contractor shall maintain a site order book, in which daily progress of the work and number of workers engaged shall be recorded. The site diary shall also be used by the Engineer-in-Charge for writing his comments/instructions.

2.13 UP-KEEP OF THE SITE

It shall be the responsibility of the Contractor to clear away, from time to time, all debris and excess material generated by the activities of his workers.

2.14 PROTECTION

All work shall be adequately protected, to the satisfaction of the Engineer-in-Charge, so that the whole work is free from the damage throughout the period of construction upto the time of handing over.

Special care must be taken to prevent damage and scratching of all fittings and fixtures. Tool marks on exposed fixtures shall not be accepted. Protective paper on fixtures shall be removed with hot water only at the final completion of the work.

Before handing over the work, the Contractor shall clean all elements of the complete installation, remove plasters, splashes, stickers, rust stains and all other foreign matter and leave every part in acceptable condition and ready for use to the satisfaction of the Engineer-in-Charge.

3.0 HUBLESS CAST IRON PIPES AND FITTINGS

The vertical Soil, Waste and Vent stacks from the apartment towers are to be connected with a sewer line running suspended with the basement ceilings using Hubless cast iron pipes and fittings.



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For SCENARIO INDIA

 **Partner**

(1) Specifications

Wherever specified, Hubless centrifugally cast (spun) iron pipes & fittings conforming to ISO 6594/ EN 877 shall be used for soil, waste and vent pipework unless specified otherwise. Pipes and fittings with irregular bore, blow holes and other manufacturing defects shall not be allowed to be used for work. All fittings shall be of the degree specified or as required at site.

All pipework shall be carried out in workmanship like manner following manufacturers recommendations.

(2) Installation of Cast Iron, Soil, Waste and Ventilation Pipe Work

Contractor shall provide all sleeves, openings, hangers, inserts during the construction. He shall provide all necessary information to the building Contractor for making such provisions in the structure as necessary. All damages shall be made good to restore the surfaces if the above are not incorporated in time and provided afterwards by cutting walls and slabs.

Layout : The pipework in branch connections should always be arranged to allow free drainage of the system. Connections to main or branch pipes should be so arranged as to prevent cross flow from one appliance to another . Connections should be made with an easy sweep in the direction of flow.

Jointing: All joints in pipe work and all pipe work to appliances should be made in such a manner as to be air-tight and water tight and to remain so during use.

In general, mechanical joints with stainless steel Clamps and EPDM sleeves conforming to DIN 19543/ EN 877 shall be used to join pipework.

Support System: All pipework shall be fixed to the walls/ suspended with ceiling using standard hot dipped galvanized slotted channels, fasteners, threaded suspender rods, clamps etc. Pipe

Horizontal pipes running along ceiling shall be fixed on structural adjustable clamps of special design shown on the drawings or as directed. Horizontal pipes shall be laid to uniform slope and the clamps adjusted to the proper levels so that the pipes fully rest on them.

Spacing of the Supports: Spacing of the support (Vertical and Horizontal) shall be as per Table 3-2 of the Uniform Plumbing Code of India 2011.

Bends : Bends should be of long radius where practicable. In the case of bends in the bottom most pipes, they should necessarily be of long radius and should be preferably be made of 135 degree (1/8) bends.



Access Piece : Ample provision should be made for access to all pipe work and embedding of joint in walls should be avoided as far as possible. All tee and cross pieces shall be with access doors. Wherever instructed by the Engineer-in-Charge, the bends with access doors shall also be provided.

Cleaning and Painting of Pipework : All pipework shall be cleaned of cement mortar, paint splashing, dust etc. All damaged original paint shall be touched up as per the manufacturers recommendations. If specifically instructed, the pipework shall be painted with minimum two coats of enamel paint of approved shade and quality over a coat of primer. Re-painting of the pipework shall be paid separately under the relevant head.

4.0 U.P.V.C. PIPES AND FITTINGS FOR INTERNAL DRAINAGE

The internal waste pipe work from sanitary fixtures like wash basin etc. for the apartments will be done using small bore UPVC pipes and fittings.

(1) Specifications

Wherever specified, Internal above ground drainage pipework and fittings shall be of UPVC. Pipes shall be confirming to IS:13592 Type-B and shall be of type commercially known as UPVC SWR system. Fittings in general shall be injection molded and suitable for soil, waste and rain water drainage application and shall conform to IS:14735. However, specials can be fabricated using pipes and fittings described above. All pipework fittings and accessories shall be installed strictly in accordance with the manufacturer's recommendations. The Contractor shall ensure that the UPVC pipes are of a sufficiently high temperature rating to withstand the environmental conditions.

(2) U.P.V.C. Pipework Installations

Jointing: In general, 'push-fit' rubber ring jointing technique is to be adopted. Solvent cement joints may be provided for fittings and specials which are not manufactured with 'push-fit' rubber joints or when specifically mentioned in the drawings or instructed by Engineer-in-Charge at site. The push-fit rubber sealing ring shall preferably be co-molded and pre-fitted.

During the installation of internal drainage and waste system, the Contractor shall make due allowance for the expansion of UPVC pipework and fittings during normal working conditions. Further allowance shall be made for solvent cement weld jointing of the above materials with regard to temperature and humidity.

The bore of all pipework shall be smooth and free from all burrs or obstructions; bends wherever possible shall be of the long radius type.



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 **Partner**

All connections between soil drainage, vent, waste or fixtures shall be made with approved connectors. The termination at high level of all vent stacks shall be carried out with a vent guard. All fixtures and fittings draining into the internal drainage installations shall be fitted with traps. The water seal traps in the soil and waste water installation discharging into the foul sewer shall be of the deep seal type having a minimum water seal of 50 mm.

Pipework shall be fixed accurately to approved falls, the gradient shall be consistent and pipework shall follow a true line. Allowance shall be made for the rodding of the whole installation in addition to which, at all changes of direction, a rodding eye shall be installed.

The pipework shall be fixed to the walls/ suspended with ceiling using standard hot dipped galvanized slotted channels, fasteners, threaded suspender rods, clamps etc.

The maximum spacing between the supports shall be as follows:

Pipe Diameter	Horizontal	Vertical
32 mm	1.00 M	1.25 M
40 mm	1.00 M	1.25 M
50 mm	1.00 M	1.25 M
110 mm	1.00 M	2.00 M

The Contractor shall provide access or rodding eyes wherever required to provide full access to the system. The rodding eye shall also be provided at the foot of all vertical stacks at the point of connection to the underground drain pipe.

Where traps, access branches and access doors are located above false ceiling, removable panels shall be provided.

Soil and waste ventilation pipes passing through roofs shall be weather proofed to the satisfaction of the Engineer-in-Charge.

The vent pipes shall be carried upto a minimum height from finished roof level of 900 mm to prevent any pressure fluctuations in the stack due to wind effect.

Connections to the outlets of the water closets shall be made by the use of proprietary UPVC WC connectors.

Generally vent and anti-syphoning pipes and fittings shall be installed above the flood level of the fitting wherever possible.

The whole of the installation shall be tested in accordance with the requirements of the relevant BIS or internationally recognized standards and codes to the complete satisfaction of the Engineer-in-Charge.



5.0

GALVANIZED STEEL PIPE WORK FOR TERRACE WATER SUPPLY
Specifications

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Galvanized Steel pipes for water supply shall be genuine galvanized steel tubes conforming to IS:1239(Part-I)-1979 of specified grade with latest amendments.

All fittings shall be malleable iron galvanised fittings conforming to IS:1879(Part-1 to 10)-1975 with latest amendments. All fittings shall have manufacturer's trade mark stamped on it. Fittings in G.I. pipe lines shall include elbows, tees, bends, reducers, nipples, union, bushes, G.I. clamps of approved design, G.I. flanges with 3 mm rubber insertion, nuts, bolts, washers, etc. All fittings shall be tested at manufacturer's work. Contractors may be required to produce certificate to this effect from the manufacturers.

Galvanized Steel Pipework Installations

Jointing: In general, threaded end joints shall be used to join pipework. Screwed G.I. pipes shall be jointed with screwed socket joints, using screwed fittings.

All pipework for water supply (both hot and cold) inside the building shall be carried out in a workmanship like manner following CPWD specifications in general. All materials shall be as specified in these specifications, bills of quantities and drawings. In case specifications of a material is not mentioned or not clear in the above, the reference shall be made to CPWD specifications and the relevant Indian Standards/codes

Support System: All pipework in terrace shall be fixed/ supported using preformed, pre-galvanized steel elements and suitable fasteners requiring no welding at site. The supporting system shall be modular and adjustable in all the three planes.

Spacing of the Supports: Spacing of the support (Vertical and Horizontal) shall be as per Table 3-2 of the Uniform Plumbing Code of India 2011

6.0 CPVC PIPE WORK FOR INTERNAL WATER SUPPLY

The internal water supply pipe work for the apartments will be done using CPVC Pipe and fittings.

Specifications

CPVC piping system for water supply system shall be SDR 11 rated and of approved makes. All pipes and fittings shall comply with ASTM D 2846 standard and IS: 15778:2007 (wherever there is a conflict, the material shall conform to stringent of the two parameters).

All fittings shall be injection moulded. CPVC to CPVC jointing shall be fusion bonding type (Solvent Cement Type) using proprietary CPVC fusion compound. Transition fittings (for making connections with valves, faucets, other appurtenances and non CPVC pipes) shall have brass insert having threads as per IS: 554. CPVC threaded fittings are not to be used.

All CPVC pipework for water supply (both hot and cold) inside the building shall be carried out in a workmanship like manner as per



the manufacturer's recommendations. All materials shall be as specified in these specifications, bills of quantities and drawings. All the brass threaded adaptors and specials shall be jointed properly using Teflon tape. For storage, cutting, jointing, installing and testing of CPVC material, manufacturer's instructions shall be strictly adhered to.

Solvent Cement : The jointing of pipes and plain fittings shall be by solvent cement of make and grade as specified and supplied by the manufacturer of CPVC piping system. It shall be insured that the solvent supplied is not used beyond the expiry period as mentioned on the packaging of the material.

HORIZONTAL SUPPORTS SPACING:

DIA	SPACING IN METRE AT WORKING TEMPERATURE			
	23° C	38° C	60° C	82° C
½ "	1.22 M	1.07 M	1.07 M	0.92 M
¾ "	1.53 M	1.37 M	1.22 M	0.92 M
1 "	1.68 M	1.53 M	1.37 M	0.92 M
1 ¼ "	1.83 M	1.68 M	1.53 M	1.22 M
1 ½ "	1.98 M	1.83 M	1.68 M	1.22 M
2 "	2.29 M	2.14 M	1.98 M	1.22 M

Curing Time: After the CPVC installation is completed, adequate time as per following schedule shall be provided for the curing of the of the joints before subjecting the system to pressure testing or putting it to use:

Ambient Temperature	Pipe Sizes ½' – 1 ¼"	Pipe Sizes 1 ½"– 2"
Above 16° C	½ hr.	1hr.
From 5° C – 16° C	1hr.	2hr.
Below 5° C	3hr.	6hr.

7.0 INSULATION OF HOT WATER PIPES

Insulation Material: The insulation of the hot water pipework shall be done with extended Synthetic Rubber Polymeric Compound. Pre form pipes sleeves.



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The insulation material should have thermal conductivity not to exceed 0.040 watt/meter °K at 400°C. Density of insulation should be in the range of 50 to 110 kg/cm³.

Method of Installation: The pipe shall be thoroughly cleaned and applied with proprietary glue and then the pre-slit insulation pipe section shall be slipped over the pipe work. The slits should be sealed properly with proprietary adhesive tapes as per the direction of the manufacturer. All fittings, valves and other appurtenances on the pipe work shall also be insulated with matching thickness insulation sheet of same material.

Protection of Insulation: Wherever specified or as instructed by the Engineer In charge, insulation over the pipes shall be protected by applying one coat of adhesive paint with brush, wrapping with 5 mil GRP cloth followed by two coats of adhesive paint.

8.0 VALVES AND OTHER APPURTENANCES

(1) General

Each valve body shall be marked with cast or stamped lettering giving the following information :

- a) The manufacturer's name or trade mark
- b) The size of the valve
- c) The guaranteed working pressure

(2) Pressure Reducing Valve

The valve shall be suitable for water application and shall conform to relevant BIS standard. The valve should be installed in a vertical portion on horizontal line. In all cases, a stop valve should be installed in an easily accessible position on the inlet side of the pressure reducing valve. A safety valve and a pressure gauge must always be installed on the reduced pressure or outlet side of the pressure reducing valve. To avoid any dirt from entering the valve, it is advisable to fit a strainer on the inlet or high pressure line. The pressure reducing valve and accessories should conform to relevant BIS standard and of approved make.

(3) Butterfly Valves

The valve shall be of cast iron conforming to relevant IS:13095. The valve shall be of quality approved by the Engineer-in-charge and be of appropriate pressure rating as specified in BOQ.

MOC:

Body - Carbon Steel/ S.G. Iron
Shaft - Stainless Steel -410
Body Liner - Nitrile rubber
Disc - Epoxy coated S.G. Iron



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(4) Taps and Mixers

Bib or mixer taps shall be fixed to sinks, lavatory basins, bathtubs and showers and as shown on the drawings and/or specified under the Sanitaryware schedule.

The Contractor must ensure that the installed taps and mixers are not damaged or mishandled till the handing over of the installation.

9.0 TESTING AND COMMISSIONING

9.1 GENERAL

The Contractor shall be responsible for testing and commissioning the entire services installation described in these specifications and will demonstrate the operation of the system of the entire Satisfaction of the Engineer-in-Charge and to the Owner approval.

9.2 METHOD OF TESTING

The test on various services shall be carried out as described herein as described in relevant Indian Standards and British Standards and also as directed by the Engineer-in-Charge. The carrying out and recording of tests shall be agreed with the Engineer-in-Charge.

9.3 WATER FOR TESTING

Water for testing shall be obtained by the Contractor from an approved source. It shall be free from bacterial contamination silt, grit, sand etc. After testing, the Contractor shall satisfactorily dispose off all water, or it may be re used providing it is clean and is not contaminated.

9.4 TEST RECORDS

The Contractor shall be responsible for the keeping all records of tests and on completion shall provide records and reports of the tests in triplicate. All test records shall clearly identify the item of the test and must be signed by the Contractor's authorised representative and Engineer-in-Charge.

9.5 UNSATISFACTORY WORKS

If the tests reveal unsatisfactory materials, installation or adjustment, the Contractor shall, at his own expense, carry out such alternations or replacements as may be necessary to rectify the defective work. The Contractor shall then repeat the tests as necessary to establish the satisfactory nature of the alterations or replacements.

9.6 TESTING AT WORKS

All plants and equipments shall be tested at manufacturer's works before dispatch and the test certificate in duplicate shall be forward to Engineer-in-Charge.

The Contractor shall similarly provide a set of manufacturer's certified test curves for any pump installed under the Contract.



All tests shall be in accordance with the appropriate Indian Standards and British Standards as applicable.

9.7 ON SITE TESTING

The Contractor shall provide onsite all the necessary instruments, plant, equipment, materials, water, electricity and labour necessary for carrying out the specified tests. All tests shall be carried out as required to meet the construction programme and the Contractor shall include for all necessary isolation and other works as may be required for testing the whole or parts of the installation. The Contractor shall also be responsible for re-testing, if necessary, until satisfactory tests are achieved.

9.8 TEST PRESSURES

Pipe Line	Test Pressure	Period	Method
Water Mains, Fire Mains & Water Services.	5 kg/sq.cm. or maximum working pressure plus 50 percent whichever is greater.	2 Hours	Hydraulic Pressure Test
Foul Drainage above ground	i) Not more than 4.5 M head in any section	2 Hours	Hydraulic Test
	ii) 75 mm water gauge	3 min.	Air Test

9.9 TESTING OF VARIOUS SERVICES

(1) Water Services

Before the pipes for water supply are painted or covered they shall be tested to a hydraulic pressure of 5 kg/sq.cm or maximum working pressure plus 50 percent whichever is greater. Pressure shall be maintained for atleast 2 hours without appreciable drop in pressure. In addition to the sectional testing of water supply pipes, the Contractor shall test the entire installation on completion of the job to the entire satisfaction of the Engineer-in-Charge. The Contractor shall rectify all leakages and restore damage done to the building and furniture at his own cost.

(2) Above Ground Foul Drainage

All soil, waste and vent pipes shall be tested by filling up the whole or part of stack with water. All openings for



connections, etc. shall be suitably plugged. The total head shall however not exceed 4.5 metres.

Contractor shall remove and replace all pipes having holes, cracks etc. All leaking joints and access doors shall be replaced or remade to the entire satisfaction of the Engineer-in-Charge. Water shall be retained in stack for a minimum period of 2 hours. After all plumbing fixtures are installed. Contractors shall apply the smoke test to the entire stack to the satisfaction of the Engineer-in-Charge.

9.10 FLUSHING OUT AND STERILISATION OF PIPEWORK AND TANKS

It is essential that all internal water services, external mains and tanks are thoroughly flushed out prior to being put into service and that drinking and domestic water services mains and tanks are sterilised in accordance with clause 13 of IS : 2065-1983 - Code of Practice for Water Supply in Buildings.

The Contractor shall be responsible for making any temporary pipe work connections required.

Following completion of sterilisation of every part of the drinking and domestic water system, the Contractor is to ensure that satisfactory bacteriological samples are obtained and tested at an approved laboratory and the result approved by the Engineer-in-Charge prior to completion of the contract and handing over to the Owner.

10.0 OPENING AND CLOSING OF CUTOUTS:

The contractor shall utilise specified cutouts and sleeves provided during the construction to prevent the breakage. The annular space in between the pipes and sleeves shall be filled and tighten by using the approved and guaranteed fire retarded sealant. In case of sleeves or cutouts are misplaced or not located then the contractor will make the provision for cutouts or sleeves in walls, columns, slab etc at his own cost, with prior permission of the Engineer-in-charge. Nothing extra shall be paid to the contractor on this account for making and sealing the cutouts and sleeves.

No cutout or sleeves shall be provided in walls, slabs, terraces after completion of water proofing or finishing works only on the approval of the Engineer-in-charge such cutouts or sleeves may be provided, and the work will be finished by the contractor with necessary water proofing membrane as directed by the Engineer-in-charge at his risk and cost.

11.0 CLAMPS, SUPORTS AND FASTENERS:

In all types of work all supports, hangers and clamps to be fixed on RCC beam, walls, columns, slab, boundary wall and piers by means of approved galvanized expandable anchor fasteners in drilled hole of correct size and should be sufficiently strong to carry the load of pipes etc. Drilling should be done by approved power drill as recommended and approved by the manufacturers of anchor fasteners. Failure of any fastening device shall be the entire responsibilities of the contractor and he will replace such



defective fasteners at his own cost. Engineer-in-Charge in the interest of work may use such clamps, fasteners, hangers etc for other services also.

The Engineer-in-Charge may modify the design and utilization of clamps, hangers, supports, fasteners.

12.0 LIST OF APPROVED MAKES/MANUFACTURES OF MATERIALS

NOTE : All Brand Names/Manufacturers are Indian unless specified otherwise.

S.NO.	MATERIAL	BRANDNAME / MANUFACTURER
A.	Sanitary Fixtures and Faucets	
	Owner's Supply	
B.	Pipes and Fittings (ISI Marked or Approved Quality)	
1.	Hubless Centrifugally Cast Iron Soil, Waste & Vent Pipes and Fittings	a)PAM by Saint Gobain
2.	UPVC Soil, Waste & Vent Pipes and Fittings	a) Supreme b) Ashirvad c) Jain Irrigation
3.	CPVC Pipes and Fittings	a) Ashirvad b) Finolex c) Jain Irrigation
4.	Galvanized Steel Pipesconforming to IS:1239	a) Tata b) Jindal (Hissar)
5.	Galvanized Malleable Cast Iron Fittings conforming to IS:1879	a) Unik Brand b) Zoloto-m
6.	Synthetic Polymeric Rubber Compound insulation	a)Vidoflex b)Superlon c)Kaiflex d)Aeroflex
7.	GRP Glass Cloth	a) Parafab b) Indiana Polycoat c) Cischem Solutions
8.	Adhesive paint	a) Paramount Polycrete Chemicals Pvt. Ltd. b) Cischem Solutions
9.	Ball Valves	a) RB, Italy b) Arco, Spain c) Zoloto



- d) Legris
- e) Enolgas
- f) Giacomini
- g) Sant

S.NO.	MATERIAL	BRANDNAME / MANUFACTURER
10.	Butterfly Valves	a) Audco b) KSB c) Advance d) L&T e) SKS
11.	Water Level Controllers	a) Enolgas b) Switzer c) Cirrus d) Belimo
12.	Pressure Reducing Valve	a) SKS b) R.B, Italy c) RBM, Italy d) Zoloto e) Sant
13.	Casted Gratings, etc.	a) GMGR b) Neer c) Flowmax d) Marvel
14.	Stainless Steel Gratings.	a)Chilly b) Camry
15.	Expansion Bolts	a)Hilti b)Bosch c) Mupro
16.	Pipe supporting/ fixing system components	a)Chilly b)Camry c)Mupro
17.	Paint / Primer	a) Shalimar b) Asian c) Nerolac

Note :

The Contractor shall provide the materials as per the MAKE or BRAND indicated above. When two or more alternative brands have been mentioned, the brand to be finally used shall be as decided by the Engineer-in-Charge; and Contractor shall have no claims of any nature.

PREAMBLE TO BILL OF QUANTITIES

The Bill of Quantities should be read with all the other sections of this tender. All the items of work mentioned in the Bill of

For SCENARIO INDIA

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[Signature]

Partner

Quantities covered by this contract shall be carried out as per the drawings, specifications and directions of the OWNERS and shall include the cost of all labour, materials, tools and plants, Machinery / equipments, all form works, scaffoldings, pouring, vibrating, curing of concrete etc. and wastages etc. and testing of materials, if any, with CONTRACTOR's testing appliance, all octroi, duties, royalties, sales tax on works contract, toll tax, taxes and CONTRACTOR's profit and overheads etc.

- 13.2 The TENDERERS shall be deemed to have studied the drawings, specifications and details of work to be done within the time schedule and to have acquainted himself of the conditions prevailing at site. The quoted rates shall be applicable for all works in any section / size / shape and Design etc.
- 13.3 The quantities shown against the various items are only approximate. Any increase or decrease in the quantities shall not form the basis for alteration of the rates quoted and accepted.
- 13.4 In case where the specifications given in the Description of the item of work given in Bill of Quantities are found wanting, the C.P.W.D. specifications - 2009 (with upto date corrections slips) shall be followed; where not specified the latest edition of relevant I.S. Specifications shall be applicable. In case of any ambiguity in interpretations, the OWNERS decision shall be final and binding.
- 13.5 The rates quoted for items of work shall include all costs for:-
- a) Working in all conditions in all floors at all heights / depths including in / under water, liquid mud, foul conditions etc. and shall also include bailing or pumping out water from the foundations basements or any other place of construction collected from rain or any other source whatsoever at any time, till the completion of work including all suspension period and delays whatsoever.
 - b) Cutting chase / openings / holes etc. and making good in brick / R.C.C. walls and floors R.C.C. slabs etc. as necessary and restoring the cutouts to their original finish whether explicitly mentioned in the item or not;
 - c) Sealing joints of opening, chase cutting with approved water proofing materials.
 - d) disposal of surplus earth and any dismantled R.C.C. / Cement concrete rubbish or malba etc. outside the site premises;
 - e) all form work for any size, section, thickness, and for all heights and all depths, curing of cement concrete / R.C.C. work and all works wherein cement is consumed.
 - f) Supplying, storing and safe handling of all fixtures and fittings.
 - g) Providing all necessary approved fittings and accessories. Accessories to be supplied to match the fixtures.



- h) Effecting proper inlet, outlet, joints and slopes as required.
 - i) Testing, cleaning, of all sewer, soil , waste, vent, storm water drainage & water supply lines and dis-infection of water supply system etc. as called for in the specifications.
 - J) Providing necessary supports, brackets, for the support of pipe wherever required.
 - k) Cutting and making good the same with necessary water proofing or sealant wherever required.
 - l) All lead caulk jointing for HCI pipe work including cost of the lead, cutting of pipe and clamps etc. complete in all respects.
 - m) Any item of work where steel reinforcement is used, shall be inclusive of cost of necessary supply & laying of steel reinforcement, shutterings& cement concrete of specified grades.
 - n) All necessary C.P. Brass / Galvanised M.S. screws / P.V.C., expandable dash fasteners etc. including drilling holes in walls / R.C.C. / Masonry / Wood Work etc. for installation & fixing purposes, as required.
- 13.6 All the items of work shall be carried out as per description given in the Bill of Quantities and as shown in the drawings. All materials to be got approved from the OWNERS.
- 13.7 The OWNER reserves the right to with draw from the scope of work and/or to order to any other agency for any item or group of work, or to split the work between two or more SUB-CONTRACTOR's if necessary. Such a step shall not constitute a breach of the contract.
- 13.8 For all items of work the rates shall be comprehensive and all inclusive. The rates shall include for all materials and things necessary for satisfactory completion and maintenance of the work in proper working order and to the satisfaction of the Engineer-in-charge, including testing, making samples etc., and all that have been indicated in the Specifications or other Tender Documents either directly or indirectly and cover for all obligations of the Contractor under the Contract. No claim for additional payment shall be allowed for any error or misunderstanding by the Contractor of the work involved.
- 13.9 Unless otherwise mentioned in the description of the item, this Bill of Quantities shall be applicable for work at any height/depth, position or condition, at all floors, in all shapes, sizes etc.
- 13.10 Unless otherwise stated, method of 'measurement' as described in the latest 'Specifications' of CPWD-2009 (with up-to-date correction slips) shall be followed. In case of any dispute in



this regard, the Engineer-in-charge decision shall be final, binding and conclusive.

- 13.11 The following notations have been used throughout the Bill of Quantities and Rates:

m/M	Running Metre
Sqm	SquareMetre
Cum	Cubic Metre
mm/MM	Millimetre
No.	Number/Numbers
Dia.	Diameter
Kg.	Kilogram/s
T.	Tonne
L.S.	Lump Sum
Pt.	Point
Rs.	Indian Rupees
ND	Nominal internal Diameter of pipe (mm)
%	Percent.

- 13.12 Rate to be quoted both in words and figures - Where the rates quoted in figures and words differ, the rates quoted in words shall be taken as authentic.

- 13.13 In the event of error occurring to the amount column of Bill of Quantities as a result of wrong extension of unit rate, the unit rate quoted shall be taken as firm and the extension shall be amended on basis of the rate quoted.

- 13.14 All error in totalling in the amount column and in carrying forward totals shall be corrected by the OWNER. Any error in description or in quantity or omission of item from the Bill of Quantities shall not vitiate this contract, but shall be corrected and deemed to be a variation required by the OWNER.

13.15 TRADE PREAMBLE

2. Pipe work



SOIL, WASTE AND VENTILATION PIPEWORK

- Pipework is to be measured in running meters nearest to a cm as fixed or laid. The length shall be taken along the center line of the pipes over all the fittings, such as bends, tees, junctions, all with or without doors, door pieces, cowls, etc. which shall not be measured separately.
- The rate shall be include the cost of materials and labour involved in supplying, fixing with holder bats & MS stays, laying underground, cutting

holes, chases in walls, floors and painting with two or more coats of paint of approved quality and shade.

c) Floor Traps

Floor traps shall be measured by number. The rate shall be inclusive of supplying of trap and grating, setting, in concrete and connecting branch pipes to it.

G. I. PIPES FOR WATER SUPPLY (EXTERNAL)

- a) Pipe work is to be measured in running meters nearest to a cm for the finished work, which shall include G.I. fittings such as bends, tees, elbows, reducers, crosses, plugs, sockets, nipples and nuts but shall exclude brass or ornamental taps, valves, etc.
- b) The rate shall be inclusive of the cost of materials and labour, excavation and earth work and painting pipes with two coats of anti-corrosive bitumanistic paint and surrounding with Yamuna sand 150 mm all around

CPVCPIPES FOR WATER SUPPLY (INTERNAL).

- a) As a) above.
- b) The rate shall be inclusive of cost of materials and labour, cutting holes and chasing in walls and floors and making good the same, providing sleeves etc.
- c) The rate shall be inclusive of providing 'Identification and Labeling' of pipes with the colour coded bands.
- d) Insulation of hot water pipes shall be paid separately.

3. Valves, cocks and other Appurtenances

Appurtenances like valves, water meter etc. shall be measured in number. Rates shall include -

- a) testing and checking of appurtenances and fittings before taking delivery of the same.
- b) delivering the appurtenances to the specified storage area at site;
- c) lowering the same into specified support (including providing the



support) jointing, fitting and fixing true to line and level including repairing of protective coating, if necessary; and

- d) providing all equipment labour and materials necessary to carry out the above works complete in all respect as specified and/or instructed.
- e) Insulation of valves shall be paid separately.

4. Sanitary Fixtures & Faucets

All sanitary fixtures and faucets of specified trade mark or equivalent shall be paid by number. The rate shall include fixing components, brackets, screws and any other specials required, cutting holes in walls and making good the same.

The rate shall also be inclusive of painting R.S. or M.S. brackets for cisterns, wash basin, sinks etc. with one coat of red oxide and two coats of epoxy paint of approved shade and quality.



For SCENARIO INDIA

 Partner

14.0 LIST OF DRAWINGS

SL. NO.	DRAWING NO.	DRAWING NAME
TOWER -1A-B		
1.	KES-1445-P-102	TYPICAL FLOOR PLAN
2.	KES-1445-P-103	TERRACE PLAN
3.	KES-1445-P-104	WATER SUPPLY DISTRIBUTION DIAGRAM
TOWER -1C-D		
4.	KES-1445-P-202	TYPICAL FLOOR PLAN
5.	KES-1445-P-203	TERRACE PLAN
6.	KES-1445-P-204	WATER SUPPLY DISTRIBUTION DIAGRAM
TOWER -11A-B		
7.	KES-1445-P-302	TYPICAL FLOOR PLAN
8.	KES-1445-P-303	TERRACE PLAN
9.	KES-1445-P-304	WATER SUPPLY DISTRIBUTION DIAGRAM
TOILET DETAIL		
10.	KES-1445-P-01	TYPICAL TOILET-1 (TYPICAL FOR TOWER 1A-B, 1C-D & 11A-B)
11.	KES-1445-P-02	TYPICAL TOILET-2 (TYPICAL FOR TOWER 1A-B, 1C-D & 11A-B)
12.	KES-1445-P-03	TYPICAL TOILET-3 (TYPICAL FOR TOWER 1A-B, 1C-D & 11A-B)
13.	KES-1445-P-04	TYPICAL TOILET-4 (TYPICAL FOR TOWER 1A-B, 1C-D & 11A-B)



For SCENARIO INDIA

 Partner

**PROJECT : GROUP HOUSING "THE AMARYLLIS" AT CENTRAL
SUMMARY OF 1A,B,C,D,11A,B,AND 10 A,B,C**

S.NO.	DESCRIPTION	AMENDMENT 1
1.00	SANITARY FIXTURES (FIXING RATE ONLY)	58,00,440.00
2.00	SOIL, WASTE & VENT AND RAIN WATER AND FITTINGS	6,24,15,454.00
3.00	WATER SUPPLY	3,08,41,393.00
4.00	MISCELLANEOUS ITEMS	46,44,000.00
TOTAL		10,37,01,287.00



A handwritten signature in blue ink is positioned to the left of a circular blue stamp. The stamp contains the text "B. S. S. & S. LTD." around the top edge, "NEW DELHI" in the center, and a small star at the bottom.

For SCENARIO INDIA



A handwritten signature in blue ink, appearing to be "S. S.", is written over the text "For SCENARIO INDIA".

Partner

SUMMARY OF 1A,B,C,D,11A,B, AND 10A,B,C

S.NO.	DESCRIPTION	UNIT	BOQ		
			RATE	QUANTITY	AMOUNT
1.0	SANITARY FIXTURES, FAUCETS & TOILET REQUISITES (FIXING RATE ONLY)				
1.1	Fixing vitreous wall hung china water closet without cistern complete with seat and cover, including making connection with soil pipe, cutting and making good the walls and floors wherever required.	Nos.	1,000.00	1,224.00	12,24,000.00
1.2	Fixing wall concealed W.C cistern, making inlet and outlet connections with water supply and W.C. pan respectively, cutting and making good the walls wherever required.	Nos.	300.00	1,224.00	3,67,200.00
1.3	Fixing vitreous china wash basin including waste outlet, bottle trap with unions, complete including making connection with water supply pipe and waste pipe, cutting and making good the walls and floors wherever required.				
	a) Under Counter / Counter Top Fitting	Nos.	575.00	1,104.00	6,34,800.00
	b) Flat back wall mounted fitting	Nos.	600.00	R/O	
1.4	Fixing of Kitchen sink with drainboard complete with waste outlet including making connection with waste pipe, cutting and making good the walls wherever required.				
	Material :Stainless Steel	Nos.	600.00	480.00	2,88,000.00
1.5	Fixing of full turn conventional single hole mixer set for wash basin.	Nos.	130.00	1,104.00	1,43,520.00
1.6	Fixing of wall-mounted Kitchen sink mixer with swivel spout and wall flange.	Nos.	130.00	480.00	62,400.00
1.7	Fixing of 4-way concealed diverter mixer fitting including making connections with water supply, cutting and making good the walls wherever required.	Nos.	475.00	1,224.00	5,81,400.00
1.8	Fixing overhead shower rose/ rain shower/ hand shower complete with arm/ flexible cord and wall flange.	Nos.	175.00	1,224.00	2,14,200.00
1.9	Fixing bath spout with wall flange including cutting and making good the walls wherever required.	Nos.	125.00	1,224.00	1,53,000.00
1.10	Fixing of angle valve complete with wall flange with 45 cm long copper connection pipes, nuts etc. including cutting and making good the walls wherever required.	Nos.	100.00	7,800.00	7,80,000.00
1.11	Fixing health faucet complete with flexible tube and wall hook, including cutting and making good the walls wherever required.	Nos.	130.00	1,224.00	1,59,120.00
1.12	Fixing of electric geyser on wall including making connections with hot and cold water supplies, cutting and making good the wall wherever required.	Nos.	700.00	1,704.00	11,92,800.00
	TOTAL for "Sanitary Fixtures (Fixing Rate Only)				58,00,440.00
2.0	SOIL, WASTE & VENT AND RAIN WATER PIPES AND FITTINGS				
2.1	Providing, jointing and fixing Hubless Centrifugally Cast (Spun) Iron Soil, Waste and Vent System				
	a) 50 mm dia (Landed cost 474.36)	M	1,209.00	5,290.00	63,95,610.00
	b) 100 mm dia (Landed cost 631.71)	M	1,700.00	15,150.00	2,57,55,000.00
2.2	Providing & fixing UPVC soil, waste, vent pipework comprising UPVC pipe conforming to IS : 13592 - Type B/ IS :4985-1983 (6 kg/cm ² , Class III) and fittings (moulded as well as fabricated) like elbows, bends, reducers, threaded tail pieces, caps and and other specials. jointing with cement solvent, chasing, cutting and making good the walls, complete in all respects including testing of complete installation.				
	a) 40 mm dia OD	M	140.00	1,605.00	2,24,700.00
2.2A	Providing & fixing adaptors for making connections to dissimilar materials (UPVC pipe with C.I. Hubless Pipe), chasing, cutting and making good the walls, complete in all respects including testing of complete installation of following make or equal approved.				
	a) 40 mm - 50 mm dia	Nos.	270.00	528.00	1,42,560.00
2.3	Providing and fixing of floor traps formed of Hubless Cast Iron 'P' traps, with supporting brackets all complete including cost of cutting and making good the walls and floors wherever required of following make or equal approved. (Floor trap grating will be paid separately as per relevant item)				
	a) 100 mm inlet and 100 mm outlet (Landed cost 1103.95)	Nos.	1,950.00	552.00	10,76,400.00



For SCENARIO INDIA

Partner

S.NO.	DESCRIPTION	UNIT	BOQ		
			RATE	QUANTITY	AMOUNT
2.4	Providing and fixing of vortex floor traps formed of Hubless Cast Iron 'P' traps, having 03 nos. side inlets suitable for 50mm inlet pipe connections, all complete with support brackets complete including cost of cutting and making good the walls and floors wherever required of following make or equal approved. (Floor trap grating will be paid separately as per relevant item).				
	a) 100 mm inlet and 100 mm outlet (Landed cost 4248)	Nos.	8,000.00	576.00	46,08,000.00
2.4 "A"	Providing and fixing of vortex floor traps formed of Hubless Cast Iron 'P' traps, having 03 nos. side inlets suitable for 50mm inlet pipe connections, all complete with support brackets complete including cost of cutting and making good the walls and floors wherever required of following make or equal approved. (Floor trap grating will be paid separately as per relevant item).				
	a) 100 mm inlet and 100 mm outlet (Landed Cost 6106.5)	Nos.	11,500.00	624.00	71,76,000.00
2.5	Providing and fixing of Hubless Cast Iron special fitting for single stack system including End Cap for covering spare ports and making branch connections, all complete with supporting brackets complete including cost of cutting and making good the walls and floors wherever required of following make or equal approved.				
	a) 100 mm inlet and 100 mm outlet (Landed cost 5841)	Nos.	10,800.00	528.00	57,02,400.00
2.5 "A"	Providing and fixing of Hubless Cast Iron special fitting for single stack system including End Cap for covering spare ports and making branch connections, all complete with supporting brackets complete including cost of cutting and making good the walls and floors wherever required of following make or equal approved.				
	a) 100 mm inlet and 100 mm outlet (Landed cost 4779)	Nos.	8,836.00	594.00	52,48,584.00
2.6	Providing and fixing floor drain points formed out of Hubless Cast Iron 100 X 50 mm dia reducer, 50 mm elbow with suitable extension piece all complete as per standard detail including cost of cutting and making good the walls and floors wherever required of following make or equal approved. (Landed cost 132.75)	Nos.	240.00	672.00	1,61,280.00
2.7	Providing and fixing 70 mm dia round stainless steel grating with square frame embedded in floor, all complete of following make or equal approved Model: SS003	Nos.	140.00	480.00	67,200.00
2.8	Providing and fixing 125 mm dia round stainless steel grating with square frame embedded in floor, all complete of following make or equal approved Model: SKS05	Nos.	230.00	2,424.00	5,57,520.00
2.9	Providing, jointing and fixing UPVC Rain Water System. a) 110 mm OD (6kg/cm2) (Landed Cost 179.42)	M	500.00	8,320.00	41,60,000.00
2.10	Providing, and fixing in position UPVC reducer adaptor, rubber packing etc. for interconnection between dome grating and UPVC. waste header / downtake with all necessary specials complete, cutting and chasing walls, floors, etc. and making good the same	Nos.	350.00	162.00	56,700.00
2.11	Providing and fixing stainless steel 125 mm X 125 mm square vertical grating fixed in wall / floor for balcony rain water outlet, complete of following make or equal approved Model: VG005	Nos.	250.00	1,742.00	4,35,500.00
2.12	Providing and fixing screwed down type cast iron body with aluminium ring and aluminium dome grating with ss screw and coupler for connecting to the stack for rain water pipe and other necessary fittings including jointing, all complete. (for rain water outlets at terrace), of following make or equal approved. a) For 100 mm dia pipe Model : NDG 1002	Nos.	4,000.00	162.00	6,48,000.00
2.13	Providing and fixing of Hubless Cast Iron special fitting for WC connection , all complete with supporting brackets complete including cost of cutting and making good the walls wherever required of following make or equal approved. a) 100 mm inlet and 100 mm outlet (Landed cost 1593)	Nos.	3,000.00	-	-
TOTAL FOR Soil, Waste Pipework C/O to SUMMARY					6,24,15,454.00
3.0	WATER SUPPLY				
3.1	P/, i/fixing CPVC Cold and Hot Water Supply System.				
	a) 15 mm dia (Landed Cost 26.2)	M	175.00	52,585.00	98,02,375.00
	b) 20 mm dia (Landed Cost 40.60)	M	200.00	20,895.00	41,79,000.00



For SCENARIO INDIA

Partner

S.NO.	DESCRIPTION	UNIT	BOQ		
			RATE	QUANTITY	AMOUNT
	c) 25 mm dia (Landed Cost 63.20)	M	260.00	3,450.00	8,97,000.00
	d) 32 mm dia (Landed Cost 98.6)	M	380.00	2,975.00	11,30,500.00
	e) 40 mm dia (Landed Cost 135.4)	M	515.00	3,445.00	17,74,175.00
	f) 50 mm dia (Landed Cost 225.4)	M	650.00	1,990.00	12,93,500.00
3.2	P/ f Galvanized Steel pipework (At terrace level)				
	a) 20 mm dia	M	400.00	135.00	54,000.00
	b) 25 mm dia	M	490.00	665.00	3,25,850.00
	c) 32 mm dia	M	600.00	215.00	1,29,000.00
	d) 40 mm dia	M	700.00	1,530.00	10,71,000.00
	e) 50 mm dia	M	875.00	1,460.00	12,77,500.00
	f) 65 mm dia	M	1,150.00	960.00	11,04,000.00
	g) 80 mm dia	M	1,350.00	495.00	6,68,250.00
	h) 100 mm dia	M	1,600.00	78.00	1,24,800.00
3.3	P/F of Full Bore Ball Valves of approved makes.				
	a) 15 mm dia (Landed Cost 167.5)	Nos.	400.00	1,704.00	6,81,600.00
	b) 20 mm dia (Landed Cost 231.0)	Nos.	550.00	1,838.00	10,10,900.00
	c) 25 mm dia (Landed cost 359.0)	Nos.	754.00	138.00	1,04,052.00
	d) 32 mm dia (Landed Cost 613.0)	Nos.	1,288.00	4.00	5,152.00
	e) 40 mm dia (Landed Cost 892.5)	Nos.	1,875.00	175.00	3,28,125.00
	f) 50 mm dia (Landed Cost 1281.5)	Nos.	2,692.00	192.00	5,16,864.00
3.4	P/F Cast Iron butterfly valve of approved make .				
	a) 65 mm dia (PN10)	Nos.	2,750.00	12.00	33,000.00
	b) 80 mm dia (PN10)	Nos.	3,000.00	18.00	54,000.00
	c) 100 mm dia (PN10)	Nos.	3,850.00	10.00	38,500.00
3.5	Supplying and fixing pressure reducing valve, suitable for water application				
	a) 15 mm dia (Landed Cost 712)	Set	1,400.00	604.00	8,45,600.00
	b) 20 mm dia (Landed Cost 897.5)	Set	1,500.00	640.00	9,60,000.00
3.6	Providing and fixing insulation to hot water piping with extended synthetic rubber polymeric compound preformed pipe sleeves of specified wall thickness using propriety adhesive and self adhesive tapes, all as per the manufacturer's specifications.				
	a) 15 mm dia - 6 mm thickness	M	70.00	18,560.00	12,99,200.00
	b) 20 mm dia - 6 mm thickness	M	95.00	3,080.00	2,92,600.00
	c) 25 mm dia - 9 mm thickness	M	120.00	455.00	54,600.00
	d) 32 mm dia - 9 mm thickness	M	160.00	455.00	72,800.00
	e) 40 mm dia - 9 mm thickness	M	180.00	1,015.00	1,82,700.00
	f) 50 mm dia - 9 mm thickness	M	280.00	90.00	25,200.00
3.7	Extra for providing protection of pipe insulation by applying one coat of adhesive paint over insulation surface, wrapping with 5 mile GRP cloth and followed by two coats of adhesive paint of approved shade, all as per specification and complete in a workmanship like manner				
	a) 15 mm dia pipe plus insulation	M	125.00	410.00	51,250.00
	b) 20 mm dia pipe plus insulation	M	160.00	625.00	1,00,000.00
	c) 25 mm dia pipe plus insulation	M	200.00	455.00	91,000.00
	d) 32 mm dia pipe plus insulation	M	250.00	455.00	1,13,750.00
	e) 40 mm dia pipe plus insulation	M	270.00	1,015.00	2,74,050.00
	f) 50 mm dia pipe plus insulation	M	350.00	90.00	31,500.00
3.8	Water level controller in Overhead tank.				
	a) 40 mm dia (ND)	Nos.	36,000.00	6.00	2,16,000.00
	b) 50 mm dia (ND)	Nos.	38,000.00	6.00	2,28,000.00
	TOTAL of "Water Supply" carried over to SUMMARY				3,08,41,393.00
4.0	MISCELLANEOUS ITEMS				
4.1	Making core cut in the slab, beam, column etc. for diiferent dia pipes by core cutting machine and making good and water tight the space between pipe and the structure with concrete. The annular space between the pipe and the sleeves shall be sealed (upto a minimum depth 25 mm) with fire resistant acrylic based sealent of approved make and quality.				
	a) 100 mm dia	Nos.	500.00	2,064.00	10,32,000.00
	b) 150 mm dia	Nos.	750.00	4,816.00	36,12,000.00
	TOTAL for "Miscellaneous items"				46,44,000.00



For SCENARIO INDIA

Partner

S.NO.	DESCRIPTION	UNIT	BOQ		
			RATE	QUANTITY	AMOUNT
	GRAND TOTAL				10,37,01,287.00

Note : Freight to be paid extra over landed cost.



For SCENARIO INDIA

[Signature] Partner