



Bhagyanagar Gas Ltd.
BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

Bid Document No. BGL/431/2018-19

VOLUME
II OF II



Bhagyanagar Gas Ltd.

BHAGYANAGAR GAS LIMITED

(A JOINT VENTURE OF HPCL & GAIL)

BID DOCUMENT FOR

**Tender for Miscellaneous Civil and Mechanical Works
at CGS cum Mother Station, Shamirpet Hyderabad.**

**UNDER LIMITED DOMESTIC
COMPETITIVE BIDDING**

Bid Document No.: BGL/431/2018-19

VOLUME-II of II



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Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

Bid Document No. BGL/431/2018-19

VOLUME
II OF II

CONTENTS

VOLUMEN II OF II

SECTION 7	-	SPECIAL CONDITIONS OF CONTRACT (SCC)
SECTION 8	-	TECHNICAL SPECIFICATIONS a. CIVIL/STRUCTURAL SPECIFICATIONS
SECTION 9	-	DRAWINGS
SECTION 10	-	SCHEDULE OF RATES (SOR)



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BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

Bid Document No. BGL/431/2018-19

VOLUME
II OF II

SECTION – 7

SPECIAL CONDITIONS OF CONTRACT



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

SPECIAL CONDITIONS OF CONTRACT

LOCATION/ SITE INFORMATION:

- a) **It is understood that before quoting the rates, the contractor will visit the work site which is situated at Mother Station, Hyderabad as mentioned below and will make him/ herself acquainted fully and understand the nature and quantum of the job to be carried out. Ignorance of this will not be considered after award of work. The contractor will be responsible to complete the entire job in all respects.**
- b) The details of Works location:
**M/s.Bhagyanagar Gas Limited,
CGS Cum Mother Station,
Sy.no. 1266, Opp. Nalsar Law University, Shamirpet,
Medchal (Malkajgiri), Telangana- 500078**

1. SCOPE OF WORK

The tender under reference covers carrying out Miscellaneous civil and Mechanical jobs required for rectification of damaged Cattle Catcher made of RCC, Removal of Bitumen Pavement, Laying of PCC, RCC for pavement development, Supply and Fabrication of SS tube Trench Covers made of Structural Steel with suitable angular supports and as per directions of EIC at BGL's CGS Cum Mother station, Shamirpet, Hyderabad.

The section of the specification shall be read in conjunction with the Drawings, other RFQ Documents and other sections of these specifications which shall be deemed to be complementary to one another. The Contractor carrying out this work shall be responsible for providing all plant, tools, materials, manpower and all things necessary for the proper execution, completion and maintenance of these works till defect liability period. Any item not specifically mentioned in this specification but considered essential for satisfactory operation of the system shall be included by the Bided in his offer.

Details of Technical Specifications and approved makes attached as per Section -8 OF Bid Document.

1. The bidder must mobilize adequate manpower for this site.
2. The quantities given above against individual items/ SORs are indicative and shall not be considered to be binding. The quantities may increase or decrease at site at the time of actual execution and as per the discretion of Owner/ Engineer-in-charge. The unit rate shall be operated to work out the final payment due to Contractor.
3. BGL reserves the right to operate any SOR for the full quantities or part quantities or nil quantities as per the site conditions. In this case; BGL's decision will be final and binding.
4. **Safety rules and regulation:** Contractor shall adopt the safety rules and regulation as per the prevailing practices. The contractor shall be executing the



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

civil & miscellaneous jobs in the running/ already operational station, the contractor has to take utmost safety in execution of the jobs. He has to appoint one dedicated supervisor for the site at CNG station at Saroornagar, and the works should be executed during day time from 09:00 AM to 06:00 PM by taking proper cold/ hot work permit systems. If the works are to be executed beyond 06:00PM, the contractor has to take prior approval from site-in-charge/ EIC & work station-in-charge. If any hot work like chipping, welding, cutting etc. have to be carried out, which can create sparks, fire etc., have to be done only in presence of BGL official by taking proper approval from site-in-charge/ EIC & work station-in-charge by deploying proper fire & safety equipments like extinguishers/ fire hydrants etc. The sites, where works will be going on; should be barricaded by putting necessary steel/ tin cover or as suitable and directed by EIC for at least 1 meter height so that these should not affect/ hamper the operation/ running of the existing equipments. All the workers shall be provided with proper safety equipments like shoes, helmets, etc. Sign boards like work under progress, danger, etc shall be displayed at the work site. Contractor shall ensure quality supervision in the working areas. No hot works are allowed in the CNG area without proper clearance from BGL.

5. **Transportation of all material:**

Shall be arranged by the contractor on his own and no separate payment shall be paid. it should be included in the offered rate.

6. **All manpower, machineries Tools and tackles:**

Equipment's, tools/tackles, machinery, roller, leveler, labour, manpower etc for the work shall be in the scope of contractor.

7. **Validity of contract period:**

2 months from the date of issue of work order.

8. **MOBILIZATION PERIOD:**

02 days from date of intimation by BGL –EIC excluding completion time.

9. **MOBILIZATION ADVANCE:** Nil

10. **DEFECT LIABILITY PERIOD** :

One year from the date of completion of entire work at the location.

11. **Price reduction Schedule (LD):**

The price reduction schedule to be made applicable with specific completion period of site. In case the CONTRACTOR fails to complete the WORK within the stipulated period, then, unless such failure is due to Force Majeure as defined in article 3.12 of GCC; or due to EMPLOYER's defaults, the Total Contract price for each release order shall be reduced by ½ % per complete week of delay or part thereof subject to a maximum of 5 % of individual release order, by way of reduction in price for delay and not as penalty. The said amount will be recovered



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

from amount due to the Contractor/ Contractor's Contract Performance Security payable on demand.

The decision of the ENGINEER-IN-CHARGE in regard to applicability of Price Reduction Schedule shall be final and binding on the CONTRACTOR.

12. Security Deposit:

Vendor shall submit SD/CPBG @ 10% of Order/ Contract Value excl. of taxes & duties within 30 days of FOA/ notification of award.

OR

The Contract Performance Security shall be with Initial Security Deposit (ISD) @ 2.5% of basic contract value and deduction @ 7.5% of the RA bill subsequently from RA bills till the total amount of security deposit (including ISD and deducted amount) reaches 10% of annualized basic contract value (without GST therein) towards faithful performance of the contractual obligations.

Pursuant to Cl. No. 24 of GCC –Works/ Services and Cl. No .12, GCC- Goods, bidder will provide performance guarantee within 30 days of the receipt of notification of award i.e., Fax of Acceptance (FOA) / Purchase Order (PO) of appropriate value in accordance with the proforma provided in bid document.

Bidder will submit two separate CPBG / Performance security i.e., one for supply, installation, commissioning & handing over of compressor package valid till the expiry of Defect Liability Period (DLP) / Guarantee / Warranty Period plus 90 days as defined in bid document and one for Annual Operation & Maintenance activities during warranty & post warranty period valid for 90 days beyond the expiry of AMC period & shall be submitted before start of AMC.

The Security deposit shall be submitted in the form of an unconditional irrevocable Bank Guarantee for Warranty from any Indian Nationalized Bank/ Scheduled bank/ reputed foreign bank having office in India and registered with Reserve Bank of India other than co-operative banks acceptable to BGL in the name of M/s Bhagyanagar Gas Limited, Hyderabad.

Alternatively the bidder can also submit the security deposit in the form of crossed Demand Draft in favor of M/s Bhagyanagar gas Limited, Hyderabad. Performance Guarantee shall be valid beyond 3 months from Guarantee/ Warrantee Period.

The Value for CPBG as mentioned above shall be exclusive of taxes and duties.

13. Water and power water charges:

Water and power shall be arranged by the contractor on his own. No separate payment shall be paid for arranging the water and power.

14. Payments:



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

Payment shall be made to the contractor for the actual quantities of work executed as per the schedule of rates issued along with the work order, against invoice supported by work measurement sheets duly signed by EIC & contractor duly certified by EIC/ or his representative. The payment shall be released through cheque/RTGS.

15. Terms of Payments:

- 90% payment of RA-bills shall be paid on progress of works at site and as certified by EIC.
- remaining 10 % will be paid after the completion of all works in all aspects and duly certified by **Engineer-In Charge** (EIC).

16. **Abnormally high rated items (AHR)** : In then schedule of Rates (SOR) ,where the tenderer's quoted rate(s) for the items exceeds 50 % of the Owner's estimated rate such rate shall be considered as abnormally high rates (AHR) and payments of the AHR items, beyond the SOR quantity, shall be made at the least of the following rates.

17.1 Rates as per schedule of rates

17.2 Rate of the item, which shall be derived as follows:

- A) Based on rates of the machine and labour as available from the contract (Which includes contractor supervision, profit, overheads and other expenses)
- B) In case rates are not available in the contract, rates will be calculated based on the prevailing market rates of machine, material and labour plus 15 % to cover contractor's supervision profit, overhead and other expenses.

18 Extra items /Substituted items:

If any work to be executed relating to the contracted work and rate for the Same is not available in the schedule of the rate then the following methodology shall be adopted.

- A) **If the item of work is similar to the item for which he has quoted rates in the Schedule Of rates, the rate will be derived from similar items of work in the SOR.**
- B) If any item of work does not appear in the SOR quoted by the contractor in that case the rates of such items shall be derived from cost of material and labour plus 15 % to cover contractor's supervision profit, overhead and other expenses. The rate shall be derived from market rate analysis.

19. Taxes, duties, octroi, levies etc.:

The quoted rates/prices shall be deemed to be including of all taxes including sales tax work contract tax, octroi, levies, over head charges etc till completion of the contract and contractor shall not be eligible for any compensation on this account. **Contractors are advised to quote the service tax rate, applicable at the time of submission of offer, clearly in their commercial bid/s.**

20 The Engineer In charge shall have the power to :



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

- A) issue the further necessary instruction to the contractor from time to time during the progress of the work for the purpose proper and adequate execution of it and the contractor shall carry out and be bounded by the same
- B) Order the contractor to remove or replace any workmen whom the company considers incompetent or unsuitable on the opinion of the company's representative as to the competence of any workman engaged by the contractor. The decision of EIC shall be final and binding on the contractor.

21 PHOTOGRAPHS/LABOUR PERMISSION/VEHICLE PERMISSION:

The contractor shall arrange to make photo gate passes/labour permissions/vehicle passes etc. for his persons/labours/vehicles for working in site plant premises at his own cost as rules of the company.

22 RESPONSIBILITIES OF THE CONTRACTOR AND COMPLIANCE WITH LABOUR/INDUSTRIAL LAWS:

- A) The contractor shall discharge obligation as provided under various applicable statutory enactments including the Employees Provident Fund and miscellaneous Provisions Act 1952, the employees state insurance (ESI) act 1948, the contract labour (regulation and abolition) act 1970, the interstate Migrant workmen (regulation of employment and conditions of service) act 1979, the minimum Wages Act, 1948 the payment of wages act 1936, Workman Compensation Act 1923, payment of bonus act, and various other labor legislations as in existence (at present in India) and as amended from time to time
- B) The contractor shall be responsible for required contributions towards PF, ESI, Pension or any other statutory payments to be made in respect of the contract and the personnel employed for rendering the services to BGL and shall deposit these amounts on or before the prescribed dates. Every contractor shall submit the proof of depositing the employee's and employers contributions. The contractor shall be responsible to pay any administrative /inspection charges thereof, where applicable, in respect of the personnel employed by him for the work of BGL
- C) The contractor shall regularly submit all relevant records/documents to BGL representative for verification.
- D) The contractor shall be solely responsible for the payment of wages and other dues to the personnel, if any, deployed by him latest by 7th day of the subsequent month.
- E) The contractor shall indemnify BGL against all claims, demands, actions, cost and charges etc brought by any court, Competent Authority / Statutory Authorities against any act or acts of the contractor or his worker.



Bhagyanagar Gas Ltd.
BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

- F) The contractor shall ensure regular and effective supervision and control of the personnel, if any, deployed by him and gives suitable direction for undertaking the contractual obligations.
- G) The contractor shall not employ or permit to be employed any person suffering from any contagious, loathsome or infectious disease. The contractor shall deploy the workers after verification of their character and antecedents. In case any worker is found having criminal record, he shall have to be immediately replaced without assigning any reason under intimation to Engineer-In Charge.
- H) The personal to be deployed to carry –out the job should be on rolls of the contractor/contracting firm.
- 23 All the tender papers must be stamped and signed.**



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**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

Bid Document No. BGL/431/2018-19

VOLUME
II OF II

SECTION – 8

TECHNICAL SPECIFICATION **CIVIL WORKS**



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

TECHNICAL SPECIFICATION

00.01 **Material Specifications**

00.02 Cement

Cement to be used for Civil & Structural work shall be of 43 grade/53 grade ordinary Portland cement confirming to IS:8112/IS:12269 respectively.

00.04 Steel

All Steel bars, sections, plates and other miscellaneous steel materials shall be free from rust, oil, mud, paint or other coatings. Reinforcement bars to be used for Civil & Structural work shall be of High Strength Deformed Steel Bars of grade Fe 415 confirming to IS: 1786.

00.05 Aggregates

Coarse & fine aggregates for Civil & Structural work shall confirm in all respects to IS: 383 latest.

00.06 Water

Water used for Civil & Structural work shall be cleaned and free from injurious amount of oil, acids, alkalis, organic, matters or other harmful substances which may be deleterious to concrete, masonry or steel. The PH value of water shall not be less than 6. Potable water shall be considered satisfactory.

Tests on water samples shall be carried out in accordance with IS:3025 and they shall fulfil all the guidelines and requirements given in IS:456 2000

02.00 Plain and Reinforced Cement Concrete

The cement is in the contractor's scope of supply. Engineer-in-Charge may require tests to be carried out by the contractor as a part of his quoted rates to ensure conformity with the relevant standards.

Engineer-in-charge may reject such cement supplied in the event of either unsatisfactory tests or in the event of deterioration due to age, bad storage etc. Decision of Engineer-in-charge shall be final in this regard.

Water used for concreting work shall be suitable for drinking and shall conform to IS 456 2000. It shall be free from injurious substances.

Source of Coarse and fine aggregates shall be approved by Engineer-in-Charge.

Contractor shall store each type and grade of aggregate separately. He shall maintain at site of work adequate quantities to ensure conformity of work. Wet aggregate delivered to site shall be stored for 24 hrs to facilitate drawing before being used.

Admixtures shall be used only with the specific permission of Engineer-in-charge and where used shall be conforming to the instruction of the manufacturer.



Chapter 2 02.01 Grades & Proportioning

The grades indicated in drawings and schedules shall conform to IS : 456 2000, the strengths being indicated below:

SPECIFIED CHARACTERISTIC COMPRESSIVE STRENGTH

02.02	<u>Grade strength of 15 cm cube in N/MM²</u>	
	28 days	7 days,
M – 20	20	13.5
M – 25	25	16.5

Modulus of Rupture by Beam Test at Minimum

	72 + 2 hours	7 days
M – 20	1.7	2.4
M – 25	2.1	2.8

The water cement ratio, coarse aggregates and grading for each mix shall be predetermined from the results of cube tests of trial mixes. The mix proportions determined thus shall be followed at site and shall in no way relieve the contractor of his responsibility as regards the prescribed strength mix. The mix proportions, however, shall be revised if the results of the cube tests during the construction show consistently lower than the prescribed one. No claim to alter the rates of concrete work will be entertained due to such changes in mix designs, as the contractor will be responsible to produce the concrete of required grade. The aggregates shall be measured by volume based on the bulk density of the aggregates as per the results obtained from the laboratory.

All concrete shall be controlled concrete confirming to IS:456 2000. For mud-mat and filling purpose, ordinary concrete of 1:4:8 for proportion or as specified may be used as indicated in drawings.

Chapter 3 02.03 Mixing

Mixing should be carried out in mechanical mixers. Hand mixing can however be permitted by Engineer-in-charge in specific cases subject to additional 10% extra cement without extra cost. Water cement ratio shall be rigidly controlled during mixing. Mixers shall be fitted with automatic devices to discharge measured quantity of water directly to the mixing pan. The water shall not be admitted to the drum until all the cement and aggregate constituting the batch are thoroughly mixed. Mixing shall continue for not less than 2 minutes after all the materials and water are put in the drum and until the concrete is uniform in colour.

Chapter 4 02.04 Placing

The place where concrete is to be poured should be clean and free from all loose dirt, wooden pieces, dust, standing water etc. The form-work must be tight and rigid, with all holes and crevices stopped effectively, to prevent cement slurry from running out.



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

Walking on reinforcement layers is not permissible, Walkways of wooden planks or similar material can be placed with removable supports and should be independent of the reinforcement. The reinforcement position should not be disturbed nor should it sag during carriage and placement of concrete. For this cover blocks of specified thickness and chairs made of reinforcement steel shall be used.

Placing and vibration should not take totally more than 20 minutes from time of mixing. Method of placing should be got approved by Engineer-in-charge. Segregation during carriage and placement should be avoided if during carriage concrete segregates, it should be remixed before placement.

Concrete should not be dropped from a height of over 1.5M. If the height is more than 1.5 m, suitable chutes shall be provided for placing the concrete at specified locations.

To ensure bond and water tightness between old concrete surface and fresh concrete to be placed, the surface should be cleaned and roughened by "initial green out" by wire brushing or chipping. The initial green cutting may be done by wire brush after 6 hours of placing concrete in order to facilitate the work. Chipping can be done only after 48 hours. A layer of cement slurry with 1:1 mix (1 cement : 1 sand) should be poured to obtain a uniform coating on old concrete. Immediately thereafter, the fresh concrete should be poured.

Concrete shall be placed in a single operation to the full thickness of slabs, beams and similar members and shall be placed in horizontal layers not exceeding 1.5m deep in walls, columns and similar members. Concrete shall be placed continuously until completion of the part of the work between construction joints or as directed by Engineer-in-Charge.

02.05

Placing concrete in inclement weather condition

All precautions shall be taken for concreting in extreme weather in accordance with relevant clause of IS:456 2000. Due protection shall be provided to prevent cement being blown away while proportioning and mixing during windy weather. No concreting shall be carried out in continuous heavy rains and necessary arrangements to cover the freshly poured concrete shall be provided, to protect it from the direct rays of the sun and from drying winds.

All concreting placements should be coordinated with placement of conduits, inserts, and embedded parts etc. executed either by same agency or separately.

Concrete in standing water shall be executed strictly as per IS : 456 2000. This shall be paid as a separate item where applicable.

Chapter 5

Chapter 6 02.06

Vibration



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

Concrete shall be compacted by means of vibrators of approved type under proper supervision as directed by the Engineer-in-Charge. The whole mass of concrete shall be well vibrated until a dense mass with a jelly like appearance and consisting of water just appearing on the surface is obtained. Over vibration and vibration of very wet mixes shall be avoided. Care should be taken to avoid segregation and formation of air bubbles.

Chapter 7

Chapter 8 02.07 Construction Joint

Construction joints shall be made in the position as indicated in drawings and as approved by Engineer-in-charge. Such joints shall be truly vertical or horizontal as the case may be except that in an inclined or curved member the joint shall be strictly at right angles to the axis of the member.

Chapter 9

Chapter 10 02.08 Curing & Protection

The concrete shall be kept constantly wet for at least seven days from the date of placing of concrete. In very hot weather precaution shall be taken to see that temperature of wet concrete does not exceed 38°C while placing.

Concrete shall not be disturbed after initial setting has started. For freshly laid concrete from work shall not be jarred. Concrete placed below ground surface shall be protected from falling earth during and after placing.

Chapter 11

Chapter 12 02.09 Finishes

On striking the formwork, all blow holes and honey combing observed shall be brought to the notice of Engineer-in-Charge. The Engineer-in-charge may at his discretion allow such honey combing or blow holes to be rectified by necessary chipping and packing or grouting with concrete or cement mortar.

If mortar is used, it shall be 1:3 mix or as specified by Engineer-in-Charge. However, if honey-combing or blow holes are of such extent as being undesirable the Engineer-in-Charge may reject the work totally and his decision shall be binding on the contractor. No extra payment shall be made for rectifying these defects. All burrs and uneven faces shall be rubbed smooth by carborundum stone.

The surface of non-shuttered faces shall be smoothed with a wooden float to give a finish equal to that of the rubbed down shuttered faces. Concealed concrete faces shall be left as from the shuttering except that honey combed surface shall be made good as detailed above. The top faces of slabs not intended to be surfaced shall be leveled and floated smooth at the levels or slopes shown on drawings. The floating shall not be executed to the extent of bringing excess fine materials to the surface. The top faces of slab intended to be covered with screed, granolithic or similar surface shall be left with a rough finish. Sides and soffits to be later covered with plaster shall be suitably roughened.



Chapter 13

Chapter 14 02.10 V-Bee Test/Slump Test of Concrete

At least one Vee-Bee Test/Slump Test shall be made for every compressive strength test carried out. More frequent tests shall be made if there is a distinct change in working conditions or if required by the Engineer-in-Charge .

Chapter 15 02.11 Strength Test of Concrete

Samples from fresh concrete shall be taken as per IS:1199 and cubes shall be made, cured and tested at 28 days in accordance with IS:516.

In order to get a relatively quicker idea of the quality of concrete, optional tests on beams for modulus of rupture at 72 ± 2 hours or at 7 days, or compressive strength tests at 7 days may be carried out in addition to 28 days compressive strength tests. For this purpose, the values as given may be taken for general guidance in the case of concrete made with ordinary portland cement. In all cases, the 28 days compressive strength as specified shall alone be the criterion for acceptance or rejection of the concrete from strength consideration. If, however, from tests carried out in a particular work over a reasonably long period, it has been established to the satisfaction of Engineer-in-Charge that a suitable ratio between 28 days compressive strength and modulus of rupture at 72 ± 2 hours or compressive strength at 7 days compressive strength as specified, provided the expected strength values at the specified early age are consistently met. However, set of test cubes for 28 days strength test shall always be taken and maintained to cater to any contingencies in the event of failure of 7 days strength.

Chapter 16

Chapter 17 02.12 Procedure

A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested, that is the sampling should be spread over the entire period of concreting and cover all mixing units.

Chapter 18

Chapter 19 02.13 Frequency of Sampling

The minimum frequency of sampling of concrete for each grade shall be in accordance with the following:

Quantity of concrete in the work in m ³	Number of samples
1-5	1
6-15	2
16-30	3
31-50	4
51 & above	4 plus one additional sample for each additional 50 m ³ or part thereof

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



Chapter 20

Chapter 21 02.14 Test Specimen

Three test specimens shall be made from each sample for testing at 28 days. Additional cubes may be required for various purposes such as to determine the strength of concrete at 7 days or at the time of striking the form work, or to determine the duration of curing, or to check the testing error. Additional cubes may also be required for testing cubes cured by accelerated methods as described in IS:9013. The specimen shall be tested as described in IS:516.

Chapter 22

Chapter 23 02.15 Test Strength of Sample

The test strength of the sample shall be the average of the strength of three specimens. The individual variation should not be more than ± 15 percent of the average.

1. The concrete test failing to attain the specified strength.
2. Suspected over loading construction of the structure.
3. Shuttering being prematurely removed and not as per time specified in IS:456 2000.
4. Concrete improperly cured.

The contractor shall carry out tests at his own cost. If the results of the loading test be unsatisfactory, the Engineer-in-Charge may instruct the contractor to demolish and reconstruct the structure or part thereof at the contractor's cost.

04.00 **Reinforcement in cement concrete**

The steel for reinforcing bars shall be as indicated in drawings and conforming to specifications.

All reinforcement at the time of concreting, shall be free from loose rust or scales, oil, grease or other harmful matter, and other castings that will destroy or reduce the bond.

The number, size, form and position of all the reinforcement shall, unless otherwise directed or authorised by the Engineer-in-Charge be strictly in accordance with the drawings. Wherever inserts interfere with the placing of reinforcement as called for, proper adjustment shall be made as directed by Engineer-in-Charge, before concrete is placed.

All reinforcement work shall conform to IS:456 2000.

The steel reinforcement shall be connected to form a rigid cage. To prevent displacement before or during concreting the bars shall be secured to one another with 16 SWG black annealed binding wire. Bars intended to be in contact at passing points shall be securely wired together similarly at all such points. Wooden planks provided for labour to move shall be supported independent from the reinforcement cage, and the cage shall never be remitted to sag or get displaced during concreting.



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

The vertical distances required between successive layers of bars in beams or similar members shall be maintained by the provisions of steel spacer bars inserted at such intervals that the main bars do not perceptibly sag between adjacent spacer bars.

Concrete spacer blocks shall be used to ensure cover of concrete over the bars. The concrete over the reinforcement bars shall be as shown in drawings and shall be the clean cover.

The contractor must obtain the approval of the Engineer-in-Charge to the reinforcement placed before any concrete is deposited.

Binding wires and wastages are not to be included in measurements.

Steel Works

All finished steel unless otherwise specified shall be well and clearly rolled to dimensions and weight as specified by ISI subject to permissible tolerances as per IS 1852-1973.

Material shall be free from cracks, surface flaws, laminations, rough and imperfect edges and other harmful defects like excessive rust, scaling and pitting etc. Structural steel work shall conform to requirements depending upon the designation of steel that is being selected to be used for particular structural function as specified in drawings.

All structural steel girders, channels, plates and other rolled sections shall conform to IS : 2062, grade-A. Pipes shall conform to IS : 1161 - YST 240 MPa

Electrodes required for metal arc welding shall be covered electrodes conforming to IS 814 – 1970.

Fabrication: Steel sections as required shall be straightened and cut to square and exact lengths. Cut ends exposed to view shall be finished smooth. No two pieces shall be otherwise welded or jointed to make up the required length of the number.

If straightening, flattening or bending is necessary, a process in a manner that will not damage the material or impair its strength shall do it. Shearing, flame cutting or chipping shall be done carefully and accurately. Finished member shall be free from undue twists, bends, wrapping, distortion or other irregularities. Holes, where required, shall be drilled to required size and not made nor enlarged by burning. Holes shall have their axis perpendicular to surface bored through. Any fabricated assembly shall be without the member



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

being strained or forced into position and components shall meet at perfect angles. Where practicable, welds should preferably be made in flat position. Welds shall be free from cracks, discontinuity in welding, or other defects categorised as such in relevant standards. Weld should be inspected, where necessary, at no cost to owner. A defective weld, harmful to structural strength, shall be cut out and rewelded. All welds shall be cleaned of slag and other deposits after completion.

All architectural and metal work shall have butt welds between adjacent surfaces ground smooth. Items concealed from view need not require grinding of welds. Architectural metal work shall be well formed to shape and size with sharp lines, angles and true curves. Drilling and punches shall produce clean true line and surface. All site connections shall be by permanent bolts only and no site welding shall be carried out. Welding at site shall not be allowed. Exposed weld shall be ground smooth, exposed riveting shall be flush and exposed surfaces shall have smooth finish. Joints shall be milled to close fit and corner joints shall be well formed and in true alignment. Work shall be accurately fastened in place.

Gate framing shall be square with no rough, sharp and jagged edges with welds ground smooth. It shall be hung such that top of the gate is level with sufficient clearance at the bottom to allow free movement of gate. Double gates shall be hung with the gap between stiles not more than 5mm. Fittings shall be as per requirement of Architect/Site Engineer.

All fixing shall be done as per standard practice, if not indicated on drawings.

Contractor shall be responsible for correct fitting of all members for elevation and alignment of finished works, their level and plumb and also for necessary adjustment of steel work because of discrepancies in other works. Painting shall be as described under the head "Painting".



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

04.00 Acrylic Emulsion Painting

04.01 Preparation of surface

Same as mentioned in Oil Bound Distemper.

04.02 Preparation of Mix

Plastic emulsion paint shall conform to IS:5411 (Part 1) and shall be of

approved shade. Preparation of mix shall be as per manufacture's instructions.

04.03 Application of Paint

The Paint mix shall be continuously stirred while applying for maintaining uniform consistency number of coats shall be 3 or more coats. The painting shall be laid evenly and smoothly by means of crossing and laying off. The crossing and laying off consists of covering the area with paint, brushing the surface hard at first, then brushing alternately in opposite direction 2/3 times and then finally brushing lightly in a direction at right angles to the same. In this process no brush marks, no hair marks, no clogging of paint puddles shall be permitted. The full process of crossing and laying off will continue 1 coat. The paint shall be applied by means of brush and roller.

Plastic emulsion paint shall start only after the proceeding coat has become sufficiently hard to resist the brush marking. Subsequent coats of plastic emulsion shall also be started after the preceding coat is dried by evaporation of water content.

Plastic emulsion paint shall start only after the proceeding coat has become sufficiently hard to resist the brush marking. Subsequent coats of plastic emulsion shall also be started after the preceding coat is dried by evaporation of water content.

The surface of finishing shall present a flat, velvety smooth finish, even and uniform shade without patches, marks, paint drops etc.

05.00 Synthetic Enamel Paint

The shop coated surface shall be rubbed down thoroughly with abrasive paper to remove dust, rust, other foreign matters and degreased cleaned with warm fresh water and air dried.

Primer coat of red-oxide zinc chromate primer conforming to IS:2074 shall be applied by brushing/spraying over the shop coat in a manner so as to ensure a continuous and uniform film throughout.

05.01 Final Paint

After the primer is hard dry the surface shall be dusted of and one coat of synthetic enamel paint of approved color and shade (conforming to IS:2932) shall be applied by brushing/spraying. The coats are applied after drying one after another to give a uniform surface. Paints can be diluted / thinning by means of thinner only as per the requirements of the finished paint surface.

LIST OF APPROVED MAKES/MANUFACTURES'S OF MATERIALS

1. Anodised Aluminium Hardware Fittings : Everite, Sigma, Kansal, Ashish, Ashoka
2. Floor Spring, & Door Closers: Everite, Doorking, Hardwyn, Sandhu ,Amar
3. C.P. Hardware Fittings : Everite, Opel, Diamond
- 4 UPVC Pipe & Fittings : Lakshmi, Supreme, Prince, Prakash
- 5 PTMT fittings & Fixtures : Prayag Polymers
6. Waterproofing Compound/chemicals : CICO, Chokesy, Impermo, Duraseal, STP, Dr.Fix
7. Bitumen : Indian Oil, H.P , Bharat Petroleum 8. Paints, Distempers, emulsion Asian, Berger, J&N, Shalimar, Nerolac
9. Waterproofing Cement Paint/ Primer : Asian, Snowcem India Ltd., Nerolac, Berger
10. G.I. Pipes : GST, Jindal, Prakash
- 11.G.I. Pipe Fittings ISI Marked
12. Ply woods / Block Boards : Duro, National, Pasand, Commercial Ply, Ply Board, Kitply, Century Ply Boards (India) Limited, Jackson
13. Particle Board/ Prelaminated Particle Board: Bhutan, Novapan, Bakelite Hylam, Eco-Board, Nepal Board
14. Factory made flush doors: Doors India Ltd Jwala, Delhi Doors, Goyal, Pasand, Jain Wood Industries, Alpro, GendaNorthern Doors
15. Laminates : Decolam, Greenlam, Merinolam Formica, National Laminart,
16. Glass Sheet / Float glass: Triveni Sheets Glass, Atul Glass, Modi Glass, Saint Gobain
17. Aluminium Sections: Indal, Hindalco, Jindal, Diamond, Man Aluminium\
18. Pressed Steel Door Frame Sections: Shiva Steel Industries, SKS Industries, West Wind Concepts (P) Ltd.
19. PVC Tiles / Sheet : Royal Cushion Vinyl, Bhor Industries, Rikvin, Armstrong, Premier PolyFilm Ltd.
20. Fibre sheet : Aakar fibre glass,Fiber tech india or as approved by GAIL
21. Glazed Tiles / Ceramic Tiles: Johnson, Orient, Kajaria, Somany, Spartek, Regency, Bell, Nitco,



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

23. Chequered Cement Tiles: Nitco, NTC, Hindustan, Gem, COMT, K K, Manhole
24. Vitrified Granite Tiles: Johson, Bell Granito, Navin Ceramics, Marbito
25. Polysulphide Sealant for Choksey Chemical, Structure Proofing Co., Pidilite, GE Silicon
26. OPC/PPC: ACC, L&T, JP, Vikram, Birla Cement, Khajurao, CCI, Prism, Diamond
27. White Cement: J.K. White, Birla White, Nihon White
28. Locks: Godrej, Harrison, Plaza, Golden
29. Chinaware Fittings / Fixtures: Hindustan Sanitaryware, Neycer, Parryware, Cera, Johson
30. C.P. Brass Fittings: GEM, Parko, Kingston, L&K, Jaquar
32. SCI Pipes and Fittings: Indo Swedish, RIF, TDS
33. Brass Fittings, Gun Metal Fittings: L&K , Leader, Bombay Metal & Alloy, Manufacturing Co., Bombay
35. Glazed stoneware pipes Perfect Potteries, Bharatpur; Burn Potteries, Jabalpur; Ishwar Pipes
34. CI Pipe Class LA and Fittings: Kesho Spun, Supra, ISCO, TISCO & Fittings of ISI mark
35. Ball Cock: GPA Brand by Govardhan Das, Jullunder; L&K Brand by L.K. Industries, Mathura; Sant Brand by Sant Press Metal Works, ullunder
36. Valves Kirloskar / Fouress
42. Steel kitchen sinks: Neelkanth, Cobra, Nirali . Materials with ISI certification may also be used after approval of EIC.

Note: In case of equivalent standard available as substitute of the above mentioned vendors, it shall be at the discretion of the Engineer –In-charge for such approval. Unless approved by the EIC contractor shall not use such equipments/ material other than the makes mentioned.

Note:

- 1) Bidder to visit the job site and to quote with correct understanding of work.
- 2) Bidder to execute the work with its entirety as per the in Scope of Work in Bid Document and BGL is not responsible for the misquoting of rates.



Bhagyanagar Gas Ltd.
BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

Bid Document No. BGL/431/2018-19

VOLUME
II OF II

SECTION – 10
SCHEDULE OF RATES



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

S No	Description of Job	Unit	Qty	Unit Rate (Rs.)	Amount (Rs.)
1	2	3	4	5	6
1	Demolition Works				
a	Removal/Demolition of Bitument Pavement area(taking all necessary Precautions) for all depths below and height including supply of all tools and tackles,labour,cutters including disposal of unservicable material to any lead,stacking of steel and other servicable materials as per direction of Engineer-in-charge.(Note: This is for rate contract purpose and is to be executed based on site requirement)	M3	110		
b	Demolition and of RCC/PCC(taking all necessary Precautions) for all depths below and height including supply of all tools and tackles,labour,cutters, necessary scaffolding, propping etc., including disposal of unservicable material to any lead, stacking of steel and other servicable materials as per direction of Engineer-in-charge.(Note: This is for rate contract purpose and is to be executed based on site requirement)	M3	18		
2	PCC				
	Providing, laying in position, construction and handing over of PCC in foundations, substructure, superstructure and under floor, etc complete in all respects as per scope of work, detailed construction drawings, technical specifications and direction of Engineer-in-charge.				
a	PCC 1:4:8 [1 Cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size]	M3	45		
	[1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement, coarse sand and coarse aggregates, other minor construction materials, shuttering, staging, shoring/strutting, finishing, etc. with all bye works and sundry works. 2.This is for rate contract purpose and is to be executed based on site requirement.]				
3	RCC				
	Providing, laying in position, construction and handing over of RCC 1:1.5 :3 in foundations, substructure and under floor including shuttering inserts/ anchor bolts, sleeves, two coats of bitumen paint on surfaces in contact with soil etc complete in all respects as per scope of work, detailed construction drawings, technical specifications and direction of Engineer-in-charge.	M3	80		



BHAGYANAGAR GAS
LIMITED

**Tender for Miscellaneous Civil and Mechanical
Works at CGS cum Mother Station, Shamirpet
Hyderabad.**

VOLUME
II OF II

Bid Document No. BGL/431/2018-19

	[1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement, coarse sand and coarse aggregates, other minor construction materials, grouting, insert steels, pipes, shuttering, staging, shoring/strutting, bitumen painting, finishing, testing etc. with mudmat excavation & backfilling all bye works and sundry works. 2.This is for rate contract purpose and is to be executed based on site requirement.]				
4	Reinforcement Steel				
	Supplying and Fabricating and Fixing in position HYSD Steel Reinforcements/ TMT Grade Fe-415 conforming to IS1786-1985 at all levels and positions including the Cost of transport, Straightening, Cutting, Bending, Cranking, Binding, Welding, Provision of necessary Chairs and Spacers, Preparation of bar bending schedule Drawings, getting the same approved etc., as per Drawings and Specifications and including Cost of binding wire, Labour etc., all complete in all respects as per scope of work, detailed construction drawings, technical specifications and direction of Engineer-in-charge. The chairs and spacer bars provided will not be Measured for payment.	MT	5.3		
	[1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as steel Reinforcement, binding wire and other minor construction materials, testing etc. all bye works and sundry works. 2. Chairs, laps, spacers, wastage etc. shall be to contractor's account.]				
5	MS Structural Steels				
1	Supplying, fabricating, providing of structural steel work with TATA/SAIL/VSP make members, angulars, beams, plates etc including cost of bolts, nuts, weilding etc.Job includes handling, transporting, erecting, straightening, cutting, drilling holes, bolting, welding, all fabrication jobs wherever necessary, fixing in position with required alignment at all heights and applying two coats of black colour enamel paint asian make over a coat of red oxide primer.	MT	2.7		
Total Amount Inclusive of all applicable taxes and duties except GST, in Rs.					
					GST @
Total amount inclusive of all applicable taxes & duties and GST, in Rs.					