FOR REDEVELOPMENT WORK OF

THE YOJANA CO-OP.HSG.SOC.LTD

AMENITIES LIST

Name & Address of Applicant to whom, tender is issued: -

_____

_____

_____

Issued by: _____

Prepared By Redevelopment Coach cum PMC:

TOUGHCONS NIRMAN PVT. LTD.

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Signed & Sealed by the Bidder

SCOPE OF WORK

- *The general character and the scope of work to be carried out under this contact are illustrated below.*
- *All the works shall be carried out with the best workmanship and the best materials.*
- *The developer shall carry out and complete the said work under this amenities list in every respect in conformity with the tender documents and with the direction of and to the satisfaction on the Society/ PMC.*
- *The Developer shall furnish all labour, materials, all tools & tackles, construction machinery, water for construction & electricity, temporary work etc. required for completion of work as described in the specifications and as per the approved construction drawings.*
- *This also includes any material, equipment, appliances and incidental work not specifically mentioned herein or noted on the drawing /documents as being furnished or installed, but which are necessary and customary to be performed under this contract.*
- *All type ofmaterials shall conform to the relevant I.S. Code.*
- *Highly skilled experienced workers shall be employed to carry out the works as per I.S. Code and MCGM rules.*
- *Changes only to the extent of the type of materials (tiles, sanitary fittings & electrical fittings)would be allowed provided it has been communicated to the Society before that respective work starts.*
- *The materials such as water, sand, metal to be used for construction purpose shall be cleaned and free from all type of impurities.*
- *River sand from approved source shall be used for entire work & should be thoroughly washedand screened before using.*
- *'Surat' sand sealed bags shall be used for brickwork, plaster, terrace waterproofing. In absence of availability of Surat sand, sand to be used should be thoroughly washed and screened before using.*
- *If stone Crete is used instead of sand for walls,brickwork, internal plaster to all internal walls except kitchen & toilets, same should be lab tested and mixed design to be used as per the lab's recommendation.*
- *The sand, if tested in laboratory should give desired results for module tests etc. 'No earth Lumps' or mud mix will be allowed. If asked by supervisory staff, the sand will have to be washed by clean water, before use.*

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Following is the list of Amenities to be provided by developer in New Flats to be constructed for existing members of the Society. Any change in base structure (R.C.C frame work) will not be acceptable; however, members can modify the finishing. Any changes in items specification will be approved by Society and consultant before execution of work. Extracost for higher specifications will be the sole responsibility of respective member to be executed by developer. ***There should be no difference in amenities, specification provided to exiting members and new members.***

- *All rooms will have height not less than 3.20 m from top of floor to top of upper floor i.e.3.05m clear height.*
- *Developer should construct and complete with all finished materials/ amenities in one flat which will be treated as sample flat for this developer has to get sanctioned from concerned members.*
- *All signages of staircase, MEP services, Fire exit, Electrical / DG, Stack parking, including pathways for better traffic movement, pedestrian signage in Stilt, basement and Podium floors should be displayed where needed.*
- *Developer to provide piped gas connections with all accessories in kitchen and Gas geyser in each toilet without any extra cost.*
- *Notice boards at decided locations.*
- *Common Antenna DTH-HD satellite connection is to be provided in new building to all flats in aseparate shaft from electrical shaft.*
- *Drain outlet, electric supply, Brackets should be provided for Split AC for all rooms as per Society' recommendation.*
- *Lightning arrestor should be provided with proper earthing.*
- *All the piping, cabling and drain piping shall be done by the developer.*
- *No member shall be allowed to puncture / drill / core cut on a later date without a written permission from the concerned authority.*
- *For each living room and bedrooms AC unit's outdoor units, brackets, provision in toilet shaft for drain out including location of outdoor unit connected to common down take, electrical supply provision should be made by the developer during construction.*
- *The position of outdoor units shall be in Toilet shafts. No outdoor unit shall be placed over Chajjas / platform as this will spoil the elevation of the building.*
- *Toilet shafts shall be properly sized with service platform. Each floor toilet shafts shall be withlight and socket for service technicians on a later date.*
- *Required provisions for Solid waste management shall be provided on the ground floor in one corner subject to authority's approval.*
- *Gas pipeline connection to be obtained for all flats including members and sale flats for members to be obtained by the developer.*
- *All the provisions for vermicomposting based on the estimated load of waste shall be provided by the developer.*

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Section - 1:

General Civil Works

A) EARTH & ALLIED WORK

- *All setting out work (site rail fixing, centreline marking) pertaining to building layout.*
- *Minor Excavation by mechanical / manual means in all types of earth with all leads &lifts, carting away earth at designated place within site or outside the site including debris disposal permission.*
- *Cleaning, dressing, removing surplus earth including necessary shoring, strutting and disposing the collapse earth within site of excavated area.*
- *Dewatering of both ground and surface water (manually/ mechanical means), removal of slurry generated during execution of RCC work and keeping the area free of water etc. complete.*
- *Earth filling as back filling in rafts, foundation pits, life pits, trenches for drains, underground sumps etc. with excavated granular soil in layer of 150-200 mm including watering, ramming, compaction etc. complete. (NOTE: approved soil (murrum) brought from outside if not available on site by contractor)*
- *Earth filling in plinth and surrounding ground with approved soil (murrum) in layers of 150-200mm including watering, ramming, compacting, consolidating, etc. complete with earth brought from outside for the work.*
- *230mm/ 150mm rubble soling (hand broken rubble) wherever required over quarry dust cushion of 50mm including base preparation by mechanical compaction and smaller pebbles for void filling, quarry dust for binding, watering, packing, compacting etc. complete.*
- ***Anti-termite treatment to plinth and foundation with ten years guarantee on Rs. 200/- stamp paper in accordance with relevant IS code and specialized agency.***
- *Stilt area to have level 6" higher than average final formation level as per the drawing as per the site condition.*

Soil Test: *-*

- *Developer has to get the soil tested from 'Soil Expert' for design of foundation.*

Wood Work: *-*

- *Sal/Red meranti to be used in the work shall be well seasoned free from knots, free from wood borers, white ants and shall have cut from full grown tree.*
- *All the ingredients such as water, oil contained etc. shall conform to the 'standard code'*

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Reinforcement:-

- *Reinforcement steel to be Factory coated or treated with passivators / cross linking Epoxy.*
- *The steel reinforcement will be cold twisted steel bars conforming to IS 1786 and hot rolled mild steel deformed bars conforming to IS 1139 of Fe-500.*
- *Cutting and bending of reinforcement shall conform to IS 2502.*
- *Grade and Diameter as stipulated in the detailed RCC Design; the steel shall be TESTED.*
- *The test Certificate shall be submitted to Society and consultant engineer whenever new stock arrives at site.*
- *Society's PMC may test the sample from any approved laboratory.*
- *Rerolled steel should not be used in entire redevelopment.*
- *Best quality steel plates, steel supports, steel purlins, pins shall be used.*
- *Only steel adjustable cross "Mundas" shall be used for centering work.*
- *Reinforcement steel of high yield strength ribbed bars of grade Fe 50 for reinforced concrete works of various diameters at all levels (footing to terrace) and places wherever needed/ specified.*
- *The developer shall do unloading of steel from lorry, shift to steel yard, stacking, diameter wise, cleaning of steel by wire brush, cutting, bending as per approved bar bending schedule.*
- *fabricating and placing in position according to approved drawings including supply and use of 18 gauge GI binding wire double fold to tie bars in position, pre cast cement/ PVC cover blocks for main reinforcement to ensure specified cover.*
- *Welding of steel bars wherever required*
- *If lapping of steel found inadequate as per approval from structural consultant etc.*
- *Developer will be allowed to use mechanical coupler for dia 25mm & above in lieu of lap.*
- *STP floor finish will be done in IPS pattern with 300mm X 300mm tile marking.*

B) PLAIN/REINFORCED CEMENT CONCRETE WORK:

- *Cement of '53 Grade' of approved make shall be used for R.C.C.*
- *It shall be of approved make,for plastering, masonry and tiling purposes', 43 Grade of approved make shall be used.*
- *53 Grade shall confirm to IS 12269, while 43 Grade shall confirm to IS 8112.*
- *If insisted by RCC consultant or soil expert, Sulphate resistance cement will have to be used.*
- *In case of RMC, one grade higher than the structural design requirements should be used on site in work.*
- *'Curing' for - 21 days is needed for RCC work.*

Structural Concrete:

- *RCC design shall conform to latest IS code to withstand Seismic load as per Seismic Zone III reference to the Earthquake stability.*
- *The RCC work shall be carried out strictly as per the RCC drawing and schedule, supplied by RCC consultant.*
- *All lap, bindings, bonds, chairs shall be as per the 'Standard drawing' supplied by the RCC Consultant.*
- *No concreting will be done unless reinforcement is verified and certified by RCC consultant (with society consent).*
- *All RCC drawings will have to be verified by Consultants, before execution of work.*
- *Necessary frame work will also have the approval of Society consultant.*
- *PCC (M10grade) of ness specified on approved construction drawings, below the raft, column footings, core walls, catch pits, lift pits, trenches for drains, underground sumps with pump room, sewage treatment tank, stack pit etc. and wherever specified using ready mix concrete brought from outside of grade M10 including base preparation, curing and shuttering etc.*
- *PCC (M10 grade) as plum concrete of maximum average ness 250mm (40% concrete / 60% plum reasonable size) required to be carried out as per strata lieu of PCC or recommended by consultant using ready mix concrete brought from outside of grade m10 for concrete including base preparation, compaction, levelling, all leads & lifts, rough finishing of the top surface, curing and shuttering if necessary etc.*
- *PCC (M15) of specified ness in plinth as per approved construction drawings using ready mix concrete brought from outside of grade M15 including base preparation, compaction, curing and shuttering etc. over rubble soiling.*
- *RCC work in substructure of specified grade (M40) for structural member (footings, rafts, columns in foundation, tie beams (if required), plinth beams, pardi for lift pit, walls for sewage treatment tank & pump room, stack pit etc.) using ready mix concrete brought from outside including compaction by mechanical means, curing, scaffolding and staging/platform for concreting etc.*

- *All sides of beams (Moulds) shall be of plastic coated best quality waterproof ply with cross bracing for shuttering (metal shuttering).*
- *All RCC works below plinth level to be treated with two layers of brush applied hot bitumen or alternatively with two coats of shalimastic HD over one coat of TARSTIL primer of Shalimar tar products.*
- *Columns shall be wrapped in Hessian cloth for proper curing.*
- *De-centering shall be done strictly as per the RCC consultant's instructions andas per I.S Code.*
- *All RCC slabs and beams shuttering should be covered with plastic sheet before laying of reinforcement to make concrete water tight.*
- *RCC work in superstructure of specified grade for structural member (columns, beams, slabs, pardi, staircase waist slab & landing slab, steps, staircase pardi, lintels, chajja, architectural elevation features, lift machine room slab, parapet wall, lift shear wall, lofts, copings, terrace elevation feature, overhead water tank, lift machine room slab, etc.) at all the levels (plinth to terrace) using ready mix concrete brought from outside including compaction by mechanical means, curing, scaffolding and staging/platform for concerting etc.*

  Grade of Concrete: M40 for entire substructure work & superstructure columns

  Grade of Concrete: M30 for substructure beams & slabs

  Grade of Concrete: M30 for OHWT, LMR & Parapet wall.

Testing Of Cement, Concrete, Etc: -

- *Testing of cement concrete, etc. shall be done at each level.*
- *Test cubes shall be tested in approved laboratory preferably at Bhagubhai Mafatlal Polytechnic, Irla or from Sardar Patel Engineering College, Andheri, Mumbai.*
- *The material purchased for construction by the developer and brought at site (for use)shall, be tested and certified by NABL accredited recognized testing labs.*
- *Testing charges shall be borne by the developer, which includes transport and any other charges.*
- *The results obtained to be submitted to consultant and Society.*
- *If there is any defector failure in results, that concerned work will have to be redone at risk and cost of Developer.*

Formwork / Shuttering Work

- *Formwork / Shuttering work in substructure / superstructure for all structural member at all levels (footing to terrace) to get fairly finished*
- *concreting at all levels and places wherever needed*
- *specified including de-shuttering with 12mm water resistance ply-board/3mm MS sheet (subject to inspection & acceptance by Engineer -in-Charge)*

- *shuttering with adjustable steel props to full height without joints and with sufficient bracing etc.*

***Use Of Admixtures**: -*

- *Quality admixtures and Poly propylene fibres should be added while concreting.*
- *Glass fibre of 12mm shall be added to concrete at a dosage of 60gm/bag of cement.*
- *The admixtures/additives brand mentioned in the list have to be used while concreting, plastering as well as water proofing as per directive from society's licensed site supervisor (site engineer).*

Concreting: -

- ***Terrace Slab** : -*
  - *Addition of 120 gm glass fibre / bag of cement with special hydrophobic admixture.*
  - *Terrace slab shall be laid to slope of 1:80 to ensure easy drainage of rain water.*
- *All concreting work shall be in or M/50 grade controlled concrete, as defined in Indianstandard handbook SP-23.*
- *The design mix data has to be obtained from Bhagubhai Mafatlal Polytechnic, Irla or Sardar Patel Engineering College, Bhavans College Campus, Andheri,Mumbai or by NABL accredited recognized testing labs.*
- *Testing charges shall be borne by the developer, which includes transport and any other charges.*
- *For all concreting work Society may allow the mix with materials as designed and certified by R.C.C. consultant.*
- *However, adequate C. C. cubes as per the requirements of I.S. Specifications IS 516 and 456 have to be tested and should have satisfactory test results.*
- *Otherwise the concern concrete portion will have to be removed, recast at developers cost and risk.*
- *Maximum size of coarse aggregates shall be 20 mm and fine modules shall be 2.6 mm and above for fine aggregates.*
- *All aggregates shall conform to I.S 383 and workability of concreteshall be medium i.e. slump between 50 mm to 100mm equivalent to compacting factor of 0.9 or above as per I.S. 1199*
- *Minimum cement content per cubic meter of concrete of class shall be 360 kgs.*
- *The water cement ration shall not exceed 0.40*
- *Supply and fixing of anodic corrosion inhibitors in the concrete to be carried out.*
- *Application of deep penetrating silanesiloxane sealer shall be done to the external facia of RCC for protection.*

C) MASONRY WORK:

- *Brick masonry of specified ness at plinth level in cement mortar 1.4 (1 cement and 4 fine aggregate) with approved first quality locally available well burnt bricks with raking out joints, curing at all levels, required independent double legged scaffolding, all lead and lift of materials etc. as per specification.*
- *The external walls shall be 150mm thick Aerocon/Ashtech/ siporex /cement blocks in C.M.*
- *External AAC Block masonry of 6"thk at all levels in ready mix mortar /fixing adhesive with approved AAC block including raking out joints, curing at all levels, required independent double legged scaffolding, all lead and lift of materials etc. as per specification*
- *Common wall between two flat to be 6"AAC block masonry wall.*
- *1:4/ internal walls shall be of 100mm Aerocon/ Ashtech/siporex/cement blocks in 1:4 C.M., with RCC patli 4" thick. (with 2 Nos. 8 mm diameter bars with adequate stripes) etc. conforming IS code.*
- *Internal AAC block masonry of 4"thk at all levels in readymix mortar /fixing adhesive with approved AAC block including, raking out joints, curing at all levels, required independent double legged scaffolding, all lead and lift of materials etc. as per specification.*
- *Providing lintel beam above door frame (wherever required),*
- *150mm high concrete (M15 grade)bund below 1st course of masonry of specified pati beam for 4" masonary,*
- *hacking of concrete surface in contact with masonry,*
- *treatment of junction of masonry & concrete surface with cement*
- *CNS 50 chemical with metal fixing in gap,*
- *150mm wide PVC/fiber chicken mesh of 20 gauge over wall chase for conduit/plumbing pipes & diverter and junction of masonry & concrete surfaces with chat coat etc. as per instruction of Engineer-in-charge.*
- *No concrete /hollow Blocks to be used in any part of the building.*

D) PLASTER WORK:

External Plaster: -

- *All external face of columns, beams, and walls of stilt area to have sand faced plaster in two coasts with waterproof compound.*
- *Plaster shall be in 2 coats each of 12-15mm with 60gm glass fibre / bag of cement with special hydrophobic Additives.*
- *Sand faced cement plaster will continue up to 1" below plinth level.*
- *External sand face cement plaster shall be of 12-15mm thick (only River Sand should be used) in two coats with water proofing chemical admixtures and polypropylene Fibre ingredients of reputed manufacturers added to the mortar.*
- *1st coat of 15 mm thick of 1:4 cement sand ratio and 2nd coat of 15 mm thick of 1:3 mortar ratio.*
- *Polypropylene mesh (chicken mesh) shall be provided at all junctions of RCC*
- *Masonry to avoid probable cracks at junctions.*
- *External walls to be properly cured during plastering.*
- *All external surface of flats, exposed surface of parapets, columns at stilt level, external surface of plinth, elevation features, external surface of overhead tank.*
- *External surface of underground tanks, lift machine room, pump room, etc. to have sand faced cement plaster (25mm) in two coats with waterproof compound.*

Internal plaster: –

- *All internal walls will have Gypsum plaster.*
- *Hall and dining Ceiling will have 'Cornice' / moulding at junction between wall and ceiling / grooves at skirting level painted with the plastic emulsion paints.*
- *Internal plaster shall be of 12-15 mm thick in cement mortar 1:4 (only River Sand should be used) galvanised wire mesh/ polypropylene mesh (chicken mesh) shall be provided at all first junctions of RCC and masonry to avoid probable cracks at junctions.*
- *Ceiling plaster shall be 8mm thick cement plaster.*
- *All internal surface of service shaft flats to have sand faced cement plaster (20mm thk) in one coat with waterproof compound.*
- *All masonry work below plinth level will have 15mm single coat plaster from outside.*
- *All parking area of slab soffit at stilt area to have single coat sand face plaster to receive primer and paint.*
- *All vertical /horizontal surface of refuge flat, garbage room, sewage treatment room, pump room to have single coat sand face plaster to receive primer & paint.*
- *All top of Chajjas, lofts, flower bed, etc. to have double coat sand faced cement plaster with waterproofing compound with neat cement punning including, marking round watta along junction of wall made with small pieces of brick bats and making drip mould.*

- *Terrace, OHWT top slab to have china mosaic finish over brickbat waterproofing.*
- *Waterproofing treatment (metal coba, waterproofing plaster with neat cement punning) to inside vertical surface of underground /overhead water tank, sewage treatment tank, lift pit & stack pit.*
- *Integral waterproofing (penetron Admix; dosage -3kg/cum) treatment as per manufacturer specification to underground, water tank, sewage treatment tank, pump room.*
- *Lift pit stack pit etc. including treatment of all construction joint by making V groove, injection grouting with cement slurry mixed with penetron admix.*

PILING : -

- *The piling, if required, shall be done as per IS 2911 and shall be of minimum 300mm or 5 times dia. whichever is less socketed in hard rock.*
- *The works shall be done as per soil Consultants' recommendation as per Geo Technical Report and as per RCC Consultants design as approved by Society Consultant.*
- *Concrete mix design, enforcement details of pile cap size, reinforcement etc. to be got approved from Society, Soil Consultant and RCC Consultant.*
- *Load Test, if insisted by RCC Consultant shall beas per IS 2911 part 4 to confirm its design capacity. 2" sacrificial Covers' for piles beconsidered, if the subsoil water contains sulphur or chloride, beyond permissible limit.*

- ***Water Proofing:-***

Terrace

Terrace waterproofing consisting of brickbat cement concrete of average thickness 110mm to terrace, chajjas etc. laid in required slope (minimum cement consumption 0.5 bag/sq.mt), outlet and rain water pipes grouted, rough to receive Kota / China mosaic flooring as directed.Terrace steel (Use mittal make).

Toilet/Bathroom

Brick bat coba waterproofing for floors as above and waterproof plaster in Cement mortar 1:3up to a height of 600mm above floor level for walls.

Basement

Box type waterproofing to be carried out to entire basement through agencies mentioned in clause 29 of special conditions mentioned above.

ANTI-TERMITE TREATMENT: -

- *Pre-construction Anti-termite treatment shall be carried out with Chlorpyriphos or Lindane asper provisions of IS 6313 part II by reputed agencies like PCI, Godrej Hi-care or equivalents.*
- *Chemical treatment shall be carried out separately for footings inside the plinth, inside and outside external periphery of buildings.*

Section -2:

Flooring, Skirting & Dado Work

Section –II: Flooring, Skirting & Dado Work:

- ***Flooring (Basic Rate Rs.120/- Sq. Ft. excluding GST)***
  - *Hall, Dining and Passage:- Non-slippery Vitrified Tiles 800 mm x 800 mm of approved make and colour,*
  - *All other rooms vitrified Tiles 800 mm x 800 mm of approved pattern, Non-slippery.*
  - *All window /ventilator opening to have marble frame (all faces) with polished green marble window sill with polished edge from inside in all room of flat.*
  - *Green marble stone threshold for all entrance door, bathroom and toilets doors of flats & rooms at first /stilt level.*
  - *All flowerbeds to have antiskid tile flooring & 4" high skirting.*
  - *Shops, if any at stilt level & all rooms at stilt /first level to have vitrified tile flooring & 4" high skirting.*
  - *Stilt area other than shops & rooms to have Tremix flooring in approved pattern.*
  - *Lift machine room /sewage treatment room, garbage room, pump room to have IPS flooring.*
  - *4 nos stainless steel hinges 4" X 1- ¼" with SS pin & nylon washer.*
  - *1 no exposed type door closure.*
  - *2 nos 6" long anodized aluminium handles.*

- ***Skirting***
  - *All the rooms (living /Bed/ Kitchen) to have 4" high skirting of same pattern that of flooring of rooms.*

- ***Kitchen***
  - *Dado of approved ceramic Tiles of approved shade and make for full wall height in all Kitchen walls and over the platform.*
  - *The 'L' type kitchen platform or Parallel type shall be on white marble stands, finished with Granite top and side, moulding etc. as per drawing (Length not less than 12') with stainless steel sink.*
  - *Below kitchen platform to have 2nd quality ceramic tile dado on front & return walls etc.*
  - *Kitchen /toilet door opening have polished green marble to jamb & lintel soffit with half round polish edge from both end.*

- ***Bathroom, WC, Toilets, Common Toilets***
  - *Full wall ht. shall be Ceramic Tiles approved by Society, of approved make, shade and size* ***(Basic Rates of Tile Rs.100/- Sq. Ft. excluding GST).***

- *Toilets, kitchen will have Non-slippery anti-skid flooring vitrified Tiles/ Non-slippery Mat finished flooring.*

➢ ***Staircase***

- *Staircase treads should not be less than 270mm and risers should not be more than 170mm.*
- *Staircase up to First floor shall be finished in non-slippery textured granite in pattern.*
- *Three grooves to be provided in the tread.*
- *Stainless steel decorative hand railing to be provided on one side.*
- *Non-slippery Kota or combinations have to be provided on upper floors for treads and risers.*
- *Staircase at all level to have cement chequered tile on steps,*
- *landing & mid-loading Raise to be finished with plaster with groove at tread stone bottom.*

➢ ***Entrance Lobby***

- *Common entrance lobby at stilt level to have 5' high vitrified tile dado & vitrified tile flooring.*
- *The area shall be finished in non-slippery textured granite pattern,*
- *decorative name boards for all flat owners shall be provided at the decided location.*
- *letter boxes for all flat owners shall be provided at the decided location.*
- *POP punning on walls – POP plastered surface of walls.*
- *All corners / sharp edges of Beam, Column or walls should be smooth rounded off with POP.*
- *Collapsible or open able / sliding Gate shall be provided at entrances of all wings having proper locking arrangements for residential part between entrance lobby & parking area.*

➢ ***Lift, Lift Lobby***

- *Granite fascia tiles shall be provided around 'Lift' entrance on all floors as approved by the Society/PMC.*
- *Lift lobby / lobby passage at every floor to have vitrified tile flooring & 4" high skirting.*
- *Lift opening jamb & soffit to be finish with polished granite in photo frame pattern.*

Section -3:

DOOR SHUTTER & HARDWARE

Doors

Unless otherwise specified all doorframe shall be of teak wood/with Sal/Red miranti wood.

a. *Double Shutter Main door*

- *(3'6" x 7') size of teak wood Panel with Sal/Red miranti wood Door frame 6" x 3" one shutter 40 mm solid core flush.*
- *Door shutter finish with best Veneer from both side, the other side will have marine ply (4mm).*
- *The other shutter 1 ½"x 4" teakwood frame with solid core panels in lower part and S.S safety grill in upper part. A*
- *All fittings shall be brass Oxidized /Hinges 4 Nos.(4" size), 2 handles, one tower bolt, one Godrej new safety night latch, safety chain, peep hole, stopper, Kadi, Aldrop C.P. Brass Lock finished with French polished for frame and veneer portion. T.W. cover moulding, biding patti etc.*

b. *Safety Shutters*

- *External side of main door frame 1 ½" safety shutter with decorative stainless Steel grill, with brass Hinges, locking arrangements as per drawings is to be provided finishing with polishingetc. complete.*

c. *Bed room doors*

(3'x7') with 2 ½" x 4" frame, 35 mm solid core marine ply flush door Prelaminated/laminated on both sides, cover moulding, beading patti etc. Mortise Lock with Handle, brass oxidized hinges 4 nos (4" size). Tower bolt 4'', aldrop.

d. *Kitchen door*

- *(3' x 7') with 2 1/2" x 4" T.W. Frame,*
- *35 mm solid core marine ply flush door Prelaminated/laminated on both sides, cover moulding beading patti etc.*
- *Mortise Lock with Handle, brass oxidized Hinges 4 Nos. (4" size) tower bolt.*

e. *Toilet Doors*

- *(2'6" x 6'6") decorative Polyurethane board shutter both side finished approved colour, shade & make,*
- *locking arrangements, Handles, hinges of brass oxidized locking arrangements,*
- *glass topanel as per drawing; with granite, double patty doorframe of (Rs.200/- sq. ft.) round nosing etc. finish as per drawing.*
- *Water proof Doors.*

- ***Common Area Door Shutter:***
  - *Common area door at every level to have 45 mm single shutter, cold pressed, solid core, phenol formal dehyde bonded flush door with 3mm commercial ply on both side's finished external face with 0.8mm laminate & inside face with 3 coats of enamel paint of approved colour Shutters to have ½" hardwood lipping patti on all sides and provision of hardwood lockrail @ 3'-0" from bottom. Door architrave to be finish with melamine polish.*
- ***Door Hardware***
  - *4 Nos. anodized aluminium hinges 4" x 1 – ¼" with SS pin and nylon washer*
  - *1 No. anodized aluminium aldrop 16mm dia 10" long with Godrej lock & key*
  - *2 Nos. 6" long anodized aluminium handles.*
  - *6 Nos. GI hold fast to be provided for each door frame including fixing in concrete.*
  - *Providing notice board in society office, welfare centre, Anganwadi.*
- ***Common Area Door Hardware:***
  - *3 Nos. stainless steel hinges 4" x 1– ¼" with SS pin and nylon washer*
  - *1 No. anodized aluminium aldrop 16mm dia 10" long with Godrej lock & key*
  - *2 Nos. 6" long anodized aluminium handles.*
  - *1 No. rubber buffer.*
- ***Electrical Meter/ Panel Room Door Shutter:***

  Electrical Meter / Panel room door to have hardwood louvered panelled single / double shutter finished with 3 coats of enamel paint of approved colour & make on both sides. Doorframe to be 5" x 2.5" seasoned Red meranti/ Kapoor hardwood finished with enamel paint.
- ***Meter/Panel Room Door Hardware:***
  - *3/6 Nos. stainless steel hinges 4"x 1- ¼ with SS pin & nylon washer*
  - *1 No. anodized aluminium aldrop 16 mm dia 10" long with Godrej lock & key.*
  - *2 Nos. 6" long anodized aluminium handles.*
- *Electrical meter room to have 19mm marine ply wood finish with hand polish on hardwood framework for fixing meters and main switches etc.as required by electrical authority.*
- *Society office, Electrical duct, pump room, lift machine room, terrace door to have 35mm single shutter, cold pressed, solid core, phenol formaldehyde bonded flush door with 3mm commercial ply on both sides finished with 3 coats of enamel paint of approved color & make on both sides. All shutters to have ½" hardwood lipping patti on all sides and provision of hardwood lockrail @ 3'-0" from bottom as per drawing.*

Section - 4:

ALUMINIUM WINDOW WORK & M.S. GRILL

Section 4: Aluminium Window Work:

- *All living /bedrooms/kitchen of flat & rooms at first/stilt level to have powder coated/anodized sliding window & clear glass (19 mm series extruded aluminium section).*
- *All window opening wherever shown in building to have MS grill (1.25 kg/sft) finish with minimum 3 coats of enamel paint over one coat of zinc chromate primer.*
- *Providing and fixing anodized sliding Aluminium windows on granite (**Rs.300/- sq. ft. MinimumBasic Rate)** jams to be provided for all side of window including round moulding for all sides / bottom side 4"out (of wall surface).*
- *Aluminium sliding windows to be fixed inside the granite jams (Double patti pattern to be used.)*
- *The size of Aluminium section shall be heavy section type 18 mm series and 1.5 mm thick section for window up to 5'-0" height, the windows above 5'-0" height the section shall be 25 mm series and 1.5 mm thick section.*
- *Additional One panel of mosquito net is to be provided inall the window.*
- *The Aluminium section shall be of 'Jindal' or approved make and shall be anodized with required shade.*
- *The glass shall be of 6 mm thick 'laminated (reflective films)' of approved quality. A*
- *All windows should have 0.75mt. wide Chajjas.*
- *Each toilet should be provided with aluminium adjustable louvered window with 6mm Thick glass louvers, with granite jams.*
- *Windows shall have projection Box type M.S. grill of approved design externally andpainted, subject to MCGM / CFO approval.*
- *All windows should have mosquito net, either sliding or detachable, with maximum projection permissible.*
- *All WC / Bath with provision of exhaust fan to have powder coated /anodized aluminium frame with 4mm thick bajri louvers. The louvers window system shall have stainless steel safety clips, weather sealants, SS 316 screws etc. complete.*
- *The sliding window system shall have nylon rollers with SS imported ball bearing, flush type lock, wool pile, microwave cured EPDM gaskets, weather sealants, SS 31G grade screws etc.*

Location	***Width Up to 1250mm***	***Width more than 1250mm***	***Glass ness***
Living Room	*2 Track / 2 Shutter*	*3 Track / 3 Shutter*	*6 mm thick*
Bedroom	*2 Track / 2 Shutter*	*3 Track / 3Shutter*	*5 mm thick*

Kitchen	*2 Track / 2 Shutter*	*3 Track / 3 Shutter*	*5mm thick*
Staircase	*2 Track / 2 Shutter*	*Not available*	*5mm thick*
Lobby passage	*2 Track / 2 Shutter*	*3 Track / 3 Shutter*	*5mm thick*
Rooms@ stilt First Level	*2 Track / 2 Shutter*	*3 Track / 3 Shutter*	*5mm thick*

M.S. Grill

- *M.S. heavy section [square bar], grills upto 1.5 mt. height from the floor level as per approved design for all windows.*
- *openings / square 12 mm bars shall be used for grill, weight not less than 3Kg/sq.ft. with three coats of oil painting etc.*
- *Projection will be upto maximum permissible limit subject to CFO NOC.*
- *Birdnet to be provided to openings of toilet ducts if any.*

Section - 5:

PAINTING WORK

Section 5: Painting Work

- *All rooms and other area shall be painted with proper surface preparation (Primer + Putty + Primer).*
- *3 coats for plastic emulsion paint on the prepared surface of all sides of wall.*
- *All walls / ceiling of rooms / kitchen /toilet inside flat to have minimum 2 coats of oil bound distemper over 1 coat of primer including surface preparation & putty work.*
- *All walls/ ceiling of lift lobby / passage / staircase at all level to have minimum 2 coats oil bound distemper over 1 coat of primer including surface preparation & putty work.*
- *All walls/ceiling of sewage treatment room / pump room / garbage / lift machine room to have minimum 2 coats of cement paint including surface preparation.*
- *All vertical / horizontal surface of service shaft to have minimum 2 coats of cement paint including surface preparation.*
- *All vertical surface of lift shaft to have single 2 coats of cement paint including surface preparation.*
- *Parking strip / parking no to each parking slot.*
- *All external surface of flats, exposed surface to parapets, experts surface of plinth, elevation feature, external surface of overhead tank, external surface of underground tanks, lift machine room, parking area etc. to have minimum 2 coats of semi acrylic paint over 1 coat of primer with double legged scaffolding.*
- *External painting should be a textured paint with SBR base. External Protection shall be min 150-180 microns in 2 coats DFT Engineered Anti-carbonation Paint.*

Section - 6:

METAL WORK

Section – 6: Metal Work

- *Metal shall be from approved quarry and shall have sharp edges, black in colour and approved size as per standard specification i.e. IS Standard as per structural engineers' requirements.*

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- *Staircase railing on top of staircase pardi (900mm high) to be of 2-1/4" dia "B" class GI pipe finish with minimum 3 coats of enamel paint over one coat of zinc chromate primer as per detail design & drawing.*
- *All shops to have rolling shutter finish with minimum 3 coats of enamel paint over one coat of zinc chromate primer.*
- *All firefighting shaft in each wing to have metal pressed door with metal frame finish with minimum 3 coats of enamel paint over one coat of zinc chromate primer.*
- *All electrical (medium / low voltage shaft in each wing to have 2 hr fire rated metal pressed door with metal frame finish with minimum 3 coats of enamel paint over one coat of zinc chromate primer.*
- *MS railing finish with enamel paint to provide in sewage treatment room.*
- *Water tank will have MS cover with frame & locking arrangement finish with minimum 3 coats enamel paint.*
- *MS letter box.*

Section - 7:

PLUMBING WORK

Section 7: Plumbing Work

- *All GI pipes shall be tested in accordance to relevant IS standards.*
- *All concealed piping shall be with C-class G.I. pipes of reputed make like TATA or Zenith:*
- *Internal piping – 20mm or 12mm diameter 'C' class G.I concealed piping including elbows, tees, unions etc.*
- *For hot and cold water piping necessary insulation shall be provided.*
- *Plumbing fittings – All toilets, bathroom, WC and kitchen shall be provided with Jaquar or equivalent Florentine range concealed master stop cock, angle cock.*
- *Long and short body quarter turn cock, wall mixers, wall diverter, bottle traps etc. or All P.V.C pipes shall be tested in accordance to relevant IS standards.*
- *All concealed piping shall be with U.P.V.C pipes of reputed make such as Flowguard/ Prince/ Finolex or equivalents*
- *Every toilet shall have a master valve for the water supply pipe.*
- *The toilets to be provided with concealed heavy section or best quality tested pipes, concealed tested fittings, C P fittings three in one mixer/four-way single lever diverter, master cock, flush valve, W.H.B./mixer and cocks, Heater cocks etc. shall be provided as per layout and at the junction of dado tiling.*
- *PVC pipes of approved make, should be used for connecting bore well and submersible pump.*
- *All plumbing drawings should be provided on completion.*
  - *Following codes to be strictly followed:*

  a) *National Building Code of India – 2016 (Plumbing Services)*

  b) *Uniform Plumbing Code of India – 2014*

- *Source of water:*
  - *Source of domestic & flushing water supply shall be through Municipal supply.*
  - *Tankers water provision will be the tertiary source of water.*
  - *Rain water shall be used for flushing purpose in monsoon.*
  - *The developer shall furnish water calculations indicating total water requirement for domesticand flushing tank.*
  - *The developer shall provide the Fire tank as per CFO NOC.*
  - *Water storage tank for underground and overhead needs to be furnished.*
  - *Water storage, Water distribution, Sanitary drainage, Clean outs, Venting system, Rain water collection, Storm water drainage details need to be incorporated with all necessary calculations and drawings.*

- *Uses of cold & hot water:*
  - *For all flats in each toilet, bathrooms & Kitchens including servants /*

drivers / watchman toilets in stilt / podium / basement cold water supply to be provided.

- *For flats each bathroom hot water supply to be provided through 10 Litres capacity min 3-star rating geysers of repute make to be provided.*

➢ ***Sanitary / Storm Water Drainage:***

- *All sanitary works shall be of approved colour and shade.*
- *Wall hung European style WC of Hindustan or Parryware or Cera or Jaquar to be provided as approved.*
- *Washbasin shall be fixed within the Granite counters with round mirror etc. as per drawings.*
- *Fixer for tissue rolls and health faucet in W.C.,*
- *All pipes, bends, junctions, gully traps, intercepting traps shall be of stoneware finish from inside and outside and shall conform to the specifications of IS 651.*
- *All external drainage pipes shall be of UPVC of reputed make.*
- *Flush tank with provision of half & full flush should be provided.*
- *All Washbasins' will have stainless steel bottle traps.*
- *Each toilet will have one W.H.B. and all toilets shall be 'European/ Anglo Indian' with a separate jet spray all W. C's should have tissue roll frame.*
- *Gas geyser of 10 litres capacity of approved make shall be provided in all the toilet blocks of members, all nahni traps will have cockroach traps.*
- *Solar water heating supply pipe should be connected to geyser inlet.*
- *'Plumbing' also includes all facilities of member's toilets to be provided to servant toilet.*
- *Sanitary Drainage will include all piping with fittings in taking away the used wastewater, sewage through vertical stacks and for vent in the plumbing shafts from 1 mtr above terrace parapet wall up to the STP through gully trap chamber & various inspection chambers at ground level.*
- *Storm water Drainage will include all piping with fittings in taking away the collection of rainwater falling over terraces, refuge floor, and OHWT top through vertical stacks in shafts from terrace level up to the catch basin at ground level.*

➢ ***Water Supply:***

- *Water Supply will include all piping with valves (domestic & flushing) from overhead tanks to every WC/Bath connection though ring main @ terrace and vertical stacks as per schematic diagram in shafts.*
- *This will also include piping (buried) with valves and water meter from municipal main to underground water tank and from underground water tank (Domestic) through shaft to overhead fire water tank at terrace.*

- ***Solar Water Supply:***
  - *Solar water supply will include all piping with valves from solar tank to every bathroom connection through ring main @ terrace and vertical stacks as per schematic diagram in shafts.*
  - *This will also include piping with valves from domestic ring main to solar tank at terrace.*

- ***Internal Plumbing:***
  - *Internal plumbing will include all work within toilets bathrooms, kitchens consist of domestic (hot & cold) & flushing water supply piping with fittings,*
  - *making all chases/hole in the wall and sanitary drainage (soil, waste) piping including & fixing CP & Sanitary Fixtures.*

- ***External Drainage:***
  - *Sanitary Drainage will include piping (buried) from sewage treatment plant to municipal sewer through gully trap chamber & various inspection chambers.*
  - *Storm Water Drainage will include all piping (buried) in taking away the collection of rainwater falling over ground level through catch basin and storm water drain to municipal storm water drain at ground level.*
  - *The plumbing work included hydro pneumatic domestic / flushing pump (1 working per wing + 1 standby for each) with necessary accessories,*
  - *piping from underground tank to pumps, air vessels, valves, strainer, pressure gauge, pump panel, etc. as per drawing.*
  - *Plumbing work also includes 1 no. submersible pump for sump,*
  - *3 nos. submersible pumps for stack pit*
  - *1 no. irrigation pump with necessary accessories,*
  - *piping from pumps for stack pit and 1 no. irrigation pump with necessary accessories,*
  - *piping from pumps to nearest discharge point, valves, strainer, foot valve, pressure gauge, pump panel, etc. as per drawing.*

Section - 8:

FIRE FIGHTING WORK

Section 8: Fire Fighting Work

- ***Hydrant System:***

  Hydrant system will include all piping for wet risers within shaft of each wing, including piping for looping between all wing shafts at terrace level and connection to overhead tank through booster pumps inclusive of butterfly valves, strainers, check valves and pressure gauges etc. the system will also include Fire Hydrant equipment like double head landing Valve, Hose reel drum with Thermoplastic water hose and nozzle; non–percolating RRL Hose Pipe; SS Short Branch Pipe; Orifice Plate: at every floor in each wing shaft and air release valve at the top of wet riser in each wing shaft.

- ***Sprinkler System:***
  - *Sprinkler system include all piping for wet risers & drain within each wing shafts and within life lobby at every floor, stilt/stack pit parking at stilt level as per approved shop drawing.*
  - *The system will also include butterfly valves, tamper/flow switch, inspector test assembly at every floor and sprinklers within lift lobby at every floor, common lobby/parking at stilt level, installation control valve near control room etc.*

- ***External Hydrant System***
  - *The system includes all underground piping for courtyard hydrants, RRL Hose Pipe with MS Hose Box with Stand, Fireman Axe at ground level, Orifice Plate, Fire Bridge, Inlet & draw out/breaching Connection etc.*
  - *The system also includes Main Hydrant & Sprinkler Pump (1No. working + 1No. standby for Hydrant system as well as for Sprinkler system) and Jockey Pump (1 for Hydrant system + 1 for Sprinkler system) with necessary accessories, piping from underground tank to pumps, Air Vessels, Valves, Strainer, Pressure Gauge, Fire Panel, Expansion bellows and pressure switch etc. as per approved drawing.*

- ***Fire Extinguishers:***

  Providing fire extinguishers ABC type 6kg at every floor in each wing & DCP type 6KG in outside pump room, electrical room, panel room etc. & CO2 type 10kg capacity extinguishers.

- ***Liaison Work:***

  Arranging all statutory approval/NOC from local authority for installed Fire Fighting System to get building occupation, certificate, submission of as-built drawing of installed system to local fire authorities / Employer, payment (official/out of pocket) to local fire authority etc.

- ***Annual Maintenance Contract (AMC):***
  - *Work under this section includes maintenance of the Fire Fighting System commissioned by the Contractor for 3 years beyond the Defects Liability Period (DLP) of 2 years.*
  - *This will include break down repairs/ maintenance / commissioning as and when required. The rate shall include for all labour, consumables, supervision but excluding cost of material / equipment required for satisfactory maintenance of the system.*
  - *The annual maintenance contract also includes preparation & submission of Form B (half yearly) and Fire Audit Report (yearly) to CFO as per fire authority requirement including liasoning with CFO for timely renewal of fire NOC.*

Section – 9:

FIRE ALARM /

PUBLIC ADDRESS SYSTEM WORK

Section 9: Fire Alarm / Public Address System Work:

- *The developer shall provide fire resisting doors at required location as per C.F.O.'s requirement.*

- ***FIRE ALARM SYSTEM***

  ANALOG ADDRESSABLE FIRE DETECTION & ALARM SYSTEM – EN/LPCB SYSTEM

  - *Multi Loop Networked Microprocessor based ¾ loops to cover all the detector & devices of complete building,*
  - *each loop shall be able to connect minimum 125 detectors and 125 detectors and 125 modules intelligent,*
  - *analogue addressable type fire alarm control panel with Digital LCD display,*
  - *four access levels,*
  - *400 event historical logging,*
  - *flash EPROM sufficient numbers of programmable relay controls,*
  - *24 volts AC power supply,*
  - *automatic battery charger,*
  - *24 volts sealed lad acid batteries sufficient for 24 hours normal working then be capable of operating the system for 30 minutes during an emergency condition.*

1. *Multicriteria detectors – For all typical floor lift lobbies, ground floor lobbies.*
2. *Smoke detectors – For every electrical shaft on all typical floors, shops, meter rooms, panel rooms, society office, welfare centre, pump room, Garbage room & any other enclosed public room/area.*
3. *Heat detectors – for each pallet of Mechanical car parking.*
4. *MCP & Electronic loud hooters with strobe lights – Near all staircase doors.*
5. *Monitor modules – for every flow switch & tamper switch on all floors.*
6. *Control modules – for interconnection of FAS & PAS system, all lifts.*
7. *2 core X 1.5 sq.mm. Copper conductor shielded Unarmoured FRLS Armoured cable, RED in colour – In vertical shafts & for exposed cabling.*
8. *2C x 1.5 sq.mm, copper conductor shielded unarmoured FRLS Flexible Cable – For typical floor lobbies where concealed conducting will be provided.*
9. *Cable Connector for connecting Armoured & Flexible cable where ever required.*
10. *Any necessary cable tray required of appropriate size.*

- ***PUBLIC ADDRESS SYSTEM***

Voice Alarm Controller with 6 zones selector with necessary booster amplifier; call station with steam type microphone, inbuilt message manager/ generator, DVD player complete with interconnecting cables, rack for mounting controller & amplifiers.

- *6W celling speaker with back box-for all typical floor lift lobbies, ground floor lobbies.*
- *6W wall mounted speaker –For STP room, Pump room, garbage/ room, meter rooms, panel rooms, society office, welfare centre, refuge area & any other enclosed public room/ area.*
- *2 core x1.5 mm 2, Multistring Copper, FRLS Armoured cable –In vertical shafts & for exposed cabling.*
- *2C x 1.5sq.mm, Copper Conductor shielded Unarmoured FRLS Flexible Cable –For typical floor lobbies where concealed conducting is provided.*
- *Cable Connector for connecting Armoured & Flexible Cable where ever required.*
- *Any necessary cable tray required of appropriate size.*

Section - 10:

ELECTRICAL WORK

Section- 10: Electrical Work

- ***ELECTRICAL: -***
  - *All electrical works shall be concealed& shall be carried out in accordance to relevant IS codes,Indian Electricity rule 1965, Regulations and Rules set out by the Fire Insurance Regulations. Entire electric system shall be earthed and the earth system shall conform to the Code of Practice as per IS 3043 of 1987.*
  - *Main switches, meters as per Power Distribution Company's requirements should be provided.*
  - *Emergency light for staircase, lobby, underground parking area etc. to be provided. Details of power circuit /power points, light points etc. to be got approved in advance.*
  - *Exhaust fans & one 10 litres instant gas geyser to be provided in all toilets / bathrooms.*
  - *All necessary arrangements only to connect common solar water heating system through gas geyser & necessary arrangement only to connect solar lighting system tocommon staircase, compound lighting has to be made by developer free of cost, as society intends to provide common solar water heater & solar lighting for staircase, compound lighting panels.*
  - *As built Electrical drawing showing actual conduit laid down with all points should be handed over to Society on completion by the developer.*
  - *The developer has to provide Pipe Gas connections to all members.*
  - *Fire Hydrant cubicle and Fire Extinguisher should be provided at every landing at conveniently accessible and visible locations.*
  - *Sprinkler and smokedetector should be provided in stair case and common lobby and should be test before commissioning.*

- *All panels shall be in Electrical room with proper ventilation.*

- *Louvers for fresh air intake and Exhaust fan and localized Fire extinguisher.*

- *Rubber mats inside the electrical room to be provided. Cable trays with proper clamping and tagging need to be provided.*

- *LV shafts and fireshafts need to be separate. All cables running through shafts on proper GI cable trays shall beindividually tagged with respective flat nos.*

- *Provision of solar panels on terrace shall be only for common lighting and staircase lighting. Net metering option in case of solar needs to be checked or a stand-alone solar panel system need to be incorporated.*

- *The lux levels of illumination level for Lobby in Floors and staircase need to be considered at 75-100 lux level.*

- *Common Amenities Load, like Lifts Load, Lift Lobby, meter room, society Office, Fitness Centre, Refuge Area, Internal - External Lighting of the building will have DG back up.*

- *Lifts shall run on DG supply during normal power failure.*
- *The Lift panel will be provided by the lift supplier. DG need to be considered as Alternate Source of Supply.*
- *The Design of the Electrical system shall include provision of power for Residential Premises, Parking & Public areas, Water pumps, General power and other utilities area loads.*
- *During outage of the Power supply, Common Load will be catered through DG sets with Auto start facility.*
- *In Case of Normal Power failure, the DG Set will give Backup to Common Area Utilities.(Like Lifts, Pumps & Common Area Lightings)*
- *In Case of Fire Emergency, the DG Set will give Backup Only for Fire Pumps & Fire Lifts.*
- *Detail mention of ELV system, Common area electrification, location and calculations of DG with automatic switch over, Location of substation, Power cables, cables, lighting cables, control cables, lighting arrestor and earthing pits to be on plans and relevant documents need to be provided.*
- *One electrical point shall be provided in each parking bay for charging of electric cars. This point shall be connected to the respective member's individual electric meter. This point shall be minimum 32 amps to provide required power to charge each car.*
- *Supply of all electrical fixtures like LED lights, LED tube lights, celling fans, exhaust fans, busser shall be provided by the developer at free of cost.*
- *HD DTH TATA satellite common antenna to all tenements.*
- *All Living rooms & bed rooms shall have electric point supply & drain out arrangement connected up to ground floor for split AC Provision.*
- *All common areas like staircase, lift, lift landings, refuge areas, fitness centre, society office, car parking, compound lighting should have motion sensors for lighting.*
- *Lift shafts should have Lighting points with socket.*
- *Each floor toilet shafts shall be with light and socket for service technicians on a later date.*

- ***Electrical System (1 BHK):***

  Electrical system for flat will include wiring (2x6sqmm) in flexible conduit from meter to MCB, armoured cabling 25x 6sqmm-FRLS) from 32A DP MSB in MS enclosure to 40A DP isolator in MS enclosure with 25x6mm GI earth strip in electrical shaft and wiring (2x6sqmm+1x2.5sqmm) in concealed conduit (25mm) from isolator to 4way SPN distribution board and further up to point outlet inclusive of PVC fan box with hook, modular wiring accessories, switch/ socket/ regulator, bell, GI back box, light fixture, celling/ exhaust fan etc.

- ***Electrical Point Breakup 1BHK Flat***

Sr.	***Electrical Points***	***No of Point***
1	*Light Point with 3 x1.5 sq. mm. copper wire*	*8*
2	*Fan point with 3x1.5sqmm copper wire*	*3*
3	*Exhaust Fan point with 3x1.5 sq. mm copper wire*	*2*
4	*6A SW/Soc (half)Point with 3x1.5 sq. mm copper wire*	*2*
5	*6A SW/Soc (full) Point with 3x1.5 sq. mm copper wire*	*3*
6	*6/16ASwitch/Socket Point with 2x2.5 + 1x1.5 Cu. wire*	*1*
7	*Geyer Point with 3x2.5sqmm copper wire*	*1*
8	*Bell Point with 2x1.5sqmm copper wire*	*1*
9	*4 way SPN DB* *Incomer - 32A DP ELCB, 30mA* *ELCB- 40A DP ELCB,30mA* *Outgoing-1No 25A SP MCB +3 Nos 10/16A SP MCB*	*1*
10	*Switch /Socket/Regulator /Bell Push-Roma (Anchor)*	

- ***ELECTRICAL FITTINGS***

1	***Drawing Room / with Dinning.***
i.	*LED Light above the main door outside and in the balcony*
ii.	*6 LED lights minimum*
iii.	*T.V. / Cable point as per layout and Tata sky dish antenna.*
iv.	*Telephone socket at two separate locations.*
v.	*Minimum lighting points to be considered- Living 6, Dining 4.*
vi.	*Plug points for T.V., extra point provision, at separate location.*
vii.	*2 nos. fans with Dimmer, 1 fan with two-way switch.*
viii.	*One point for video Door Phone (cordless type to be provided by developer) Connected to the ground level intercom and magnetic door lock.*
ix.	*One light point two way switch.*
x.	*15 amp. Plug point for A.C.*
xi.	*MCB / ELCB. Near entrance / passage to be provided for all tenements.*
xii	*4 nos. of 5 AMP plug points.*

2	**Kitchen**		
i.	2 Light Points		
ii.	2 LED light minimum		
iii.	One Fan with Dimmer		
iv.	Plug Points for-		
	1	Washing Machine	15 amp
	2	Fridge	15 amp
	3	Aqua Guard	5 amp
	4	Oven/ microwave	15 amp
	5	Mixer/ induction cooker	5 amp
	6	1 additional for food processor or toaster	5 amp
	7	Sink with wet garbage crusher	5 amp
v.	Exhaust Fan with louvers 1 no. Of 12" diameter with 1 point of - 5amp		
vi.	One switch/ Light in Dry Balcony		
3	**Bed Room**		
i.	4 LED light minimum		
ii.	Two fan with Dimmer.		
iii.	Telephone Socket		
iv.	TV/ Cable point		
v.	Concealed night lamp point		
vi.	Three plug points (5 Amps.)		
vii.	15 Amps plug with switch and socket for A/ C.		
viii.	One light point Two-way switch		
ix.	One fan point Two- way switch with dimmer.		
x.	One 5 amp socket outside window and switch inside room.		
4	**Toilets / Bath Rooms**		
i.	1 Light Point and 1 more above mirror in the toilet		
ii.	2 LED light minimum		
iii.	15 Amp switch and socket for water heater.		
iv.	Exhaust Fan with switch and socket		
v.	Storage type elect. Water heater/ geyser as per member's requirement with one connection to kitchen sink.		
vi.	15amp washing machine – double counting (provide as per lay out)		
vii	One plug point extra for electric Shaver/ hair dryer		
5	**Passage**		
i.	1 Light Point		
ii.	15 amp plug point.		
6	**Plumbing and Electrical shafts**		
i.	1 Light Point		
ii.	15 amp plug point.		

- ***Electrical System (2BHK):***

  Electrical System for flat will include wiring (4x4sqmm) in flexible conduit from meter to MCB, armoured cabling (4Cx$sqmm-FRLS) from 32A TPN in MS enclosure to 40A 4P isolator (MS enclosure) with 25x6mm GI earth strip in electrical shaft and wiring (4x4 sqmm+2x2.5 sqmm)in concealed conduit (32mm) from isolator to 4 way TPN distribution board and further up to point outlet inclusive of PVC fan box with hook, modular wiring accessories, switch/socket/regulator, bell, GI back box, light fixture, ceiling /exhaust fan etc.

- ***Electrical point Breakup 2BHK Flat (2Nos):***

Sr	*Electrical Point*	*No of Point*
1	*Light Point with 3x1.5 sq.mm copper wire*	*10*
2	*Fan point with 3x1.5 sq.mm copper wire*	*5*
3	*Exhaust Fan Point with 3x1.5sqmm copper wire*	*3*
4	*6A SW/Soc (half) Point with 3x1.5sqmmcopper wire*	*6*
5	*6A/SW/Soc (full) Point with 3x1.5sqmm copper wire*	*6*
6	*6/16A Switch /Socket Point with 2x2.5 +1x1.5 Cu. wire*	*1*
7	*Geyser Point with 3 x 2.5 sq.mm copper wire*	*2*
8	*AC Point with 3x2.5sq.mm copper wire*	*4*
9	*Bell Point with 2x1.5 sq.mm copper wire*	*1*
10	*LVDB with Splitter & Tag Block*	*1*
11	*4 way TPN DB* *Income -32A TPN MCB* *ELCB 40A TPN ELCB,30mA* *Outgoing -3 No 25A SP MCB+9Nos10/16A SP MCB*	*1*
12	*Switch/Socket/Regulator/Bell Push –Roma (Anchor)*	

- ***ELECTRICAL FITTINGS***

1	***Drawing Room / with Dinning.***
i.	*LED Light above the main door outside and in the balcony*
ii.	*10 LED light minimum*
iii.	*T.V. / Cable point as per layout and Tata sky dish antenna.*
iv.	*Telephone socket at two separate locations.*
v.	*Minimum lighting points to be considered- Living 8, Dining 4.*
vi.	*Plug points for T.V., extra point provision, at separate location.*
vii.	*3 nos. fans with Dimmer, 1 fan with two-way switch.*
viii.	*One point for video Door Phone (cordless type to be provided by developer) Connected to the ground level intercom and magnetic door lock.*
ix.	*One light point two way switch.*
x.	*2 nos of 15 amp. Plug point for A.C.*
xi.	*MCB / ELCB. Near entrance / passage to be provided for all tenements.*
xii	*4 nos. of 5 AMP plug points.*

2	***Kitchen***		
i.	*2 Light Points*		
ii.	*2 LED light minimum*		
iii.	*One Fan with Dimmer*		
iv.	*Plug Points for-*		
	1	*Washing Machine*	*15 amp*
	2	*Fridge*	*15 amp*
	3	*Aqua Guard*	*5 amp*
	4	*Oven/ microwave*	*15 amp*
	5	*Mixer/ induction cooker*	*5 amp*
	6	*1 additional for food processor or toaster*	*5 amp*
	7	*Sink with wet garbage crusher*	*5 amp*
v.	*Exhaust Fan with louvers 1 no. Of 12" diameter with 1 point of - 5amp*		
vi.	*One switch/ Light in Dry Balcony*		
3	***Bed Room***		
i.	*4 LED light minimum*		
ii.	*Two fan with Dimmer.*		
iii.	*Telephone Socket*		
iv.	*TV/ Cable point*		
v.	*Concealed night lamp point*		
vi.	*Three plug points (5 Amps.)*		
vii.	*15 Amps plug with switch and socket for A/C.*		
viii.	*One light point Two-way switch*		
ix.	*One fan point Two- way switch with dimmer.*		
x.	*One 5 amp socket outside window and switch inside room.*		
4	***Toilets / Bath Rooms***		
i.	*1 Light Point and 1 more above mirror in the toilet*		
ii.	*2 LED light minimum*		
iii.	*15 Amp switch and socket for water heater.*		
iv.	*Exhaust Fan with switch and socket*		
v.	*Storage type elect. Water heater/ geyser as per member's requirement with one connection to kitchen sink.*		
vi.	*15amp washing machine – double counting (provide as per lay out)*		
vii	*One plug point extra for electric Shaver/ hair dryer*		
5	***Passage***		
i.	*1 Light Point*		
ii.	*15 amp plug point.*		
6	***Plumbing and Electrical shafts***		
i.	*1 Light Point*		
ii.	*15 amp plug point.*		

- ***Electrical System (3BHK):***

  Electrical System for flat will include wiring (4x4sqmm) in flexible conduit from meter to MCB, armoured cabling (4Cx$sqmm-FRLS) from 32A TPN in MS enclosure to 40A 4P isolator (MS enclosure) with 25x6mm GI earth strip in electrical shaft and wiring (4x4 sqmm+2x2.5 sqmm)in concealed conduit (32mm) from isolator to 4 way TPN distribution board and further up to point outlet inclusive of PVC fan box with hook, modular wiring accessories, switch/socket/regulator, bell, GI back box, light fixture, ceiling /exhaust fan etc.

- ***Electrical point Breakup 3BHK Flat:***

Sr	***Electrical Point***	***No of Point***
1	*Light Point with 3x1.5 sq.mm copper wire*	*14*
2	*Fan point with 3x1.5 sq.mm copper wire*	*5*
3	*Exhaust Fan Point with 3x1.5sqmm copper wire*	*4*
4	*6A SW/Soc (half) Point with 3x1.5sqmmcopper wire*	*8*
5	*6A/SW/Soc (full) Point with 3x1.5sqmm copper wire*	*8*
6	*6/16A Switch /Socket Point with 2x2.5 +1x1.5 Cu. wire*	*3*
7	*Geyser Point with 3 x 2.5 sq.mm copper wire*	*3*
8	*AC Point with 3x2.5sq.mm copper wire*	*5*
9	*Bell Point with 2x1.5 sq.mm copper wire*	*1*
10	*LVDB with Splitter & Tag Block*	*1*
11	*4 way TPN DB* *Income -32A TPN MCB* *ELCB 40A TPN ELCB,30mA* *Outgoing -3 No 25A SP MCB+9Nos10/16A SP MCB*	*1*
12	*Switch/Socket/Regulator/Bell Push –Roma (Anchor)*	

- ***ELECTRICAL FITTINGS***

1	***Drawing Room / with Dinning.***
i.	*LED Light above the main door outside and in the balcony*
ii.	*8 LED light minimum*
iii.	*T.V. / Cable point as per layout and Tata sky dish antenna.*
iv.	*Telephone socket at two separate locations.*
v.	*Minimum lighting points to be considered- Living 8, Dining 4.*
vi.	*Plug points for T.V., extra point provision, at separate location.*
vii.	*3 nos. fans with Dimmer, 1 fan with two-way switch.*
viii.	*One point for video Door Phone (cordless type to be provided by developer) Connected to the ground level intercom and magnetic door lock.*
ix.	*One light point two way switch.*
x.	*2 nos of 15 amp. Plug point for A.C.*
xi.	*MCB / ELCB. Near entrance / passage to be provided for all tenements.*
xii	*4 nos. of 5 AMP plug points.*

2	**Kitchen**		
i.	*2 Light Points*		
ii.	*2 LED light minimum*		
iii.	*One Fan with Dimmer*		
iv.	*Plug Points for-*		
	1	*Washing Machine*	*15 amp*
	2	*Fridge*	*15 amp*
	3	*Aqua Guard*	*5 amp*
	4	*Oven/ microwave*	*15 amp*
	5	*Mixer/ induction cooker*	*5 amp*
	6	*1 additional for food processor or toaster*	*5 amp*
	7	*Sink with wet garbage crusher*	*5 amp*
v.	*Exhaust Fan with louvers 1 no. Of 12" diameter with 1 point of - 5amp*		
vi.	*One switch/ Light in Dry Balcony*		
3	**Bed Room**		
i.	*4 LED light minimum*		
ii.	*Two fan with Dimmer.*		
iii.	*Telephone Socket*		
iv.	*TV/ Cable point*		
v.	*Concealed night lamp point*		
vi.	*Three plug points (5 Amps.)*		
vii.	*15 Amps plug with switch and socket for A/ C.*		
viii.	*One light point Two-way switch*		
ix.	*One fan point Two- way switch with dimmer.*		
x.	*One 5 amp socket outside window and switch inside room.*		
4	**Toilets / Bath Rooms**		
i.	*1 Light Point and 1 more above mirror in the toilet*		
ii.	*2 LED light minimum*		
iii.	*15 Amp switch and socket for water heater.*		
iv.	*Exhaust Fan with switch and socket*		
v.	*Storage type elect. Water heater/ geyser as per member's requirement with one connection to kitchen sink.*		
vi.	*15amp washing machine – double counting (provide as per lay out)*		
vii	*One plug point extra for electric Shaver/ hair dryer*		
5	**Passage**		
i.	*1 Light Point*		
ii.	*15 amp plug point.*		
6	**Plumbing and Electrical shafts**		
i.	*1 Light Point*		
ii.	*15 amp plug point.*		

- ***Electrical System (Lift /Staircase Lobby):***

  Electrical system for lift/staircase lobby of each wing include armoured cabling from meter room to DB and wiring in concealed conduit (25mm)from DB to respective light point outlet in staircase/lift lobby inclusive of modular wiring accessories, light fixture etc complete.

- ***Electrical Point Breakup per wing per floor:***

Sr.No	***Electrical Point***	***No of Points***
All Wings - Typical Level Light Point		
1	*Lobby with 3x2.5 sq.mm copper wire*	*4*
2	*Staircase with 3x2.5 sq.mm copper wire*	*2*
1	*Lobby with 3x2.5 sq.mm copper wire*	*12*
2	*Staircase with 3x2,5 sq.mm copper wire*	*7*

- ***Electrical System (Shops):***

  Electrical system will include wiring (2x4 sq.mm) in 20mm dia flexible conduit from meter to MCB, wiring (3x2.5 sq.mm for large shop) from MCB in MS enclosure (16A DP for small shop/32 A DP for large shop)to 4 way SPN DB (inside shoes) and further up to point outlet inclusive of PVC fan box with hook, modular wiring accessories, switch/ socket/regulator, GI back box, light fixture, celling fan etc.

Electrical Point Breakup for Shop:

Sr. No	***Electrical Point per Smaller Shops***	***No of Point***
1	*Light Point with 3x1.5sqmm copper wire*	*1*
2	*Fan Point with 3x1.5sqmm copper wire*	*1*
3	*6A Switch /Socket Point with 3.1.5 copper wire*	*1*
4	*Switch /Socket /Regulator –Roma (Anchor)*	
Sr. No	***Electrical Point per Larger Shops***	***No of Point***
1	*Light Point with 3x1.5sqmm copper wire*	*4*
2	*Fan Point with 3x1.5sqmm copper wire*	*2*
3	*6A Switch /Socket Point with 3x1.5 copper wire*	*2*
4	*Switch /Socket/Regulator-Roma (Anchor)*	

- ***Electrical System (Fitness Centre):***

  Electrical system will include wiring (2x4sqmm) in 20mm dia flexible conduit from meter to MCB, wiring (2x4sqmm+1x2.5sqmm) from MCB in MS enclosure (32A DP) to 4way SPN DB (inside Fitness Centre and further up to Point outlet inclusive of PVC fan box with hook, modular wiring accessories, switch/socket/regulator, GI back box light fixture, celling fan etc.

Electrical Point Breakup for Fitness Centre:

Sr.No	*Electrical Point -* ***Fitness Centre***	*No of Point*
1	*Light Point with 3x1.5sqmm copper wire*	*8*
2	*Fan Point with 3x1.5sqmm copper wire*	*2*
3	*6A Switch/Socket Point with 3x1.5copper wire*	*3*
4	*Switch /Socket/Regulator-Roma (Anchor)*	

Electrical Point Breakup for Society Office

Sr.No	***Electrical Point per Society Office***	***No of Point***
1	*Light Point with 3x1.5sqmm copper wire*	*6*
2	*Fan Point with 3x1.5sqmm copper wire*	*3*
3	*6ASw/Soc (half)Point with 3x1.5sqmm copper wire*	*2*
4	*6ASw/Soc (full)point with 3.1.5sqmm copper wire*	*1*
5	*Switch /Socket/Regulator –Roma (Anchor)*	

- ***Electrical System (Society Office -):***

  Electrical system will include wiring (2x4sqmm) in 20mm dia flexible conduit from meter to MCB ,armoured cabling (2x4sqmm-FRLS)from MCB in MS enclosure (32A DP)to 40A DP isolator in MS enclosure in electrical shaft and wiring (2x4sqmm+1x2.5sqmm)in concealed conduit (20mm) from isolator to 4way SPN distribution board and further up to point outlet inclusive of PVC fan box with hook, modular wiring accessories, switch/ socket / regulator, GI back box, light fixture, ceiling fan etc complete.

Electrical Point Breakup for Society Office:

Sr.No	*Electrical Point per Society Office*	*No of Point*
1	*Light Point with 3x1.5sqmm copper wire*	*6*
2	*Fan Point with 3x1.5sqmm copper wire*	*3*
3	*6A SW/Soc (half)Point with 3x1.5sqmm copper wire*	*2*
4	*6A SW/Soc(full)Point with 3x1.5sqmm copper wire*	*1*
5	*Switch /Socket/Regulator –Roma (Anchor)*	*8*

- ***Electrical System (Refuge Flat):***

  Electrical system will include cabling (3x1.5sqmm-FRLS) from DB-LA in respective wing to 25A DP isolator in MS enclosure in electrical shaft @8th floor and wiring (3x1.5sqmm) in concealed conduit (20mm)from isolator to main switch board and further up to point outlet inclusive of modular wiring accessories, switch/ socket, GI back box ,light fixture ,etc complete

Electrical Point Breakup for each Refuge Flat:

Sr.No	*Electrical Point per Refuge Flat*	*No of Point*
1	*Light Point with 3x1.5sqmm copper wire*	*3*
2	*6A SW/Soc(Half)Point with 3x1.5sqmm copper wire*	*1*
3	*6A SW/Soc(full)Point with 3x1.5sqmm copper wire*	*1*
4	*Switch /Socket-Roma (Anchor)*	*8*

- ***Electrical System (Terrace):***

  Electrical system will include wiring (3x1.5sqmm) in 20mm dia conduit from lighting DB at terrace to lighting switch board in each wing and further up to point outlet inclusive of modular wiring accessories, switch/socket, GI back box, light fixture, etc complete.

- ***Electrical Point Breakup for Terrace:***

Sr.No	*Electrical Point per Terrace*	*No of Point*
1	*Light Point with 3x1.5sqmm copper wire*	*4*
2	*6A SW/Soc (half)Point with 3x1.5sqmm copper wire*	*1*
3	*6A/SW/Soc(full)Point with 3x1.5sqmm copper wire*	*1*
4	*Bulk Head Light Fixture*	*4*
5	*Switch /Socket-Roma (Anchor)*	*8*

- ***Electrical System (Stilt Level):***

  Electrical system will include wiring (3x1.5sqmm)in 20/25mm dia conduit from external lighting DB at stilt level to all external point outlet inclusive of modular wiring accessories, light fixture, etc complete.

- ***Electrical Point Breakup for Stilt Level:***

Sr.No	*Electrical Point per Stilt Level*	*No of Point*
1	*Light Point with 3x1.5sqmm copper wire*	*20*

- ***Lift Shaft Lighting (per Lift Shaft):***

  Lift shaft Lighting will include armoured cabling (3Cx4sqmm-XLPE)from ELCB to controller at top floor and further up to lift shaft board at every floor comprise of 1nos 6A switch/socket, GI back box etc complete. ***Note: Lowest point bulkhead fixture control by 2nos 2way switch, one at lift shaft board & one at independent location.***

- ***LV System(per wing):***

  LV system (telephone) will include wiring with 2pair tel cable for each flat in 25mm dia conduit (common for 2floor) from 100 pair TTB in LV duct at first floor.

LV system (cable TV) will include cabling with RG-6 coaxial cable from 6way tap off in 200x200x50mm MS box in LV duct for each flat coaxial socket in 20mm dia conduit.

- ***Electrical Panel/Switchgears:***

  Providing electrical panel/Switchgears in powder coated MS enclosure for building as per attached SLD. Approval of GA drawing by Electrical Consultants/Company is must before fabrication.

Sr	***Electrical Panel***	***No***
1	*General Service Electrical Panel (GSP-R)*	*1*
2	*Main DG Panel (DGP-M)*	*1*
3	*2nd Source Electrical Panel (2SP)*	*1*
4	*Fire Pump Electrical Panel (FPP)*	*1*
5	*General Service Electrical Panel(GSP-1A,1B & 1C)*	*3*
6	*General Service Electrical Panel(GSP-2A,2B &2C)*	*3*
7	*DOL starter for Sump/Irrigation Pumps*	*3*

Sr	***Switchgears in MS enclosure***	***No***
1	*160A TP MCCB, 16KA+Neutral Link with 10A MCB & RYB indicating lamps*	*1*
2	*500A TP MCCB, 26KA+Neutral Link with 10AMCB &RYB indicating lamps.*	*1*
3	*80A TP MCCB, 16KA+Neutral Link with 80A ASCO series ATS with C1000 control & RYB indicating lamps*	*1*
4	*80A TP MCCB, 16KA+Neutral Link with RYB Indicating lamps*	*1*
5	*63A 4P ELCB, 300mA with 50A TPN MCB for Fire & Passenger Lift Power-2 Nos per wing*	*6*
6	*25A DP ELCB, 30mA with 25A DP MCB for fire & passenger Lift Power -2 Nos per wing*	*6*
7	*25A 4P ELCB, 300mA with 16A TPN MCB for Stack Parking Power -2 Nos per wing*	*2*

- ***Earthing Strip:***

  Earthing strip schedule for building from respective earth station is as given below:

  a) *Lift Earth Station: 25x3mm Cu earth strip from each lift earth station to panel room at first floor and 8SWG bare copper earth wire from panel room to equipotential bars (200x25x3 mm Cu.in MS enclosure) at top floor.*
  b) *Building Earth Station: 25x6mm GI earth strip from each building earth station to top floor through MV duct.*
  c) *Fire Pump Earth Station: 25x6mm GI earth strip from earth station to fire pump panel in pump room at basement.*

d) *DG Earth Station: 40x6mm GI earth strip from each body earth station to DG and 32x6mm GI earth strip from each neutral earth station to DG at ground floor.*
e) *2nd Source panel Earth Station: 25x6mm GI earth strip from each station to 2nd Source electrical panel in meter cabling at ground floor.*
f) *2 nos 8SWG GI earth wire tapped from GI strip in MV shaft to each GSP panel (2A/2B/2C) and GSP panel (1A/1B/1C) in each wing.*
g) *2 nos 12SWG GI earth wire from GSP panel (2A/2B/2C) to refuge floor DB (LA/LB/LC) in each wing.*
h) *2 nos 10SWG GI earth wire tapped from GI strip in MV duct to booster pump panel at terrace.*
i) *1 no 12SWG GI earth wire tapped from GI strip in MV duct to terrace lighting DB (TA/TB/TC) in each wing.*
j) *2 nos 4SWG GI earth wire from fire pimp panel to each fire pump in pump room.*
k) *2 nos 25x6mm GI strip from DG body earth strip to main DG panel.*
l) *2 nos 8SWG GI earth wire from meter room earth strip to STPC panel.*
m) *2 nos 10 SWG GI earth wire from GSP-R panel to domestic & flushing hydro pneumatics pump.*
n) *2 nos 12SWG GI earth wire from GSP-R panel to 2nos sump pump,1no irrigation pumps & eternal lighting DB-EL and 1no 12SWG GI earth wire from GSP-R panel to STP Room & Pump room DB.*
o) *Tapping of 1x2.5 sqmm flexible copper wire in 20mm dia conduit from earth strip to isolator in shaft at every floor & wing.*

- ***Earthing Station:***

Providing maintenance free earthing system comprising of 32mm dia.3mtr long copper bonded (250micron) earthing electrode and filling of carbon based conductive back fill compound (Resistivity of less than 0.10 ohm mtr)complete with drilling ,masonry chamber with cover, tap off and test point.

Sr.No	*Earth Station / Pit*	*No*
1	*DG-Neutral Earth*	*2*
2	*DG-Body Earth*	*2*
3	*Lift- per wing -2Nos*	*6*
4	*Building –(per wing -2Nos)*	*6*
5	*Fire Pump panel*	*2*
6	*2nd Source Panel (2SP)*	*2*

- ***Electrical Cabling:***

Providing electrical cabling for power distribution within building as per attached schedule.

- ***Lightning Arrestor:***

Providing lightning arrestor to building from approved agency (Dehn India/Cape Electric/STG Heating Pvt. Ltd.)

Section - 11:

EXTERNAL WORKS

&

GENERAL AMENITIES

EXTERNAL WORKS

1) *External wall shall be finished with SBR base textured + Acrylic paint. External plaster will be 25 MM thick in two coats with water proofing compound.*

2) *Partition walls shall have R.C.C. Patli.*

3) *Terraces shall be finished with designed China Mosaic (carpet pattern) water proof treatments on siporex/ brick bat coba and 1½"I.P.S rough finish. Ten years' guarantee against leakage has to be provided by developer.*

4) *The terrace parapet wall top will have inside slope and will be covered with / Kota black granite with slab to avoid seepage. All parapet top should have granite / Kota finish with joints to be filled with sealant.*

5) *All the ground level open space around the building except Garden, water Harvest systems area etc. will have "Rubble Soling" with 4" concrete (1: 2: 4) finished with interlocking pavers designated for track load as per pattern and design.*

6) *The heavy M.S. compound gates 14' x 7' of minimum size, 2 nos. required. Wicket gates, either within bigger gate or separate, to be provided as per design along with R.C.C decorative pillars with lighting arrangement etc.*

7) *Landscaping to be provided in open space with proper lighting arrangement, seating arrangement, compound lighting etc. complete.*

8) *Firefighting equipment's shall be provided as per Govt. regulations in staircase/ lobby with proper shutter with lock and key arrangement.*

9) *Inspection chambers for drainage system shall be provided with heavy duty CI cover which can bear the regular traffic.*

10) *6" G.S.W. main drain lines along with 4" G.S.W. subsidiary to be laid as per approved drawing layout including Gully Traps/ I.C chamber A.C. or P.V.C. down takes pipes for rain water and vent pipes etc. as per B.M.C. requirements.*

11) *All formalities viz., 'P' Form, Drainage approval, Execution as per specification, Licensed plumber appointment and Fees etc. are to be borne by developer.*

12) *R.C.C. underground tank and overhead Tanks of adequate capacity as per MCGM's norms and will have electrical pumps of required capacity of approved company along with auto controlled system. If necessary separate pump house will have to be constructed with additional stand-by pump, interconnecting flushing and domestic lines with non-return valve.*

13) *Underground tank's internal walls will be finished with white ceramics glazed tiles (along withflooring of tanks) to provide cleanliness and for easy maintenance.*

14) *Developer has to provide Rain Water Harvesting System as per Concerned Authority requirements including obtaining N.O.C's of all concerned authorities at his own cost, and including storage tank as required.*

15) *Storm Water Drains inside the compound (and if necessary outside the compound) to be done by the developer at his own cost.*

16) *Extra water charges, connection charges, Drainage connection and water connection charges,passing of layouts from MCGM to be borne by developer.*

17) *Fire Fighting Water Tanks, underground and overhead Tanks with separate pressure Pump asper requirement of concerned authority to be provided by the developer, at his cost.*

18) *Developer has to construct Society office and Society fitness centre, (of maximum Permissible area) Society's servant toilets and Watchman cabin, Compound Wall Main Gate with adequate lighting and PMC Approval.*

19) *Utilization of well water (After B.M.C. testing) as per Layout at Developer's cost.*

20) *Developer should provide a bore well with pumping system at a suitable place within Society plot.*

21) *Developer shall provide rain water harvesting system and also provide bore well in the Society compound including storage and pumping system at his own cost as per MCGM requirements.*

GENERAL AMENITIES

1) *5ft height compound walls with 3ft.height barbed wire mounted on M.S. angle shall be constructed and decorated with lighting arrangements, Granite or other stone fascia.*
2) *Open space area excluding garden will have decorative pavers blocks, tiles. Staircase, Lift, Main and Side Entrance, Security Cabins will have aesthetic elevation treatment.*
3) *Highly Decorative Garden in open area with lighting & seating arrangement.*
4) *Special emergency system to lift the rainwater flooded in and at Ground level (in case there is an emergency such as on 26th July 2005) and basement to throw the water outside the compound with stand by generator system to be provided at developer's cost.*
5) *Lightning arrester on top of the building is to be provided with proper earthing till ground.*
6) *Lift:*
   - *All formalities including execution passing of P.W.D. and N.O.C. from all concerned departments to be obtained by developer.*
   - *If basement is proposed, lift should be accessible.*
   - *Developer has to provide all "Lifts" of best quality and size.*
   - *Manufacturer's name will have to be approved from the Society before installation of the same with "Stand by power" supply forat least 4 hours.*
   - *Preferred make of lifts are with Power backup & equipped with rescue device.*
   - *Minimum one stretcher lift per wing to be provided.*
7) *Society reserves the rights to erect the hoardings as well as mobile antenna on all terraces, dead walls; open spaces etc. Developer will have no right in this respect.*
8) *Solar panels need tobe planned on the terrace.*
9) *Security arrangement with 8 no. of day & night vision CCTV Cameras branded with high resolution at various locations including lifts to cover major area & DVR with 30 days recordinglocated in Society Office.*
10) *Obtaining adequate water as per BMC norms and electrical, Telephone and broadband Internetconnection.*
11) *Gas connection with all fees and deposits and meters to be provided at developers' cost.*
12) *To complete all drainage system work, S.W.D. to be connected to Municipal drains including obtaining all N.O.C.'s with fees and deposits.*
13) *The entire plot level should be raised by min 30 cm from the existing road level.*
14) *Each staircase will have safety doors as per CFO requirements.*
15) *Door on Ground Floor with Electromagnetic remote operating Lock security control unit with button, Camera and speaker,name of each flat on Gr. Floor.*
16) *Each flat will have cordless B/W video door phone with intercom key button to operate safety Electromagnetic lock provided on Gr. Floor and also view of outside area of main door.*
17) *Door phone should override with fire alarm.*
18) *This door phone unit should be portable / cordless so that it can be carried in any room.*

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19) *Ground floor should have detachable ramp for wheel chair from ground level to lift landing level.*
20) *Water pumps should be operated with auto control system. U.G. TANK with rotary ball valve*
21) *U.G. TANK and O.H. TANK should have (check for box type water proofing) internal finish with white glazed tile fixed with 'BAL Adhesive'*
22) *Adequate No. of LED lights for stair case and compound with motion sensors should be provided and operative at developer cost, for Solar powered with Auto timer system.*
23) *Hydro pneumatic water pumping system shall not be allowed*
24) *The developer has to construct self attested and air-conditioned Society office and Society fitness centre, as per maximum permissible area free of cost subject to availability of space in planning.*
25) *The developer has to construct maximum permissible servant toilets (separate for Gents & Ladies) as per D.C.P.R and security cabin, as per maximum permissible area free of cost subject to availability of space in planning.*
26) *All the requirements of BMC, Govt. & Pvt. Agency to be fulfilled by the developers at his own cost.*
27) *Anti-termite treatment during foundation and superstructure must be given.*
28) *Fire safety system as per CFO / MCGM rules to be provided.*
29) ***Hardscape :***
    - *Pathways and hardscapes shall be made of natural stones such as Mandana, Agrared, Golden lime, Kota and alternatively of according to external development scheme prepared by Architect.*
    - *Depending on the use, part of the pathways and hardscapes shall be prepared of hard concrete base and part of the area may be laid-on compacted earth.*
30) ***Storm Water drains**: Storm water drains for the plots shall be designed as per the rainfall Data & shall be constructed in brick masonry and plastered or in stone / precast masonry Pointed Storm water drains shall be covered with pre-cast concrete slabs or RCC Grating as per norms.*
31) ***Sewer Lines**:*
    - *It needs to be connected to Municipal Sewer main outside the compound wall.*
    - *All covers / manholes are to be designed for Truck load as per norms.*
    - *The grey and black water to be treated and used for flushing and landscape only balance to be connected to Municipal sewer main.*

32) *There should be a strainer chamber placed after municipal water meter to keep the municipal water supply line, clean. It is proposed that the same shall have dewatering system with pump connected to standby power supply besides regular electric supply should have waterproofing guarantee from reputed agency mentioned in list of approved makes of materials.*
33) *A bore well has to be built on the site after getting it approved from the concerned authorities.*

Section - 12:

MINIMUM RATE OF MATERIALS

MINIMUM RATE OF MATERIALS

The Developer has to provide material as per following minimum prices of materials (excluding Good & Service tax).

Sr. No	***Material***	***Unit***	***Basic Rate (in Rs. Per Unit)***
1	*Granite Stone*	*Sft*	*120/-*
2	*Cuddapa Stone*	*Sft*	*40/-*
3	*Vitrified Tile*	*Sft*	*40/-*
4	*Ceramic Tile*	*Sft*	*40/-*
5	*Anti-skid tile*	*Sft*	*45/-*
6	*Cement Chequered Tile*	*Sft*	*18/-*
7	*CP & Sanitary Fixture*		
8	*WC/Bath Combined + kitchen + sintex tank (2 Nos.) 500 lit*	*No*	*18,520/-*
9	*Soc Office Toilet + sintex tank-500 lit*	*No*	*8,900/-*
10	*Welfare Centre Toilet+ sintex tank-500lit*	*No*	*8,900/-*
11	*Anganwadi Toilet + sintex tank-500lit*	*No*	*8,900/-*
12	*Door Ironmongery*		
13	*Main Door*	*No*	*2,120/-*
14	*Bed Room Door*	*No*	*1,275/-*
15	*Staircase Door*	*No*	*2,970/-*
16	*Refuge Door*	*No*	*2.120/-*
17	*Terrace Door /All Other Door*	*No*	*2,120/-*
18	*Louvered Door*	*No*	*1,275/-*

Developer has to take prior approval of material of minimum above rates from the Society Consultant well in advance before proceeding with procurement of materials as specified above.

The Society reserves the right to finalize the materials as specified above.

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Section - 13:

LIST OF APPROVED MAKES OF MATERIALS

LIST OF APPROVED MAKES OF MATERIALS, IF USED ON SITE

LIST OF APPROVED MAKES OF MATERIALS FOR CIVIL WORKS		
Sr.	***Material***	***Make***
1	*Steel Reinforcement – T.M.T.,*	*Sail, Tisco, Jindal (T.M.T.)*
2	*OPC/PPC Cement (43/53 grade)*	*Ultratech, Ambuja, JK Laxmi, ACC*
3	*Ready Mix Concrete (w/o pump)*	*Ultratech, Lafarge, RMC, Godrej, RMC, Ashoka*
4	*Coupler*	*Ishita*
5	*AAC Blocks*	*Ultratech or equivalent*
6	*Gypsum*	*Supreme, Van Gypsum, Bombay Gypsum*
7	*WP chemicals*	*Sunanda*
8	*Ceramic Tiles*	*Johnson, Nitco, Kajaria, Euro, RAK, Nitco*
9	*Vitrified Tiles Non- Slippery*	*Johnson, Euro, RAK, Nitco, Kajaria*
10	*Pavement Tiles -*	*Somani, Vyara, Floorwell*
11	*Cover block PVC*	*Astra make or equivalent FRC*
12	*Internal Paint*	*Berger, Asian, Nerolac*
13	*External Paint*	*Nerolac, Jotun, Asian*
14	*Aluminium Section*	*Jindal, Hindalco, Fenesta*
15	*Glass for aluminium window*	*Saint Gobain, Asahi, Fenesta, Falcon*
16	*Lifts with generator*	*Schindler, ThyssenKrupp, Mitsubishi*
17	*Hydraulic Lift with generator*	*Hydraulic Kit should be G.MV, Italy*
18	*Mechanical car parking*	*Klaus, RR Parkon, Suvidha Park lift, 75 Sky zone*
19	*Security Camera, V.D.P., Data Wires*	*Zicom, Panasonic, Hikvision*
20	*Fire Extinguisher FHC as per CFO requirement*	*Safex, SafePro, CeaseFire*
21	*Sprinkler at staircase*	*Company to be approved by society*
22	*Laminated Glass*	*Company to be approved by society*

LIST OF APPROVED MAKES OF MATERIALS FOR PLUMBING WORKS		
Sr.	***Material***	***Make***
1	*C.P. Fittings for plumbing*	*Jaquar, Supreme, Flow Guard, Jindal, Prince, Greenfit*
2	*Flush Tank (if approved)*	*Parryware, Cera, Hind ware, Jaquar*
3	*Flush Valves*	*Parryware, Cera, Hind ware, Jaquar, Qinn*
4	*G.I. Pipe's class (External plumbing)*	*Jindal, TATA, Sail*
5	*Copper/Brass Pipe Fittings*	*Mandev, Rolex, Viega*
6	*Water Heater*	*Racold, AO-Smith, Havells, GE*
7	*C.I. Pipes*	*Neco, Astral, Truflo, Wilo, Tisco, Zenith*
8	*PVC Pipes for water supply water*	*Astral, Supreme, Prince, Greenfit*
9	*PVC Pipes for water drainage*	*Astral, Supreme, Prince, Greenfit*

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10	*Admixtures and water proofing compound*	*BASF, M.C. Baushemei*
11	*Copper pipe for concealed plumbing*	*Mandev, Rolex, Viega*
12	*HDPE Pipes*	*Ashirwad, Astral , supreme Finolex,*
13	*Pumps*	*Kirloskar, Grundfos, Mather Platt,*
14	*PVC Conduits, PVC Pipes*	*Garware, Pricision, Prince,*
15	*Sluice Valve*	*Kirloskar, IVC*
16	*GI Pipes / Poles*	*Zenith, Tata, Bharat Jindal*
17	*Sanitary ware*	*Parryware, Cera, Hind ware, Jaquar*
18	*Stainless Steel Sink 21" x 18"*	*Nirali, Aristo, Neelkanth*
19	*Wheel Valves*	*Leader, Zoloto, Lehry*
20	*Motor*	*Kirloskar, ABB, Siemens*
21	*C.T. / P.T.*	*Crompton, Reco, SASA*
22	*Auto Transformer Starter*	*Mei, Kilburn, Jmp, Siemens, Andrew Yule, Gec, Ke*
23	*Measuring Instruments*	*Amp, AE, UE, Meco, Rishline (L & T)*
24	*Current Transformer*	*AE, AE, Gilbert and Maxwell, IMP, Siemens*
25	*Butterfly Valve*	*Zoloto, Lehry, Honeywell*
26	*Lugs*	*Dowels, Lotus*
27	*Chlorinator*	*Penwalt, Shree Miltra Purification*
28	*Motor Protection Relay*	*Universal, L & T, Minilac, Siemens, C.S., Indo Asian*

Sr	***Item Description***	***Specification***	***Make***
1	***Internal Plumbing :***		
A	*Water supply Piping (Hot & Cold)*	*CPVC SDR-11*	*Astral/Supreme/Ajay/Ashirvad/ Prince*
B	*Waste Water Line*	*PVC SWR Type B*	*Astral/Supreme/Ajay/Ashirvad/ Prince*
C	*Soil Line*	*PVC SWR Type B*	*Astral/Supreme/Ajay/Ashirvad/ Prince*
D	*Anti siphonage Line*	*PVC SWR Type B*	*Astral/Supreme/Ajay/Ashirvad/ Prince*

2	***Water Supply: Flushing & Domestic :***		
A	*Domestic Down take Pipes (In shaft), solvent joint*	*uPVC, ASTM Sch 80*	*Astral/Supreme/Ajay/Ashirvad*
B	*Flushing Down take Pipes(in shaft solvent joint*	*uPVC,ASTM Sch 80*	*Astral/ Supreme/ Ajay/ Ashirvad*
C	*Domestic Pipes (Ring Main @ Terrace*	*uPVC,ASTM Sch 80*	*Jindal Hissar*
D	*Flushing Pipes (Ring Main @Terrace)*	*uPVC,ASTM Sch 80*	*Astral/ Supreme/ Ajay/ Ashirvad*

E	*Domestic Rising Main (From UGWT to OHWT)*	*GI "C"class*	*Jindal*
F	*Flushing Rising Main (From UGWT to OHWT)*	*GI "C"class*	*Jindal*
G	*Butteryfly Valve (for each downtake line in shafts) solvent joint*	*uPVC*	*Zoloto /sant/ltap*
H	*Butterfly Valve at terrace*	*Cast-iron (Screwed type)*	*Sant/Kirloskar/Audco*
I	*Ball valve (toilet connection in shaft*	*uPVC*	*Zaloto /Sant/Itap*
J	*Gate Valves in pump room*	*Forged Brass*	*Zoloto/sant/Itap*

LIST OF APPROVED MAKES OF MATERIALS FOR PLUMBING WORKS			
Sr	***Item Description***	***Specification***	***Make***
1	*Pressure Reducing Valve (for cold water-DWS & FWS)*		*Varie /zoloto*
2	*Water Meter*		*Kranti*
3	*Bucket type Strainer @outlet of tank @ Terrace*		*Varie /zoloto*
4	*Pump-Domestic water supply*	*400lpm at 75m head*	*Kirloskar*
5	*Pump-Flushing water supply*	*150lpm at 70m head*	*Kirloskar*
6	*Submersible pump-Pump room & STD*	*300lpm at 15m head*	*Kirloskar*
7	*Submersible pump-car Pit*	*200lpm at 15m head*	*Kirloskar*
8	*Manhole Cover (Double Seal)*	*Cast Iron*	*Bombay Iron*
9	*Sluice vale (for 80mm dia & above)*	*Cast Iron*	*Sant/Kirloskar/Audco*
10	*Slice Valve (less than 80mm dia)*	*Gun Metal*	*Sant/Kirloskar/Audco*
11	*Fittings*	*GI*	*Kirti ISI and only Zoloto for Unions*

LIST OF APPROVED MAKES OF MATERIALS FOR PLUMBING WORKS			
Sr		***Specification***	***Make***
2	***Hot Water Supply: Solar System***		
A	*Solar hot water supply downtake Pipes (in shaft)*	*PPR SDR 5-PN16*	*Kitec*
B	*Solar hot Water outlet (Terrace looping)*	*PPR SDR 5-PN16*	*Kitec*
C	*Ball Valve*	*Forged Brass*	*Zoloto /sant/Itap*
D	*Pressure Reducing Valve (for hot water)*		*Varie /zoloto*

3	***Sanitary Drainage: Soil, Waste, Vent Anti -Syph***		***Astral/Supreme/Ajay/ Ashirvad***
A	*Head Vent Line*	*PVC SWR Type B*	*Astral/ Supreme/ Ajay/ Ashirvad*
B	*Waste Water Line*	*PVC SWR Type B*	*Astral/ Supreme/ Ajay/ Ashirvad*
C	*Soil Line*	*PVC SWR Type B*	*Astral/ Supreme/ Ajay/ Ashirvad*
D	*Anti-siphonage Line*	*PVC SWR Type B*	*Astral/ Supreme/ Ajay/ Ashirvad*
E	*Waste, Soil, Head Vent, Anti-siphonage (Plinth Level to 1st floor level only & suspended)*	*CL Pipes*	*Neco /Kapilansh*

4	***Storm Water Drainage : Rain, Flower bed drain***		
a	*Rain Water Line (Type –B)*	*uPVC SWR Type b*	*Astral/ Supreme/ Ajay/ Ashirvad*
b	*Rain Water Line (suspended at celling at service floor)*	*10kg/cm2 IS 4985:2000*	*Astral/ Supreme/ Ajay /Ashirvad*
5	***Miscellaneous***		
a	*External sanitary work-below ground or in filling*	*Corrugated HDPE SN4 (IS 16098-Part2) 2013*	*D-rex*
b	*External Storm work-below ground*	*RCC NP2*	*Pranali*
c	*Manhole frame & cover*	*Heavy duty FRP*	*Everlast/ Thermodrain*

LIST OF APPROVED MARKS OF MATERIALS FOR PLUMBING WORKS			
Sr.	***Item Description***	***Specification***	***Make***
1	*Mosquito proof grating for overflow & vent*	*Brass*	
2	*C.I. Butterfly valve*		*Audco /Inter valve*
3	*C.I. NRV*		*Adance*
4	*Cement, Brick, sand, metal*		*Local approved by Site Incharge*
5	*Hot dip galvanised M.S. Bracket for down take of minimum 25mm section. Pipes shall be supported @1.50m C/C*	*Hot Dipped 70 mic*	*Local approved by Site incharge*
6	*Painting of Pipes with 2 coats of enamel over a coat of primer and labelling as directed at site*	*Approved colour*	*Nerolac /Asian*

LIST OF APPROVED MAKES OF MATERIALS FOR FIRE FIGHTING WORKS		
Sr.	**MATERIAL**	**NAME OF MANUFACTURER**
1	G.I. Pipes –C class	Jindal Hissar/Zenith
2	G.I. fitting threaded	Kirti ISI (threaded) Jainson/ Mocro/ Suger (weldable)
3	Butterfly Vales	Audco /Advance/Donfoss
4	Wafer Type Check Valves	Audco /Advance/Donfoss
5	Ball valves /Gate valve	ZOLOTO /Cimberio
6	Solenoid Valve	AVCON /DANFOSS
7	Strainers	ZOLOTO
8	Air Release Valve	ZOLOTO/ITAP/GIACOMINI
9	Anchor Fasteners	Hilti, Anchorman ,Fischer
10	Anti Vibration Mounting	Kanwal/Resistoflex
11	Motors	ABB, Siemens
12	Coupling	Lovejoy
13	Electrical Panels	L&T, LEGRAND, INDOASIAN
14	Push Button, Starter	SIEMENS, L&T,G.E Power Controls
15	Indicating lamps	SIEMENS /TEKNIK
16	Contactors	L&T /Telemachanics
17	Voltmeter/Ammeter	AE, Rishabhi (L&T)
18	Overlaod Relay	ABB, L&T, Telemechanique
19	Single Phase Preventor	L&T /ABB/Siemens
20	MCCB	L&T/ABB/Siemens
21	CABLE	C I /I C
22	FUSES	L & T/Siemens
23	CABLE GLAND	COMET
24	CABLE SOCKET	DOWELLS
25	Soft Starter	Allen Bradley /Crompton
26	Selector /Toggle Switch	Kaycee, Salzer (L & T)

LIST OF APPROVED MARKS OF MATERIALS FOR ELECTRICALS WORKS		
Sr	**Material**	**Name Of Manufacturer**
1	PVS Conduits & Accessories	Precision Plastic Industries
2	Stranded Copper Conductor, 650/1100v Grade PVC Wires	Finolex, Polycab, Relicab
3	1100v grade, PVC insulated & sheathed unarmoured copper cable	Polycab, KEI, Havells
4	Modular Type Wiring Accessories	Anchor, Legrand, Havells ,Vihan
5	1100 V grade PVC insulated & sheathed Armoured Cables	Polycab, KEI, Havells
6	Copper Lugs	Dowells, HEX
7	Brass Cable Glands	Comet
8	MCCBs	Siemens, L&T, Merlin Gerin
9	HRC Switch fuse Units & Fuses	ABB, Siemens, Bussmann
10	MCBs, Isolators, ELCBs	Schneider, Siemens, L&T
11	Bulkhead Fittings	Philips, Crompton

12	*Krone Telephone Tag Blocks in Powder coated MS enclosures*	*Krone, Paras or equivalent*
13	*Telephone Cables*	*Finolex,Polycab,Delta*
14	*Cable TV Splitters ,Tap-offs*	*MX*
15	*TV Coaxial Cable*	*RR KABEL, Finolex, Polycab*
16	*Speaker Cable*	*Shielded type*
17	*Z-Section Cable*	*Ma Industries*
18	*Multi-Srrand Tinned Copper Shielded Cable*	*Polycab or Equivalent*
19	*Connectors*	*Elmex*
20	*Metal Clad Sockets*	*Jigo, Jensen, Fonix*
21	*Light Fittings*	*Philips, Havells*
22	*Electric wiring*	*Finolex, Polycab,*
23	*Wire and Cable*	*RR Cable Havells, Legrand, Crabtree Finolex, Polycab,*
24	*Switches*	*Schneider, Legrand, Siemens*
25	*Wiring and accessories*	*RR Cable Havells, Legrand, Crabtree Finolex, Polycab,*
26	*EICB/ MCB*	*Schneider, Legrand, Siemens*
27	*Electric Fans*	*Havells, Crompton, Orient*
28	*Ring Main Unit/ HT Switches & Fuse unit*	*Havells, Legrand, Crabtree*
29	*Ceiling / Table Fans / Air Circulators*	*Usha, Crompton, Bajaj, Cinni, Rallies, Orient, Polar, Almonard, Allfa*
30	*G.O.D. Switches and Dropout Fuse Outfit*	*Kiran, Pactil, Atlas*
31	*Fuse Switches / SW Fuse*	*L & T, Siemens, Havells*
32	*Switches / Sockets*	*Clipsal / MDS*
33	*Lamps (LEDs)*	*Philips, Wipro, Syska, Osram*
34	*Rotary / Select or Switches*	*L & T, Siemens, Kaycee, EE*
35	*11 K.V. Cable / 22 KV Cable*	*CCI (Tropodur), Asian, Nicco, ICL, Gloster, Torrent, Polycab with nitrogen curing facility*
36	*Feeder Piller / Mini Piller*	*Popular Brass Metal works, Anil Elect. Ind. Manisha, ABAK, Success Engineers*
37	*Transformer*	*Kirloskar, Siemens, ABB*
38	*L.T. Cable*	*Poly Cab, Finolex, Havells*
39	*MCB and MCB DB*	*MDS, Schindler*
40	*ELCB*	*MDS, Havells, Siemens, Schindler*
41	*PVC Wires, Copper Aluminium Conductor, Flexible Cables*	*Finolex / PR / Havells, Pagoda*
42	*HRC Fuse*	*L & T, Indo Asian, Siemens, Havells*
43	*Cable Glands*	*HME, EEW*
44	*HC Fuse Distribution Board*	*CPL, EE, Essen, Stenly, KEW*
45	*Air / Oil Circuit Breakers (HT / LT)*	*Kilburn, Easun, MEI, Jyoti, Andrew Yule,Siemens, L & T, GEC, Southern, BHEL,Telemechanique*

46	*Energy Meters*	*Havells, Legrand, Siemens*
47	*Capacitor*	*Crompton, L & T, Siemens,*
48	*Steel Tubular Poles*	*Indian Electric Poles, Bombay Tubes,*
49	*Terminal Box, Bracket, Junction Box, Control Pillar*	*ELM, United, DVK, MEW*
50	*Street Light Luminaries/LED lights*	*Bajaj, Philips, Wipro, GE*
51	*Chokes / Igniters*	*Bajaj, Crompton, Phillips, Wipro, GE Apar*
52	*Power Contractors*	*L & T, Siemens, Schneider*
53	*Post Top Lantern*	*Phillips, Crompton, Glolite, Bajaj, Parimal, Tulip, Wipro*
54	*Street Light Controller / Timer*	*L & T (TSQ 100) 24 Hours Dial, ELM Indo, Asian*
55	*Alternators*	*Kirloskar, Greaves Cotton, Cummins, Ashok Layland, Cater Pillar, Stanford CG, Newage Elect. Ltd.*
56	*Diesel Engines*	*Kirloskar, Greaves Cotton, Cummins, Ashok Layland, Cater Pillar,*
57	*Flow Meters*	*Signet, Monetec, voryex*
58	*Cable Joint Kit*	*Raychem, Xicon, Benson, Mahindra (Push on) M Seal.*

Section - 14:

APPLICABLE CODES

APPLICABLE CODES

The following specification, standards and codes are made a part of this contract document. All standards, specifications, codes of practice referred to herein shall be the latest editions/ revisions including all applicable official amendments, revisions & all relevant parts. In case of discrepancy between the enclosed specification and those referred to herein, the former shall govern:

IS Codes	DESCRIPTION
Excavation Earthwork	
IS- 3764	Safety code for excavation work.
IS- 4081	Safety code for blasting and related drilling operations.
IS- 10379	Code of practice for filed control of moisture and compaction of soils for embankment and sub –grade.
IS:783	Code of practice for laying of concrete pipes.
IS: 3385	Code of practice for measurement of civil engineering works.
IS: 2720	Determination of Water content / Dry Density
IS: 456 &1893	R.C.C. as per Zone iii.
Concrete and allied works	
IS - 8112/ 12269	Ordinary Portland cement (M43 % M53 grade.
IS- 8042	White Portland
IS- 1489	Portland- Pozzolana cement
IS- 383	Coarse and fine aggregates from sources for concrete.
IS-2386	Methods of test for aggregates for concrete.
IS-2430	Methods of sampling of aggregates for concrete.
IS- 4925	Concrete batching and mixing plant.
IS-10262	Recommended guidelines for concrete mix design.
IS- 456	Code of practice for plain and reinforced concrete.
IS- 1199	Methods of sampling and analysis of concrete.
IS- 516	Methods of test strength of concrete.
IS-3370	Code of Practice for concrete structures for the storage of liquids.
IS-2571	Code for practice for laying in-situ cement concrete flooring.
IS-2645	Integral cement waterproofing compounds.
IS-4990	Plywood for concrete shuttering work.
IS-1786	High strength deformed steel bars and wires for concrete reinforcement.
IS-432	Mild steel and medium tensile steel bars and drawn steel wire for concrete.
IS-1521	Method for tensile testing of steel wire.
IS-1608	Method for tensile testing of steel products.
IS-2502	Code of practice for bending and fixing of bars for concrete.
IS-2571	Code of practice for welding of mild steel plain deformed bars for reinforced concrete.

IS-8989	*Safety code for erection of concrete framed structures.*
IS-3696	*Safety code for scaffolds ladders.*
IS-3558	*Use Immersion Vibrators for Consolidating Concrete.*
IS-3025	*Methods of sampling and test (physical and Chemical) for water used in.*
IS CODES	***DESCRIPTION***
IS-3558	*Use immersion vibrators for Consolidating Concrete.*
IS-3025	*Methods of sampling and test (Physical and Chemical) for water used in.*
IS-2722	*Portable swings weigh batches for concrete (single and double bucket type)*
IS-2506	*Screed Board Concrete Vibrators.*
IS-1791	*Batch type Concrete Mixers.*
IS-1489	*Portland Pozzolana Cement (PPC)*
IS-8112	*Ordinary, Portland cement (OPC) Grade 43 Cement.*
IS-4634	*Method of testing Performance of Batch –type Concrete Mixers.*
IS-4326	*Earthquake resistant design and construction of building.*
MASONRY WORK	
IS-1077	*Common burnt clay –building bricks.*
IS-3495	*Methods of test for burnt clay building bricks.*
IS-5454	*Methods of sampling of clay building bricks.*
IS-2212	*Code of practice of brickwork.*
IS-1597	*Code of practice for construction of stone masonry.*
IS-2572	*Code of practice for construction of hollow concrete block masonry.*
IS-2250	*Code of practice for preparation and use of a \ masonry mortars.*
IS-1905	*Code practice for structural safety of buildings masonry walls.*
IS-2645	*Integral Cement water proofing compounds.*
IS-2116	*Sand for Masonry Mortars.*
IS-2394	*Codes of practice for application of lime plaster finish.*
PLASTERING AND POINTING	
IS-1542	*Sand for plaster.*
IS-1661	*Code of practice for application for cement and cement lime plaster finishes.*
PAVING,FLOOR, FINISHING AND DADO;	
IS-6509	*Code of practice for installation of joints in concrete pavements.*
IS-1237	*Cement concrete flooring tiles.*
IS-1443	*Code of practice for laying and finishing cement concrete flooring tiles.*
IS-777	*Glazed earthenware tiles.*
IS-2114	*Laying in situ terrazzo floor finish.*
IS-2571	*Laying in situ concrete flooring.*
DOORS WINDOWS AND VENTILATORS:	
IS-4021	*Timber door, window and ventilator frames.*
IS-1003	*Timber panelled and glazed shutters.*
IS-2191	*Wooden flush door shutters (cellular and hollow core type).*
IS-2202	*Wooden flush door shutters (solid core type).*
IS-2338	*Code of practice for finishing of wood based materials.*

IS-1948	*Aluminium doors, windows and ventilators.*
IS-1949	*Aluminium windows for industrial buildings.*
IS CODES	***DESCRIPTION***
IS-3548	*Glazing in building*
IS-4020	*Methods of tests for wooden flush doors: type tests.*
IS-5807	*Methods of test for clean finished for wooden furniture.*
PAINTING	
IS-2395	*Code of practice for painting, concrete, masonry and plaster surfaces.*
IS: 2933	*Specification for enamel, synthetic, exterior, type – II*
IS:2932	*Specification for enamel , synthetic ,exterior type – I*
MISCELLANEOUS WORKS:	
IS -6313	*Code of practice for anti –termite measures in buildings.*
ROAD WORKS:	
IRC - 37	*For bituminous roads.*
IRC – 58	*For concrete roads.*
IS :73	*Paving Bitumen.*
IS : 215	*Road tar*
IS :217	*Cutback bitumen*
IS : 383	*Coarse and fire aggregates from natural sources for concrete.*
IS: 458	*Pre-cast Concrete pipes (with and without reinforcements)*
IS: 460	*Test sieves*
IS: 2386	*Methods of test for aggregates for concrete.*
IRC: 19	*Standard specification & code of practice for water bound Macadam.*
SANITARY WATER SUPPLY AND DRAINAGE WORKS:	
IS- 2556	*Vitreous sanitary appliances (vitreous china).*
IS- 5329	*Code of practice for sanitary pipe works above ground for buildings cast iron brackets and supports for washbasin and sinks.*
IS- 3486	*Cast iron spigot and socket drain pipes.*
IS-782	*Caulking lead*
IS-651	*Salt glazed stone ware pipes and fittings.*
IS-5961	*C.I. gratings for drainage purposes.*
IS-1230	*C.I. rain water pipes and fittings*
IS-554	*Dimensions for pipe threads where pressure tight joints are made on threads.*
IS- 781	*Cast copper alloy screw – down bid and stop valves for water services.*
IS-774	*Flushing cisterns for water closets and urinals.*
IS-2470	*Code of practice for installation of septic tanks.*
IS-2065	*Water supply in buildings.*
IS-1172	*Basic requirements for water supply, drainage and sanitation.*
IS-771	*Glazed earthenware sanitary appliance.*
IS-1172	*Basic requirements for water supply, drainage and sanitation*
IS-1742	*Building drainage.*
IS-5219	*'P' & 'S' traps (part I)*
GENERAL:	
IS-1200	*Methods of measurement of buildings and civil engineering works.*
IS-4326	*Code of practice for earthquake resistant design and construction of buildings.*
IS-1893	*Criteria for earthquake resistant design of structures.*