



Sui Northern Gas Pipelines Limited (SNGPL)

"Design and Preparation of
Tender Document Including Site Investigations"

TENDER DOCUMENTS

For

Construction of Driver Room at Reginal Distribution Office Islamabad

January – 2026



Head Office:

C-3, Jhelum Block, Green Fort-II, Lahore.
Phone: +92 42 35450914-15
Fax: +92 42 35450916,
Email: arslan@asiancon.com

Islamabad:

Office No. 21, 2nd Floor, 44-Zaki Centre,
I-8 Markaz, Islamabad.

Karachi:

Office No. 410, 4th floor, Business Avenue, PECHS,
Block-6, Main Shahrah-e-Faisal, Karachi.

Peshawar:

Syed's Tower, Office No. 1, 4th Floor, Opposit to
Custom House, University Road, Peshawar.





Quality Control Sheet



QUALITY CONTROL SHEET				
DOCUMENT	Tender Documents for Construction of Driver Room at Reginal Distribution Office Islamabad			
PROJECT	"Design and Preparation of Tender Document Including Site Investigations"			
CODE	9200138-SNGPL			
AUTHOR				
	17.01.2026			
VERIFIED				
	17.01.2026			
RECIPIENT	Sui Northern Gas Pipelines Limited (SNGPL)			
NOTES				



Table of Contents

Contractor HSE Statement	1
Form of Tender	8
Form of Agreement	11
Appendix – A	14
Special Conditions.....	17
Integrity Pact	23
General Terms & Conditions	26
Specification to be Adopted and list of approved manufacturers/vendors	35
Approved Sample of Performance Bond/Guarantee	38
Special Clauses	41
Schedule of Payment	43
BILL OF QUANTITIES.....	45
DRAWINGS	46



CONTRACTOR HSE STATEMENT

Contractor HSE Statement





CONTRACTOR HSE STATEMENT



SUI NORTHERN GAS PIPELINES LIMITED

Doc. #SNGPL-GPR013-F001

Issue # 01

Issue Date

Contractor HSE Statement

Page 1 of 5

The Contractor shall prepare and maintain information including a clear method statement regarding Contract/Sub-Contract activities, which outline the work to be undertaken and the method (s) for minimizing and maintaining environmental impacts, OH&S Hazards and maintaining compliance with HSE regulation.

To assist in organizing and maintaining information, background information section has been included (section I, II, III) Section can be modified or deleted as required when requesting a method statement from Contractors/Sub-Contractors.

SNGPL's Personnel to Complete Section I, II, and III

Suppliers to Complete Section IV, V, and VI

Section I Your Information: (type or print)

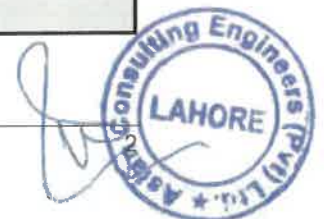
Name	
Phone Number	
Fax Number	
Dept Name	

Section II Requisition Information:

Requisition Number	
Project Number: (If applicable)	

Section III Service or Activity to be Performed:

Material/Chemical: (Production/Non-production)	Paint Solvent Sealer	Treatment Chemicals Lubricants, Oils, Greases Gasoline	Janitorial Material Other (specify) _____ Other (specify) _____
Facilities/ Construction:	Ditching Electrical Paint Structural	Roofing Mechanical HVAC	General Contractor Arch/Engr/Consulting Other (specify) _____
Services: (Includes Environmental Services)	Janitorial Security Maintenance	Emergency Response Env. Consulting Paint Booth Cleaning	Waste Management Other (specify) _____
Containerization:	5 gal. or less Drums Bulk Tanks	Type of Contract	Commodity Management On-site Manager Provided Total Cost Contract





SUI NORTHERN GAS PIPELINES LIMITED

Doc. #SNGPL-GPR013-F001

Issue # 01

Issue Date

Contractor HSE Statement

Page 2 of 5

Section IV. Supplier/Contractor Information:

Current Supplier/Contractor to this Facility

New Supplier/Contractor to this Facility

Current Involved in other Facility Project(s)

List Project(s): _____

(Complete information in table below): **(type or print)**

Name:	
Address:	
City & Province:	
Phone Number:	
Fax Number:	
President/General Manager/CEO etc.	
Facility Site Coordinator:	
Email Address:	
Phone Number:	
Mobile Number:	
Fax Number:	
Pager:	
24 Hour Emergency Number:	





SUI NORTHERN GAS PIPELINES LIMITED

Doc. #SNGPL-GPR013-F001

Issue # 01

Issue Date

Contractor HSE Statement

Page 3 of 5

Sub-Contractor Information: (List supplier/Contractor not identified) (type or print)

Type	Firm Name
Architectural	
Mechanical	
Electrical	
Heavy Vehicles	
Industrial Services	
Painting	
Roofing	
Architectural/Engineering /Consulting Firm	
Sampling/Testing	
Chemical Supplier	
Other (specify)	
Scrap	
Waste Disposal	
Demolition Disposal	

Note: it is strongly recommended that you have your sub-contractor and suppliers involved at this facility should complete a separate HSE briefing package for the facility's review.





SUI NORTHERN GAS PIPELINES LIMITED

Doc. #SNGPL-GPR013-F001

Issue # 01

Issue Date

Contractor HSE Statement

Page 4 of 5

Section V. Contractor Method Statement:

Supplier/Contractor is financially responsible for on-site HSE remediation actions resulting from incidents involving their employees and sub-contractors. To minimize the risk of environmental accidents, please review and initial the items contained in the HSE Management Basics Table below.

Health, Safety and Environment Management Basics		Tick ()
1	Contractor will ensure that the <ul style="list-style-type: none"> • Health of its employees is protected. • All activities carried out for the execution of the job are safe. • Compliance is met with all relevant laws and regulations. • All HSE (Health, Safety and environment) procedure of the Company are implemented. • Safe working environment is provided to its employees. 	
2	Contractor will take all necessary steps to minimize the hazards associated with the job. Appropriate personal protective equipment should be provided to the employees where hazards exist.	
3	All incidents resulting in Dangerous Occurrence minor or major injury fire vehicle accidents and environmental incidents are to be reported to Company with 24 hours.	
4	The Contractor is to make his own arrangements for treating injuries to his employees. In the event, Contractor's employee is injured while working for the Company. It is the Contractor's responsibility to notify the company representative immediately and to report the circumstances of injury.	
5	Contractor's mobile equipment such as trucks crane welding machines, etc must be maintained in good working conditioned. Contractor's trucks and other mobile equipment should be operated in such a way that material they are carrying does not fall off the equipment on to the roads. If repairs are required or vehicles become immobilized arrangement must be made to correct the situation with additional outside help.	
6	Prior to the start of work a certificate from a competent authority is to be given to the site in charge by the Contractor stating that all mobile heavy equipment are in good working conditioned. Only licensed and designated qualified people shall operate contractor's equipment.	



Health, Safety and Environment Management Basics		Tick ()
7	Company equipment must not be handled or tampered with by Contractor. The Company representative may grant permission to the Contractor on specific conditions to operate Company equipment if emergency conditions so require.	
8	When doing work involving excavation Contractors must not be damaged or break into or otherwise open any underground piping. Extreme care must be exercised in this respect while excavating with power driven equipment. If lines are accidentally damaged notify the company representative immediately.	
9	All excavation made by Contractors must be fenced barricaded or otherwise protected so as to prevent personnel from slipping or falling into them.	
10	Drawing/Excavation include safety talk notified for facilitating contract employees ever during transportation by Cos TPT.	
11	The authorized Company executive will issue a permit appropriate for any work to be done by the Contractor at Company designed sites where work permit procedure is applicable. After receiving permit for work the Contractor shall be guided by Company rules and applicable laws in performing his work.	
12	Contractor shall provide to all their staff the relevant PPE's as specified by the Company against each job. Contractor staff will do compliance.	
13	Contractor's job sites must be kept reasonably clean and free of rubbish and debris which may create tripping or fire hazard. Upon completion the Contractor shall leave the area in a clean and orderly manner, removing all Contractor's debris, equipment and excess material.	
14	Contractor shall dispose of all the waste generated from its activity in environment friendly manner as described in Pakistan Environment Protection Act, 1997.	



SUI NORTHERN GAS PIPELINES LIMITED

Doc. #SNGPL-GPR013-F001

Issue # 01

Issue Date

Page 5 of 5

Contractor HSE Statement

Section VI. Supplier/Contractor Certification: (review and sign)

I have reviewed and understand the information contained in this document. I also understand that SNGPL's HSE Personnel have the right to inspect our activities and those of our Suppliers/Contractors with regards to our on-site activities. I further understand that activities pertaining to service and/or maintenance contracts may only require submission of this form on an annual basis.

Name	
Title	
Signature	
Date	



FORM OF TENDER



FORM OF TENDER

Notes: - (The Appendix forms part of the Tender. Tenderers are required to fill up all the blank spaces in this, Tender Form and carefully review the Appendix).

To,

The Managing Director,

Sui Northern Gas Pipelines Ltd,

Sui Gas House, 21-Kashmir Road, Lahore.

Dear Sir,

Having examined the Drawings, Conditions of Contract, Specific Specifications, for the execution of the above-named works, we, the undersigned, offer to construct, complete and maintain the whole of the said works in conformity with the said Drawings, Conditions of Contract, Specific Specifications and Bid sheet for the sum of Rs. _____ (Rupees _____) or such other sums as may be ascertained in accordance with the said conditions.

2. I/We undertake if my/our Tender is accepted to commence the works within fifteen (15) days of receipt of the Company's (SNGPL) order to commence, and to complete and deliver the whole of the works comprised in the contract within the time mentioned in Appendix "A" calculated from the last date of commencement time.
3. If my/our tender is accepted, I/we will obtain the guarantee of Scheduled Bank/ approved Insurance Company (SNGPL) to be jointly and severally bound with us in a sum not exceeding ten (10%) percent of the above-named sum for the due performance of the Contract under the terms of Bond to be approved by you.
4. I/We agree to abide by this Tender for the period of One hundred and twenty (120) days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is Prepared and executed, This Tender, together with your written acceptance thereof, shall constitute a binding Contract between us.
6. I/We understand that you are not bound to accept the lowest or any tender you may receive.
7. As a guarantee for the performance of the undertaking and obligations of this tender, we submit herewith Earnest money amounting to Rs. 110,000 in the form of original demand draft / pay order / deposit-at-call receipt in your favour and made payable to you, without any reference to us, and valid for



one hundred and twenty days (120) from the date set for opening of Tender.

Dated: _____ day of _____, 2025

Signature _____ in the capacity of _____

Authorized to sign tenders for & on behalf of _____
(IN CAPITAL LETTERS)

WITNESS:-

Signature: _____

Name: _____

Permanent Address: _____

Occupation: _____





FORM OF AGREEMENT



FORM OF AGREEMENT

This AGREEMENT made on _____ day of _____ 2025
between _____
_____ (hereinafter called "The
Employer") of the one part and _____
(hereinafter called "The Contractor") of the other part.

Whereas the Employer is desirous that certain Works should be constructed
viz. _____ and has accepted a
Tender by the Contractor for the construction completion and maintenance of such
Works.

NOW THIS AGREEMENT WITNESSED as follows:

1. in this Agreement words and expressions shall have the same meaning as are respectively assigned to them in the Condition of Contract herein after referred to.
2. the following documents shall be deemed to form and be read and construed as part of this Agreement viz:
 - a) the said Agreement and Tender Documents
 - b) the Drawings and further drawings
 - c) the Specific Specification
 - d) the Bid Sheet and mode of Payment
 - e) the Letter of Acceptance
 - f) the correspondence and instructions issued from time to time during execution of works.
3. in construction of the payment to be made by the Employer to the Contractor as herein after mentioned the Contractor hereby covenants with Employer to execute complete and maintain the works in conformity in all respects with the provisions of the contract.
4. the employer hereby covenants to pay the Contractor in consideration of the construction completion and maintenance of the Works at the contract price at the times and in the manner prescribed by the Contract.





5. Witness whereof the parties hereto have caused their respective Common Seals to be hereunto affixed (or hereunto set their respective hands and seals) the days and years first above written

Signed By

Managing Director
Sui Northern Gas Pipelines Ltd.
21 Kashmir Road Lahore

Contractor
Signature with Seal

IN THE PRESENCE OF

Name _____	Name _____
Signature _____	Signature _____
Designation _____	Designation _____

WITNESS

Signature _____	Signature _____
Name _____	Name _____
Occupation _____	Occupation _____
Address _____	Address _____





APPENDIX – A



APPENDIX – A

1	Earnest Money/Bid Security	Rs. 110,000 /- Rupees (Must be submitted at the office of incharge (Civil), Civil Construction Department, 2 nd Floor, Gas House 21 Kashmir Road Lahore in hard form along with Hard Copy of Tender Documents Signed & Stamped by the Contractor before Tender Submission Time otherwise the bid would be declared non-responsive). <i>Earnest money must be submitted with Technical Bid.</i>
2	Amount of Performance Bond or Guarantee	Ten Percent (10%) of the amount mentioned in the acceptance letter/work order (accepted amount) to be submitted within 15 days of issuance of work order issued by SNGPL approved Insurance Company
3	Validity of Performance Bond or Guarantee.	Till satisfactory completion of the project & issuance of completion certificate
4	Validity Period of Bid	120 days from the date of opening of Tender.
5	Time for Completion	FOUR (4) Months for whole of the project including Mobilization Period of 15 days
6	Amount of Liquidated Damages	0.2% of the accepted amount/final cost of project per day for each day of delay
7	Limit of Liquidated Damages	10% of the total accepted amount or final cost of the project
8	Period of Maintenance	Twelve (12) Months after issuance of completion certificate
9	Percentage of Retention Money	Ten percent (10%) of gross amount of each running bill.
10	Limit of Retention Money	Five percent (05%) of FPC Amount
11	Payment of Retention Money	After successful completion of maintenance period and/or satisfactory rectification of all defects/deficiencies pointed out during maintenance period
12	Time within which payment to be made after Certification	Sixty (60) working days of SNGPL Head Office.
13	Mode of Payment	The Partial payments (PPC`s) shall be processed on submission of claims by the contractor on completion of any work order activity (s) as per Mode of Payment/ Payment Schedule



Tender Documents

14	Tender Documents Fee	Rs. 2500/- against Pay order in the Favor of M/s. Sui Northern Gas Pipelines Limited (Non-refundable) Must be submitted at the office of incharge (Civil), Civil Construction Department, 2nd Floor, Gas House 21 Kashmir Road Lahore before tender submission date and time. Without Submission of Tender Fee, Bid would be declared non-responsive.
----	----------------------	---



SPECIAL CONDITIONS



SNGPL desires construction of the following works thru competent Civil Contractor to carry out the complete Civil & MEP construction works as per BOQ, Specifications and Drawings given in the Tender Documents.

Construction of Driver Room at Reginal Distribution Office Islamabad



SPECIAL CONDITIONS

The bid is being invited as per 'Single Stage-Two Envelope' procedure, in Compliance of PPRA Rule No. 36(b). If the bidder fails to fulfill any of following mandatory requirements, his bid will be considered as nonresponsive and shall be rejected without opening his 'Financial Proposal'.

1. The bid shall comprise a single package with only the name of work, containing the following in two separate envelopes:
 - a. 'Technical Proposal'
 - b. 'Financial Proposal'

The envelopes shall be marked as 'TECHNICAL PROPOSAL' and 'FINANCIAL PROPOSAL' in bold and legible letters to avoid confusion.

2. Initially, only the envelope marked as 'TECHNICAL PROPOSAL' shall be opened. The envelope marked as 'FINANCIAL PROPOSAL' shall be retained in the custody of SNGPL without being opened.
3. SNGPL shall evaluate the 'Technical Proposal' in a manner prescribed in clause 4 below, without reference to the price and reject any bid which does not conform to the specified requirements.
4. The 'Technical Proposal' must contain the following:
 - i. Certificate of registration of bidder with Pakistan Engineering Council in the relevant category valid for current year or copy of last/previous year along with receipt of amount submitted for renewal of registration.
 - ii. Copy of five pages of HSE Contractor Statement given in tender documents are required to be filled, stamped and signed by bidders and submit along with Technical Proposal.
 - iii. National Tax Number along with copy of certificate.
 - iv. Copy of Professional Tax Clearance Certificate.
 - v. Copy of Provincial Sales Tax (PST) Registration.
 - vi. Following relevant paper must be provided in respective cases: -
 - Name of the bidder
 - Type of ownership i.e. Proprietor/Partnership/Private Limited Company/Public Limited Company
 - Copy of NIC in case of single proprietor
 - Copy of partnership deed in case of partnership
 - Copy of Article of Association for Private/Public Limited Companies.
 - vii. **Complete data of the Contractor regarding projects of civil works (structure/Building/Rehabilitation/strengthening Works, at least 01) each of worth not less than five (05) million during last five years with**



- proof (work order & completion certificate). The same will be vetted by the Consultant before opening of the Financial Bids.**
- viii. **Complete data of the Contractor regarding projects of civil works (structure/Building/Rehabilitation/strengthening Works, at least 01) each of worth not less than five (05) million in hand with proof (work order & Agreement). The same will be vetted by the Consultant before opening of the Financial Bids.**
- ix. **Proof of personnel & equipment capabilities and financial soundness (available bank credit line and working capital in last three years).**
5. The 'Financial Proposal' should contain the tender documents with each page signed along with duly filled in 'Bid Sheet'.
6. After the submission of bid, no amendments shall be permitted.
7. The 'Technical Proposals' shall be evaluated after opening and the 'Financial Proposal' of bids found technically nonresponsive shall be returned un-opened to the respective bidders. Thereafter the 'Financial Proposals', of the technically accepted bids only, will be opened in the presence of concerned bidders.
8. In case of any conflict between the Design Drawings and the Technical Specifications, the Drawings shall supersede the Specifications.
9. If excess in the quantities of any item of work is required either due to requirement of the client departments of SNGPL or due to some other unavoidable site conditions, the same should be informed by the Contractor well in time in order to seek formal written approval from the INCHARGE (CIVIL). The Contractor should also quantify and inform the increase in cost of work due to any such excess in quantity of any item. Upon receipt of above stated intimation of the Contractor, the Company will issue formal written permission to the Contractor for proceeding ahead in the matter accordingly.
- The Contractor has no authorization to exceed the quantities of different items given in the work order without prior written permission of the INCHARGE (CIVIL). If any Contractor executes the construction work in such a way that causes excess in quantities of any item of work, over and above the work order quantities without prior written permission of the INCHARGE (CIVIL), the Company may refuse for payment against such excess quantities.
10. If the construction site is not cleared and handed over to the Contractor by the Company within 60 days of issuance of work order, the Contractor may withdraw his offer and in such case the Earnest Money and/or Performance Bond submitted by the Contractor will be returned by the Company.
11. Complete HSE (Health Safety and Environment) Contractor Manual is available at SNGPL website www.sngpl.com.pk which must be studied for true implementation during execution of work. Implementation of HSE procedures shall be ensured as per prevailing HSE policy of SNGPL during execution of works.



12. The Contractor must ensure the HSE Management Plan (safe system of works) at site to avoid any untoward incident including but not limited to following:
- i. Detail plan of activities to be carried out from start to execution/commissioning of subject project for example scaffolding, load lifting, work at height, use of mechanical equipment (moveable and immovable) etc. Detail JSA/Risk Assessment of the associated HSE hazards of each activity along with control measures.
 - ii. Detail of certified machinery along with trained/experienced operators. Certificate of operators will be required.
 - iii. Mechanism of effective HSE supervision of the project with dedicated HSE Engineers/Officers and staff.
 - iv. Firefighting plan with detail of firefighting staff capabilities and equipment.
 - v. First aid plan with detail of first aiders staff capabilities and equipment.
 - vi. Mechanism of manual and mechanical loading/unloading.
 - vii. Detail of accident/incident statistics of the contracted company.
 - viii. Detail of barricades, i.e., caution boards, hard barricades, barricading tape etc.
 - ix. Detail of PPE's.
 - x. Emergency Response Plan.
 - xi. Training and safety talks mechanism.
13. The Contractor shall be liable to pay compensation to his staff / labour in case of any major injury, disability and fatality category wise as under:

a.	In case of major injury (Injury leading to temporary disablement)	Payment of ½ of the monthly wages till the recovery of temporary disablement or for a maximum period of one year, whichever is less. Payment of 1/3 of the monthly wages till the recovery of chronic ill health / disease or for a maximum period of 5 year, whichever is less.
b.	In case of Disability (Permanent)	Rs. 500,000/-
c.	Fatality	Rs. 500,000/-

14. Failure to compliance against HSE initiative at operational sites will lead to blacklisting of a Contractor through following disciplinary action.

e.	1st Violation	Warning-letter
f.	2nd Violation	Deduction of Rs. 100,000/-
g.	3rd Violation	Deduction of Rs. 500,000/-
h.	4th Violation	Suspension for period of Six Months
i.	5th Violation	Blacklisting



15. To ensure that Contractor obtains 3rd party insurance to cover such incident (Harmful Incidents / Any Accident)
16. To ensure the sufficient security is retained by the company from the Contractors to cover such case (Harmful Incidents / Any Accident)
17. Protective gear should be provided to workers by the Contractors to avoid such accidents (Harmful Incidents / Any Accident)
18. To take care of the above point in future as well as running contracts.
19. Minimum level of age/experience/skill of contractor's staff/labour should be checked by first line executives and HSE engineer against the relevant job. A clause should be included in the Contract awarding documents against this requirement.
20. Contractor's staff should use only those tools at site which have prior verification from first line executives and HSE engineer. A clause should be included in contract awarding documents against this requirement.



INTEGRITY PACT



INTEGRITY PACT

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC PAYABLE BY THE CONSULTANT/CONTRACTOR FOR SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract Number: _____

Dated: _____

Contract Value: _____

Contract Title: _____

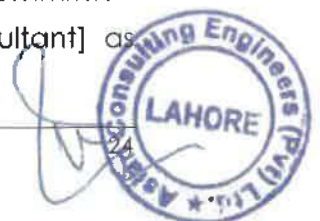
[name of Consultant/Contractor] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [name of Consultant/Contractor] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[name of Consultant/ Contractor] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Consultant/ Contractor] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration representation and warranty. It agrees, that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be void able at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [name of Consultant/ Contractor] agrees to indemnify GoP for any loss of damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any commission gratification, bribe, finder's fee or kickback given by [name of Consultant] as





aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest privilege or other obligation or benefit in whatsoever form from GoP.

[Client]

[Consultant / Contractor]



GENERAL TERMS & CONDITIONS



GENERAL TERMS & CONDITIONS

1. SITE CONDITIONS, CLEARING AND GRUBBINIG

The tenderers shall fully acquaint themselves with the site, site conditions, affecting in any way the cost of tender etc., before tendering. The work is to be completed in all respects, fully functional. The work also includes all necessary arrangements required to be made at site according to site requirements.

2. TENDER PREPARATION AND SUBMISSION

The tenders shall be prepared at tenderer's own cost and shall be submitted on prescribed form of tender in sealed envelopes on which only the name of work should be clearly written in capital letters while name of tenderer should not be written. All entries should be made in ink in both words and figures. All pages of the tender documents must be signed and stamped by the tenderer. The preparation of tender documents and any correspondence in connection with the tender documents should be in the English language. The tender should be delivered in person or by mail to the following address:

INCHARGE (CIVIL)
2ND FLOOR, S.N.G.P.L. HEAD OFFICE,
21-KASHMIR ROAD, LAHORE

so as to reach on or before the time and date given in Tender Invitation Notice/Letter, at which time and place, they will be opened. Tenderers are invited to be present at the opening of the tenders. Only the tenderer's name and total tendered prices will be announced. The tender documents thus once submitted shall become property of the Company and shall not be returned whatsoever.

3. CLARIFICATIONS, INTERPRETATIONS

The tenderer shall study the drawings and specifications carefully. Any information, clarifications, interpretations sought by the intending tenderers must be referred in writing to company as per date mention on website, SNGPL will issue necessary instructions in writing to all tenderers simultaneously, which will become part of the contract. The tenderers shall sign copies of all such addenda and submit them together with the tender documents and drawings. Verbal discussions shall not to be considered binding. No extension in the closing date shall be demanded on account of any such clarification and/or interpretation having received late. If no clarification is obtained within the prescribed time and later on any discrepancy (e.g., mismatch between any tender documents etc..) is noticed, then the decision of the Company shall be final and binding.



4. MODIFICATIONS

Modifications in the tender documents, if required by the Company, will be made by issuing addenda to the Tender Documents. Intimation of such modifications will be sent to each tenderer, minimum four days prior to the date of submission of tenders. No amendment or modification of the contract shall be made except in writing and signed by the Company.

5. CONDITIONAL TENDER

Conditional tender will not be accepted.

6. RATES

The Contractors shall quote the rate on lump sum cost basis (if not given otherwise) in the bid sheet attached to construct, complete and maintain the works included in the bid sheet, to the fully functional/operational conditions covering and including all the civil works, public health and sanitation work, electrical works, laying conduit pipe for telephone lines, external works and all other services whether or not shown in the drawings or given in the specific specifications. For this purpose, Contractors shall calculate and evaluate the quantities and quantum of works themselves and no claim of Contractors whatsoever shall be entertained by the Company for any mis-calculation of tender by the Contractors. The rates quoted by the Contractors shall be for complete finished work and shall be comprehensive and complete in all respects including cost of all materials, labour, tools and plants, carriage, taxes, profits, incidental charges etc.

7. RATE ANALYSIS

The Contractors should provide rate analysis of each item (if required).

8. RIGHT OF REJECTING TENDER

The Company shall have the right of rejecting any or all of the tenders. The Company is not bound to award the contract to the lowest tenderer.

9. EARNEST MONEY

A Demand Draft, Pay Order, Deposit-at-Call or Deposit Receipt issued from any scheduled bank of Pakistan (preferably at Lahore), equal to Rs. ~~55,776/-~~ ^{110,000/-} amount of work in favour of Sui Northern Gas Pipelines Limited, Lahore shall be submitted before tender opening date as earnest money on the address mentioned at Appendix-A. Tenders without Earnest Money will not be entertained. Cheques and cash will not be accepted. The earnest money of unsuccessful tenderers shall be returned

- a. After execution of contract agreement with the successful tenderer
or



- b. If all the tenderers are rejected, after such rejection or
- c. Within sixty days of opening of tender

The earnest money of the successful tenderer shall be returned after submission of Performance Bond. If the tenderer to whom the contract is awarded refuses or neglects to execute the agreement than the earnest money will be forfeited and contract may be rescinded. If the construction site is not cleared and handed over to the Contractors by the company within 60 days of issuance of work order, the earnest money will be returned to the Contractors by the company.

10. VALIDITY OF BID

The bid shall remain valid and may remain open and binding for a period of 120 days from the date of opening of tender or until the work order issued to the successful tender.

11. PERFORMANCE BOND OR GUARANTEE

The Contractors will have to submit, at his own expense, Performance Bond as per detail given in Appendix-A. Terms of the bond shall be as per sample provided by the Company.

12. STANDARD OF WORK

The work shall be done to the entire satisfaction of the Company. The Company is the sole judge to approve the standard of work and if any defects are observed up to completion of maintenance period, the Contractors shall make good all such defects at his own risk and cost including materials. If the Contractors fails to do any such work, as aforesaid required by the Company, the Company can get the same work done through any other means and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractors by the Company or may be deducted by the Company from any money due or which may become due to the Contractors.

13. HSE POLICY

SNGPL is committed to the health and safety of its employees, preservation of environment and continual improvement of HSE performance by reducing potential hazards, preventing pollution and adhering to applicable laws and regulations in all its activities related to its Contractors. Following should be ensured by the Contractors.

- 1. Usage of Personal Protective Equipment.

The use of personal Protective equipment is to reduce employee's exposure to hazard when engineering and administrative controls are not feasible or effective to reduce the risks to acceptable levels. Personal Protective Equipment is last line of defence.

- 2. Wearing of closed shoes.



3. Not wearing loose clothes.
4. Not to use defective machinery and plant.
5. Not to work in unsafe condition.
6. Not to perform unsafe acts.

14. REMOVAL OF ANY CONTRACTOR'S EMPLOYEE FROM SITE

The Company shall be at liberty to object to and require the Contractors to remove forthwith from the works any person employed by the Contractors in or about the execution or maintenance of the works, who, in the opinion of the Company, misconducts, or is incompetent or negligent in the proper performance of his duties, or whose employment is otherwise considered by the Company to be undesirable and such person shall not be again employed upon the works without the written permission of the Company. Any person so removed from the works shall be replaced as soon as possible by a competent substitute approved by the Company.

15. CONTRACTORS LIABLE FOR DAMAGE TO PLANT AND PEOPLE ETC.

The Contractors shall be at any time be liable for the loss of or damage to any of the said constructional plant, temporary works, materials and people including labour etc.

16. SERVICE OF NOTICES ON CONTRACTORS

All certificates, notices or written orders to be given by the Company to the Contractors under the terms of the contract shall be served by sending by post to or delivering the same to the Contractors principal place of business, or such other address as the Contractors shall nominate for this purpose.

17. SUBLETTING

No subletting of major work shall be done without prior written permission of the Company.

18. REMOVAL OF IMPROPER WORK AND MATERIAL

- a. The Company shall during the progress of the works have power to order in writing from time to time:
 - i. The removal from the site, within such time or times as may be specified in the order, of any materials which, in the opinion of the Company, are not in accordance with the contract.
 - ii. The substitution of improper and unsuitable materials and
 - iii. The removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefore, of any work which in respect of materials or workmanship is not in the opinion of the Company, in accordance with the contract.
- b. Default of Contractor's Compliance

In case of default on the part of the Contractors in carrying out such order, the Company shall be entitled to employ and pay other persons to carry out





the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractors by the Company, or may be deducted by the Company from any money due or to which may become due to the Contractors.

19. RATE OF PROGRESS

If for any reason, which does not entitle the Contractors to an extension of time, the rate of progress of the works or any section is at any time, in the opinion of the Company, too slow to ensure completion by the prescribed time, the Company shall so notify the Contractors in writing and Contractors shall thereupon take such steps as are necessary and the Company may approve to expedite progress so as to complete the works or such section by the prescribed time. The Contractors shall not be entitled to any additional payment for taking such steps. If as a result of any notice given by the Company under this clause, the Contractors shall seek the Company's permission to do any work at night or on Sunday, if locally recognized as days of rest, or their locally recognized equivalent, such permission shall not be unreasonably refused. If it is still felt that the progress of the Contractors is not satisfactory and in the opinion of the Company, the project is likely to be delayed due to poor progress, the remaining work can be taken over from the Contractors after giving notice of 14 days and the work can be got completed at the risk and cost of the Contractors.

20. ADVANCE PAYMENT

No advance payment shall be made except described in Appendix-A.

21. CORRECTION AND WITHHOLDING OF PAYMENT CERTIFICATES

If the works or part of the works contained in the PPCs/FPC of the Contractors are found incomplete, defective, rejected and/or with calculation error(s) etc., the Company shall and/or can:

- a. Correct and deduct from the bill such amount or amounts as the Company may consider proper and reasonable or
- b. Withhold payment certificate till the proper completion and rectification of the works or part(s) thereof, or
- c. Send back the said bill to the Contractors for resubmission of proper bill in proper form and details as required by the Company.

The Contractors shall have no claim whatsoever for any delay thus occurring in issuing the payment certificates and releasing the payment thereof.

23. INCOME TAX DEDUCTION

As required under the law, Income Tax will be deducted as per prevailing Government instructions and deposited with the Income Tax Department. However, a certificate for such deduction will be issued to the Contractors.

24. VARIATIONS





The Company shall make any variations of the form, quality or quantity of the works or any part thereof that may, in its opinion, be necessary and for that purpose, or if for any other reason it shall, in its opinion be desirable, the Company shall have power to order the Contractors to do and the Contractors shall do any of the following:

- a. Increase or decrease the quantity of any work included in the contract.
- b. Omit any such work
- c. Change the character or quality or kind of any such work
- d. Change the levels, lines, position and dimensions of any part of the works, and
- e. Execute additional work (s) of any kind necessary for the completion of the works

And no such variation shall in any way vitiate or invalidate the contract. Additional proportionate time may be allowed by the Company on the basis of any addition in work (s) as per following:

1. If excess in the quantities of any item of work is required either due to requirement of the client departments of SNGPL or due to some other unavoidable site conditions, the same should be informed by the Contractors well in time in order to seek formal written approval from the In-charge (Civil). The Contractors should also quantify and inform the increase in cost of work (s) due to any such excess in quantity of any item.
2. Upon receipt of above stated intimation of the Contractors, undersigned will issue formal written permission to the Contractors for proceeding ahead in the matter accordingly.
3. The Contractors have no authorization to exceed the quantities of different items given in the work order without prior written permission of the In-charge (Civil).
4. If any Contractors execute the construction work (s) in such a way that causes excess in quantities of any item of work, over and above the work order quantities without prior written permission of the In-charge (Civil), the Company may refuse for payment against such excess quantities.

25. VALUATION OF VARIATION

All extra or additional work (s) done or work (s) omitted by the order of the Company shall be valued at the rates and prices set out in the contract if, in opinion of the Company, the same are reasonable, otherwise the same will be rationalized as per following formula given for non-BOQ items.

The rates for additional works (non-BOQ), if any, will be calculated on the basis of following guidelines:





- i. Average market price of material specified quality.
- ii. Cost of labour worked out rationally.
- iii. 10% of cost of material and labour as overhead expenses and taxes of Contractors.
- iv. 15% of cost of material and labour as profit of the Contractors.

26. ESCALATION

No escalation in respect of any kind of material and labour shall be paid in any case due to increase of prices in the market.

27. NATIONAL TAX NUMBER AND PROFESSIONAL TAX CLEARANCE CERTIFICATE

The Contractors will have to produce National Tax Number and Professional Tax Clearance Certificate.

28. COMPLETION TIME

The Contractors shall complete all contract works within stipulated 'Time of Completion' as given in Appendix-A.

29. TIME EXTENSION

Delay in work due to special circumstances of any kind which may occur other than through default of the Contractors shall entitle the Contractors to an extension in time for completion of work. These special circumstances may include war, riots, epidemics, adverse climatic conditions, law and order situation or other circumstances of such kind which are beyond the reasonable control of the Contractors. The Company shall determine the amount of such time extension and shall notify to the Contractors accordingly.

30. LIQUIDATED DAMAGES (PENALTY)

In case of delay in completion of work from stipulated completion date on the part of the Contractors, Liquidated Damages (Penalty) for such default of the Contractors will be imposed as per the percentage amount given in the Appendix-A for each day of delay. This clause, however, shall not be applicable if in the opinion of the Company, the delay is due to war, riots, epidemics and/or any other reason out of reasonable control of the Contractors. The Company, may without prejudice to any other method of recovery, deduct the amount of such damages from any money in its hands, due or which may become due to the Contractors. The payment or deduction of such damages shall not relieve the Contractors from his obligation to complete the works, or from any other of his obligations and liabilities under the contract.

31. REMEDY ON CONTRACTOR FAILURE TO CARRY OUT WORK REQUIRED

If the Contractors shall fail to do any such work(s) as aforesaid required by the Company, the Company shall be entitled to employ and pay other persons



to carry out the same and if such work is the work, which in the opinion of the Company, the Contractors were liable to do at his own expense under the contract, then all expenses consequent thereon or incidental thereto shall be recoverable from the Contractors by the Company, or may be deducted by the Company from any money due or which may become due to the Contractors.

32. BLACKLISTING

If the Contractors fail to execute the work as per contract, the Company may delist his name from SNGPL and the same will be forwarded to PPRA and Pakistan Engineering Council and may blacklist his name for future participation in tender.

33. PROCESS OF PAYMENT/CORRESPONDENCE

1. Work will be completed by the contractor to whom job assigned.
2. PPCs/FPC will be processed on the name of firm's proprietor including name duly signed and stamped by the proprietor.
3. Cheques payment will be processed on the name of proprietor including firm's name.
4. No representative of the firm will sign the official documents on behalf of proprietor.
5. None of proprietor/ representative of firm allowed to do business with the company the of any other firm.



SPECIFICATION TO BE ADOPTED AND LIST OF APPROVED MANUFACTURERS/VENDORS



SPECIFICATIONS AND

LIST OF APPROVED MANUFACTURERS/VENDORS

All equipment/material shall conform to relevant codes and specifications given in BOQ/drawings and shall be from approved sources indicated below. However, in every case the Contractor shall submit complete technical details of the equipment and material and obtain Engineer's approval prior to delivery on site duly vetted by the Consultant. Where Approved Equivalent is indicated, it shall be at the sole discretion of the Engineer to accept or reject the alternate proposal submitted by the Contractor. In the event "Approved Source" of any equipment / material is not indicated below the contractor shall obtain the approval of the Engineer prior to placing order on any supplier. During the execution stage if the material from any supplier is found defective/Sub-standard the Engineer reserves the right to ask the successful bidder to replace his choice of manufacturer / supplier for that particular equipment.

Sr. No.	Description/Materials	Brands/Vendors
1.	Crushed Stone Aggregate	Sargodha (black) or any approved equivalent
2.	OPC Cement	DG, Askari, Maple Leaf or any approved equivalent
3.	Reinforcement Steel, Deform, G-60 & 40	AFCO, Mughal, Fazal or any approved equivalent
4.	Sand	<ul style="list-style-type: none"> • Local Sand PCC 1:4:8, Brick Masonry, Sand Filling • Lawar nacepur sand for plaster • 100% Lawar nacepur for all RCC Works
5.	Ceramic Tiles	Master or any approved equivalent
6.	Plastic/Vinyl emulsion/Enamel (Matt or Gloss)	ICI Dulux, Berger or any approved equivalent
7.	G.I. Pipes	III (M)
8.	G.I. Pipes (Fittings)	Chinese (Imported)
9.	Gate Valves & Sluice Valves	Chinese Imported
10.	Pigment	Chinese (Imported)
11.	Hardware, Stays & Handles (Brass)	Moosa, Pistol
12.	Window Glazing	Malaysia, Indonesia
13.	Stainless Steel Sink	Atlas, Super Asia
14.	Cast Iron Pipe, Fitting & Fixtures	Alpine, Teepu supreme spun pipe (Sandal Engineering PVT), (Soil & Waste), (Rain Water & Vent Pipe) Floor Trap etc.,
15.	UPVC Pipes & Fittings	DADEX, BETA, Popular
16.	RCC Pipes	Shalimar, Akram, as per ASTM specifications



Sr. No.	Description/Materials	Brands/Vendors
17.	Sanitary Fixtures	Baig, ICL/IFO, Master, Sonex
18.	Flushing Cistern	ICL/IFO, Master, Sonex
19.	Sanitary Fitting	ICL/IFO, Master, Sonex
20.	Anti Termite	Dursbin, Biflex or any approved equivalent
21.	Water proofing agent on sloppy roof	Dyna bond, Vandex, FEB
22.	Cables	Pakistan Cable Ltd. Newage Cables (Pvt.) Ltd. Fast Cables Ltd. Pioneer Cable
23.	Distribution Boxes / LV Panels	Electrech Perfect Elektro MEK Pakistan (Pvt.) Ltd (PEMPAK) Bilal Switchgear Engineering Pvt. Ltd. PEL Tariq Electric MK Engg
24.	Contactors / Relays	ABB Telemecanique National / Finder / Lovato
25.	Circuit Breaker	Teraski Schnieder MG ABB
26.	Indicating Lamps and Push Buttons	Telemecanique, France Fuji, Japan Baco, France Revaico, Italy Mruyasu – Japan Lovato – Italy Hager – France
27.	Voltmeters / Ammeters	Saci, Spain / Kraus & Naimer, Australia Hobut, UK Revalco, Italy
28.	Earthing rod, Earth pits, lugs and terminals	Wallis – UK Furse – UK Erico – USA



Sr. No.	Description/Materials	Brands/Vendors
29.	uPVC Conduit & Accessories	Beta pipes
		Popular Pipes
		Plasco Pipes
		Dadex Pipes
30.	Light fixtures	Original Philips Pakistan or equivalent
31.	Switches, Sockets and Power Plugs	Local Bush
32.	Back Boxes, Pull Boxes, etc., Telephone Junction Boxes	Hussain & Co-Karachi, N.R. Industries Lahore , MISTO Lahore
33.	Pumps	KSB, HMA, Grundfos, Komax
34.	Motors	Siemens
35.	Copper Conductor	99.9% Pure Electric Copper Conductor, Pakistan Cable, Newage Cable or equivalent as approved by the Company
36.	Polythene Sheef	60 Sft = 1kg

NOTE:

1. All materials shall be as per brands/specifications given in above table or equivalent approved by Incharge (Civil) and duly vetted by the Consultant.
2. Samples of all construction material should be got approved from the Incharge (Civil) before installation at site.
3. Original cash memo/certificate from authorized dealer will be provided by the Contractor to Incharge (Civil) before installation when required.
4. All PCC, RCC Cylinder strength and steel grade would be according to the provisions of BOQ and drawings. Same provisions will prevail for steel cover.



APPENDIX: LIST OF APPROVED INSURANCE COMPANIES

List of approved insurance companies for performance bond only

1. National Insurance Corporation
2. Habib Insurance Company Limited
3. Eastern Federal Insurance Co. Ltd
4. Premier Insurance Co. Ltd
5. New Jubilee Insurance Co. Ltd
6. Universal Insurance Co. Ltd
7. Adamjee Insurance Co. Ltd
8. National Security Insurance Co. Ltd
9. The Pakistan General Insurance Co. Ltd
10. United Insurance Co. Ltd
11. Atlas Insurance Co. Ltd
12. IGI Insurance Co. Ltd

Note: Performance or other guarantees from Insurance Company will be accepted as long as the Insurance Company is of category A+ or above, as per ratings issued by Pakistan Credit Rating Agency Limited (PACRA). Earnest Money and Mobilization Advance Guarantee will, however, be acceptable from Scheduled Banks of Pakistan.



APPROVED SAMPLE OF PERFORMANCE BOND/GUARANTEE



APPROVED SAMPLE OF PERFORMANCE BOND/GUARANTEE

No. : _____
Dated : _____
Amount : _____
Expiry date : _____

To

The Managing Director
Sui Northern Gas Pipelines Limited
Sui Gas House
21- Kashmir Road
Lahore

Dear Sir,

BY THIS BOND/ GUARANTEE _____

_____ Lahore whose registered office is at _____ hereinafter called the "SURETY" do hereby bind ourselves and our successors and assigns jointly and severally by these presents, to pay the Sui Northern Gas Pipelines Ltd., Lahore (hereinafter called the "COMPANY") unconditionally on demand and without further questions, the sum of Rs. _____ (Rupees _____) sealed with our seal and dated Lahore this _____ day of _____.

WHEREAS

M/s _____ (hereinafter called the "CONTRACTORSS") for submitting tender for _____

_____ a Work Order No. _____ dated _____ made between the "COMPANY" of the one part and the "CONTRACTORS" of the other part has entered in to a contract (hereinafter called "THE SAID CONTRACT") for the construction of aforesaid works as herein mentioned in conformity with the provisions of the said contract and the sum mentioned in the above written Bond/ Guarantee represents the retention money to be furnished by the Contractors for fulfillment of the said contract.



NOW THE CONDITION of the above written Bond/ Guarantee is such that if the Contractors shall duly perform and observe all the terms, provisions, conditions and stipulations of the said contract on the Contractors part to be performed and observed according to the true purport, intent and meaning thereof as determined by the company who shall be the sole judge in the matter or if on default by the Contractors for which the company shall be the sole judge, the surety shall satisfy and discharge the damages sustained by the company thereby and determined by the company of the above written bond/ Guarantee, then this obligation shall be null and void but no alteration in terms of the said contract made by agreement between the company and the Contractors or in the extent or the nature of the works to be constructed, completed and maintained there under and no allowance of the time by the company under the said contract nor any forbearance or forgiveness in or in respect of any matter or thing concerning the said contract on the part of the company shall in any way release the surety from any liability under the above written Bond/ Guarantee.

This Performance Bond/ Guarantee is valid up to _____ (including time of completion of work and completion of maintenance period).

Yours faithfully,

For and on behalf of "Surety"

SURETY NAME _____

Authorized Signature

Authorized Signature

The Common seal of the ("Surety") _____ is hereunto affixed in the presence of:

WITNESSES:

1.
Name: _____
CNIC No. _____
Signature: _____

2.
Name: _____
CNIC No. _____
Signature: _____



SPECIAL CLAUSES



SPECIAL CLAUSES

SC1. TESTING OF CONSTRUCTION MATERIALS ETC:

Tests but not limited to the following for construction materials shall be carried out:

Sr. No.	Material	Test	Reference
1	Concrete	i. Slump Test	ASTM C 143
		ii. compressive test of 6" dia x 12" long cylinder at 28 days	ASTM C -39
2	Bricks	Compressive Strength 1800 psi	ASTM C 0067-03a
3	Aggregate	1. Sieve Analysis	ASTM C 136-5
		2. Crushing Strength by Los Angeles Abrasion Test	ASTM C 131-03
4	Reinforcement Steel	1. Tensile Strength	ASTM A 615/A
		2. Elongation Test	ASTM A 615/A

- i. The Contractor will pay all the expenses relating to material testing including but not limited to the cost of metrical sample preparation carriage and testing in lab etc.
- ii. The Contractor shall make available at site the equipment/apparatus required for testing of material as directed by the Company.
- iii. The quantity of sample and the frequency of tests will be as per above standard or as directed by the Company.

SC2. UTILITIES:

The Contractor shall provide where possible at site Contractors staff accommodations water supply and electric power free of cost.

SC3. QUANTITIES IN BID SHEET:

The quantities given in bid sheet are only for reference and payment shall be made as per actual measurement at site.

SC4. IMPLEMENTATION OF HSE PROCEDURES:

The successful bidder shall follow all the applicable HSE procedures and policies at construction site in accordance with Contractors HSE statement.

SC5. TESTING ARRANGEMENT/EXPENSES:

Testing arrangement/expenses for construction materials, concrete and compaction of road works from approved laboratories (approved by SNGPL representative/site Incharge) shall be responsibility of Contractor. All tests of construction materials and final product elaborated in Technical Specifications will be performed after which the works will be considered as approved for final payment.



SCHEDULE OF PAYMENT



MODE OF PAYMENT/PAYMENT SCHEDULE

Construction of Driver Room at Regional Distribution Office Islamabad

Payment shall be made against each bill as per Bid Sheet/BOQ upon completion of respective Job associated with that specific bill strictly in accordance with the methodology/scope of works proposed in these tender documents.

NOTE:

1. These payments will be considered for approval/payment only after complete testing of the construction materials involved and other related tests specified in the tender documents, drawings and provisions of BOQ.
2. The quantities given in BOQ are only for reference however work to be carried out as per specification/drawings given in tender document and payment shall be processed as per the Mode of Payment.



BILL OF QUANTITIES

**REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)**

DRIVERS ROOM

Bill of Quantities

General Abstract of Cost

Sr.No	Description	Amount (Rs.)
1	Bill No.1: Civil Works	
2	Bill No.2: Plumbing Works	
3	Bill No.3: Electrical Works	
4	Bill No.4: HVAC	
	Tota	
	PST 16%	
	GRAND TOTAL AMOUNT	
	GRAND TOTAL AMOUNT IN MILL	



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st Bi Annual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
		Bill Nr.1: Civil Works				
		Schedule Items				
1.1	3-21(2)	Excavation in foundation of building, bridges and other structures, including daggelling, dressing, refilling around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m) 2) a) By Excavator i) Ordinary soil	1000 Cft	774.680		
1.2	3-15	Filling, watering and ramming earth under floors:- i) with surplus earth from foundation, etc.	1000 Cft	1,373.520		
1.3	26-43	Spraying termite proofing by using liquid FMC/ Biflex/ Terminex Exin/ Ms Hextar or equivalent @ specified suspension concrete rate (SC), Mixing Ability - HEXTAR with Ratio (1:250)= 540 5ft or equivalent approved liquid applying with shower and certificate will be provided by the contractor for 10-years complete in all respect. as approved by the Engineer Incharge.	Sft	906.793		
1.4	6-37(a)(i)	Providing and laying damp proof course of cement concrete 1:2:4(using cement, sand and shingle), including bitumen coating :- (a) with one coat bitumen and one coat polythene sheet 500gauge i) 1/4" thick (40 mm)	100 Sft	69.000		
1.5	6-39(a)(i)	Providing and laying damp proof course with cement sand plaster and bitumen coating:- (a) with one coat of bitumen and one coat of polythene sheet 500 gauge i) Ratio 1: 4 b) 3/4" thick (20 mm)	100 Sft	45.000		
1.6	6-5 + 1-1	Cement concrete plant including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (f) Ratio 1: 2: 4 (30Km Lead on crush) (i) Ratio 1: 4: 8 (30 Km Lead on crush)	Cft	101.00 222.00		
1.7	10-3	Supplying and filling sand under floor, or plugging in wells.	100 Cft	125.00		
1.8	10-4	Providing, laying, watering and ramming brick or stone ballast 1 1/2" to 2"(40 mm to 50 mm) gauge mixed with 25% sand, for floor foundation, complete in all respects.	100 Cft	55.00		



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
1.9	7-4	Pacca brick work in foundation and plinth in- i) Cement, sand mortar:- Ratio 1:6	100 Cft	371.000		
1.10	7-5(i)	Pacca brick work in ground floor:- i) Cement, sand mortar:- Ratio 1:5 Ground Floor First Floor Ratio 1:4 Ground Floor First Floor Cement Concrete	Cft Cft Cft Cft	479.00 468.00 63.20 38.49		
1.11	6-9(a) +1-1	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):- (a) (i) Reinforced cement concrete in roof slab, beams columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- (30 Km Lead on crush) (3) Type C (nominal mix 1: 2: 4) (c) Reinforced cement concrete in Pile cap, slab of rafts / strip foundation, base slab of column and retaining walls; etc and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) (3) Type C (nominal mix 1: 2: 4)	Cft Cft	697.15 187.00		
1.12	6-13	Providing and fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars), Deformed bars (Grade 60)	Kg	3,209.26		
1.13	11-9(c)	Cement plaster 1:4 upto 20' (6.00 m) height:- c) 3/4" (20 mm) thick	Sft	1,926.00		



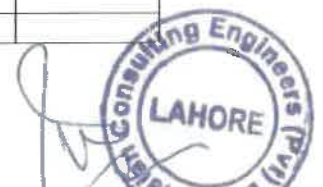
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
1.14	11-9(b)	Cement plaster 1:4 upto 20' (6.00 m) height- b) ½" (13 mm) thick	Sft	1,739.50		
1.15	11-10(b)	Cement plaster 3/8" (10 mm) thick under soffit of R.C.C. roof slabs only, upto 20' height. b) 1:3	Sft	440.84		
1.16	13-31	Preparing surface and painting with emulsion paint:- a) first coat b) 2nd and each subsequent coat	Sft Sft	11,991.87 11,991.87		
1.17	13-33	Providing and applying weather shield paint of approved quality on external surface of building including preparation of surface, application of primer complete in all respect. a) new surface i) 1st coat ii) 2nd coat	Sft Sft	2,533.11 2,533.11		
1.18	25-53	Providing and fitting all types of glazed aluminium windows of anodised/ powder coated partly fixed and partly sliding using deluxe sections of approved manufacturer having frame size of 100 x 30 mm (4"x1-1/4") and leaf frame sections of 50 x 20 mm (2"x3/4"), all of 1.6mm thickness including 5 mm thick imported tinted glass with rubber gasket using approved standard latches, hardware etc., as approved by the Engineer in-charge.	Sft	102.00		
1.19	25-52	Providing and fixing Aluminum Fly screen comprising of Fiber/ Aluminum wire guaze (Malasian) fixed in aluminum frame of approved manufacturer/ powder coated of size 1-1/2"x1/2" and 1.6mm thick with rubber gasket i/c cost of Hardwares as approved and directed by the engineer incharge. complete in all respect.	Sft	51.00		
1.20	25-57	Providing and fixing M.S. flat ½"x1/8" (13mm x 3mm) grill including ¾" x 1/8" (20 mmx3 mm) M.S. flat frame, in windows of approved design, including painting three coats, complete in all respects.	Sft	102.00		
1.21	12-6	P/F1 ½" (40mm) thick semi solid panelled or panelled and glazed doors comprising of solid wood styles and rails of specified width and panels of 2.5mm thick veneer ply matching with wood used with grooves, pasted on both sides of 1" thick Lasani wood panel with tapered edges i/c the cost of tower bolt, handles complete in all				



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st Bi Annual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
		respect (Excluding the cost of chowkat frame, sliding bolt and lock)				
		as approved and directed by Engineer Incharge				
		(iii) Oak Wood	Sft	49.00		
1.22	12-17	Providing and fixing 2" wide MS/ GI Chowkat singel/ double rebate made of 16 SWG MS sheet pressed/ welded/ supported with M.S. flat 1-1/4"x1/8" i/c 6" long M.S. Flat 1"x1/8" hold fasts (6-Nos) welded/ screwed, punching of lock hole covered with MS Box, coating with anti rust paint including filling with cement sand mortar (1:8) and embedding hold fast in cement concrete (1:2:4), complete in all respect as approved and directed by Engineer Incharge.				
		(ii) 10.5" wide	Sft	49.00		
1.23	12-60	P/F 3/4" dia heavy duty sliding bolt of specified material i/c the cost of hard ware complete in all respect as approved and directed by the Engineer Incharge.				
		b) Brass				
		(ii) 12" (300 mm) long	Each	2.00		
1.24	10-46	Providing and laying superb quality Porcelain glazed tiles flooring of Master/ Stile brand or approved equivalent manufacturer of specified size in approved design, Color and Shade with adhesive/bond over 3/4" thick (1:3) cement plaster i/c the cost of sealer for finishing the joints i/c cutting grinding complete in all respect as approved and directed by the Engineer Incharge.				
	Deductions for Matt Finishes 17.65 P.Sft	(ii) 300 mm x 600 mm (12"x24")	Sft	86.00		
		(iii) 600mm x 600 mm (24"x24")	Sft	354.84		
1.25	10-36	Providing and laying superb quality Porcelain glazed tiles of Master/ Stile brand or approved equivalent manufacturer, skirting/ dado of specified size, Color and Shade with adhesive/ bond over 1/2" thick (1:2) cement plaster i/c the cost of matching sealer for finishing the joints, cutting grinding complete in all respect as approved and directed by the Engineer Incharge.				
	Deductions for Matt Finishes 18.90 P.Sft	(ii) 300 mm x 600 mm (12"x24")	Sft	367.50		
		(iii) 600mm x 600 mm (24"x24")	Sft	211.60		
1.26	9-35	Providing and laying roof insulation, comprising of single layer of tiles 9"x4 7/8"x1 1/2" (225x113x40 mm) grouted with cement sand mortar 1:3 laid over 2" (50 mm) thick earth (including mud plaster) over themopore sheet, over polythene sheet 300 gauge over a layer of bitumen, complete in all respects:-				
		iii) Themopore sheet 1" (25 mm) thick	Sft	351.75		



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
1.27	25-63	Providing and fixing 5.00 ft dia MS spiral stair comprising of triangular steps made of 1-1/4"x1-1/4"x3/16" duly welded with 3/8"MS squar bars steps, supported/welded with main vertical post of 4" dia GI pipe (Medium Quality) embeded in PCC in ground i/c the cost of pipe railing comprising of 2" dia MS pipe of 16 SWG supportrd with 2 no 5/8" squar bars in each step, i/c fixing & painting complete in all respects as approved and directed by the Engineer Incharge(Measurement will be made above ground level).	Rft	12.00		
		Sub-Total				
		Non-Schedule Items				
1.28	N.S	Providing and fixing imported uPVC door, 104mm thick with matching frame 60mm thick, Sound Proof, Water Proof, Fire Proof complete in all respects including door lock as per instructions of the Engineer in charge	Sft	30.00		
		Sub Total				
		Total for Schedule Items				
		Total for Non-Schedule Items				
		Total for Bill Nr.1 (Carried over to Summary of Price)				



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)

DRIVERS ROOM

BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
		Bill Nr.2: Plumbing Works				
		Schedule Items				
2.1	19-16	Providing and fixing, chromium plated soap dish.	Each	2.00		
2.1	19-18	Providing and fixing, chromium plated toilet paper holder.	Each	4.00		
2.2	19-19	Providing and fixing, chromium plated towel rail- i) 60 cm (24") long, and 2 cm (3/4") dia.	Each	2.00		
2.3	19-20	Providing and fixing looking glass 55x40 cm (22"x16") size, and 5 mm thick, first quality.	Each	2.00		
2.4	19-3	Providing and fitting one piece European Coupled set of Water Closet (WC) and flushing Cistern of PORTA brand (full size) or approved equivalent manufacturer i/c the cost of CP/rubber connection, thimble, normal seat cover and rawal bolts complete in all respects as approved and directed by the Engineer Incharge.	Each	2.00		
2.5	19-7	Providing and fitting glazed earthen ware wash hand basin 56x40 cm (22"x16") including bracket set, waste pipe and waste coupling, etc.				
	v)	Under Counter Vanity Basin	Each	2.00		
2.6	19-30	Providing and fixing, chromium plated mixing valve, for wash hand basin, sink or shower.	Each	2.00		
2.7	19-52	Providing and fixing CP bath Room Set made of Sonex/ Master/ Faisal or approved equivalent manufacturer, comprising of 3-No Tee stop cocks, lever type Basin Mixer, double Bib Cock, open wall shower, Muslim shower, waste coupling and bottle trap etc. complete in all respect as approved and directed by the Engineer incharge.				
		(i) 3 No Tee Stop Cock (set)	Each	6.00		
		(ii) Double Bib Cock	Each	2.00		
		(v) Muslim shower	Each	2.00		
		(vii) Bottle Trap	Each	2.00		
2.8	19-49	Providing, fixing, testing and commissioning of u-PVC (Unplasticized polyvinyl Chloride) Nikasi/ waste pipe Fittings make of Dadex / Popular/ Beta or approved equivalent manufacturer, conforming to BS 4514 / BS 5255 including the cost of Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		c) Vent Cowl				
		(iii) 2" dia	Each	3.00		
		d) Clean Out				
		(i) 4" dia	Each	2.00		
		(ii) 3" dia	Each	2.00		



**REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)**

DRIVERS ROOM

BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
		PIPING & VALVES				
2.9	23-33	Providing, laying, testing and commissioning of POLYPROPYLENE RANDOM COPOLYMER (PPRC) water supply pipe (Dadex / Popular/ Beta or approved equivalent manufacturer, with specified pressure rating PN (PRESSURE NOMINAL) and conforming to DIN 8077-8078 code i/c cost of solvent, specials, making joints complete in all respect as approved and directed by Engineer Incharge. (Internal/External Diameters mentioned).				
		b) PN-20 pipe				
		ii) 25 mm	Rft	125.00		
		iii) 32 mm	Rft	35.00		
		v) 50 mm	Rft	65.00		
2.10	23-42	Providing and fixing heavy duty Gate valve of specified diameter and material for pressure rating PN-16 mde of Crane (USA), Hatersly (UK), Scon (Pakistan) or approved equivalent manufacturer, i/c the cost of all accessories flanges, nut/ bolt and gasket where required complete in all respect as approved and directed by the Engineer Incharge.				
		(a) Brass Threaded Valves				
		(iii) 1" dia	Each	6.00		
		(iv) 1-1/4" dia	Each	3.00		
		v) 2" Dia	Each	2.00		
2.11	23-45	Supply & installation of heavy duty Brass PN-16 air Vents of specified size provided at the highest points (Pipe Risers) to expel air as approved and directed by the Engineer Incharge				
		(a) Automatic				
		(iii) 1" Dia	Each	4.00		
2.12	23-27	Providing, laying, cutting, jointing, testing and disinfecting pipe line in trenches with PVC/ uPVC pipes of B.S.S. with 'D' Class working pressure complete in all respects:-				
		a) 2" i/d (50 mm)	Rft	65.00		
		b) 3" i/d (75 mm)	Rft	35.00		
		c) 4" i/d (100 mm)	Rft	75.00		
2.13	19-34	Providing and fixing, floor trap of cast iron, including concrete chamber all round, and C.I. grating:-				
		(ii) 10x7.5 cm (4"x3")	Each	2.00		
		Replacement items				
2.14	19-9	Supply and fixing of Soap Dispenser including all other cost of required fittings & required accessories complete in all respect as approved & directed by the Engineer incharge.				
		ii) Stainless steel	Each	2.00		
2.15	19-8	Providing and fixing brass ball float valve:-				



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)

DRIVERS ROOM

BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
		vi) 5 cm (2") dia	Each	2.00		
2.16	19-55	Providing/fixing Electric water heater (Geysler) comprising of tank of 14 SWG, GI sheet and external cover of 22 SWG MS sheet, insulated with 4" thick high density glass wool, imported thermostat i/c electric rod, safety valve (Ambassador / Canon) or approved equivalent manufacturer i/c cost of accessories & making connection complete in all respect as approved and directed by Engineer Incharge.				
		(i) 15 Gal capacity	Each	2.00		
2.17	19-36	Providing and fitting 10 cm (4") gully trap, including cement concrete, cost of PVC grating 15x15 cm (6"x6") and masonry chamber 30x30 cm (12"x12").	Each	1.00		
2.18	19-51	Providing and hoisting vertical/ horizontal type storage tank of required capacity made of rotationally molded from (HDPE), double ply polyethylene of approved manufacturer i/c cost of making connection for inlet/outlet pipe, float valve i/c all cost of specials & labour complete in all respect as approved and directed by the Engineer Incharge	Per Gallon	500.00		
		Sub-Total				
		Total for Schedule Items				
		Total for Bill Nr:2 (Carried over to Summary of Price)				



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st Bi Annual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=5x6
		Bill Nr.3: Electrical Works				
		Schedule Items:				
3.1	24-3	Supply and erection of PVC pipe for wiring recessed in walls, including inspection boxes, pull boxes, hooks, cutting jharries, and repairing surface, etc., complete with all specials				
	(a)	Recessed in walls i/c making jharries				
	(ii)	25 mm i/d) for Point Wiring	Rft	258		
	(iii)	25 mm i/d) for Circuit Wiring	Rft	161		
	(iii)	25 mm i/d) for Power Wiring	Rft	43		
1.3	24-08	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 250/440 volts grade cable (BSS-2004), in prelaid PVC pipes/M.S. conduit/G.I. pipe/wooden strip batten/wooden casing and capping/trenches, etc.				
	(i)	1.5 mm ² (3/0.029") For Point wiring (P+N+E)	Rft	774		
	(ii)	2.5 mm ² (7/0.029") For Circuit wiring (P+N+E)	Rft	483		
	(iv)	4 mm ² (7/0.036") For Power Wiring (P+N+E)	Rft	129		
3.3	24-102	Providing and fixing Copper Winded Exhaust Fan with louver and shutter made of Pak/Younas/G.F.C. or NEECA approved equivalent manufacturer i/c the cost of necessary cable and hardware for connection from ceiling rose complete as approved and directed by Engineer Incharge.				
	(a)	Plastic Body				
	(ii)	12" dia	Each	2		
3.4	24-104	Providing and fixing Pakistan Energy Label NEECA approved Copper winded Ceiling Fan i/c the cost of necessary cable and hardware for connection as approved and directed by Engineer Incharge.				
	(iii)	56" dia	Each	2		
3.5	24-105	P/F PVC double layer Switch kit Face plate with specified switch holes i/c the cost of switches /sockets /dimmer made of Hi-Life /Bush /Schneider or approved equivalent manufacturer, screws complete as approved and directed by the Engineer Incharge				
	(a)	One way Gange Switch (Small)				
	(i)	01 Gang	Each	2		
	(iii)	Three pin Light Plug 10/13 Amp	Each	2		



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Unit	Qty	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=5x6
	(v)	Fan Dimmer	Each	2		
	(vi)	Three Pin Power Plug 15-32 Amp	Each	2		
	(b)	One way Gange Switch (Large)				
	(i)	04 Gang	Each	5		
3.6	24-109	P/F PVC concealed Switch kit Box i/c the cost of screws complete as approved and directed by the Engineer Incharge.				
	(i)	Small	Each	6		
	(ii)	Large	Each	5		
		Sub-Total Schedule Items				
		Non-Schedule Items:				
3.7	N.S	Light Fixtures: Supply, installation, testing & commissioning of following various types of LED lights:				
	(i)	Ceiling mounted 18 Watt LED Light	Each	8		
	(ii)	Ceiling mounted 12 Watt LED Light	Each	3		
	(iii)	Watertight Bulkhead Light 18 Watt	Each	8		
	(iv)	Mirror Light 20 Watt	Each	8		
		Sub-Total Non-Schedule Items				
		Total for Schedule Items				
		Total for Non-Schedule Items				
		Total for Bill Nr.3 (Carried over to Summary of Price)				



REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD
SUI NORTHERN GAS PIPELINES LIMITED (SNGPL)
DRIVERS ROOM
BILL OF QUANTITIES

Sr.Nr.	MRS Input Rates 2026 1st BiAnnual	Description	Qty	Unit	Unit Rate	Amount Rs.
1	2	3	4	5	6	7=6x5
		Bill Nr.5: HVAC				
		Non Schedule Items				
		Wall mounted decorative Type Indoor Unit				
5.1	N.S	Providing & fixing of Split Type Air Conditioning Units with wall mounted decorative Type Indoor Unit, as Specified & Scheduled including Approved Brands Daikin, Mitsubishi Acson Acson				
	i	1.0 Ton	Nos.	2.00		
		Sub-Total				
		Total for Non-Schedule Items				
		Total for Bill Nr.5 (Carried over to Summary of Price)				





DRAWINGS

Drawings for the Subject project attached as a Separate Binder.

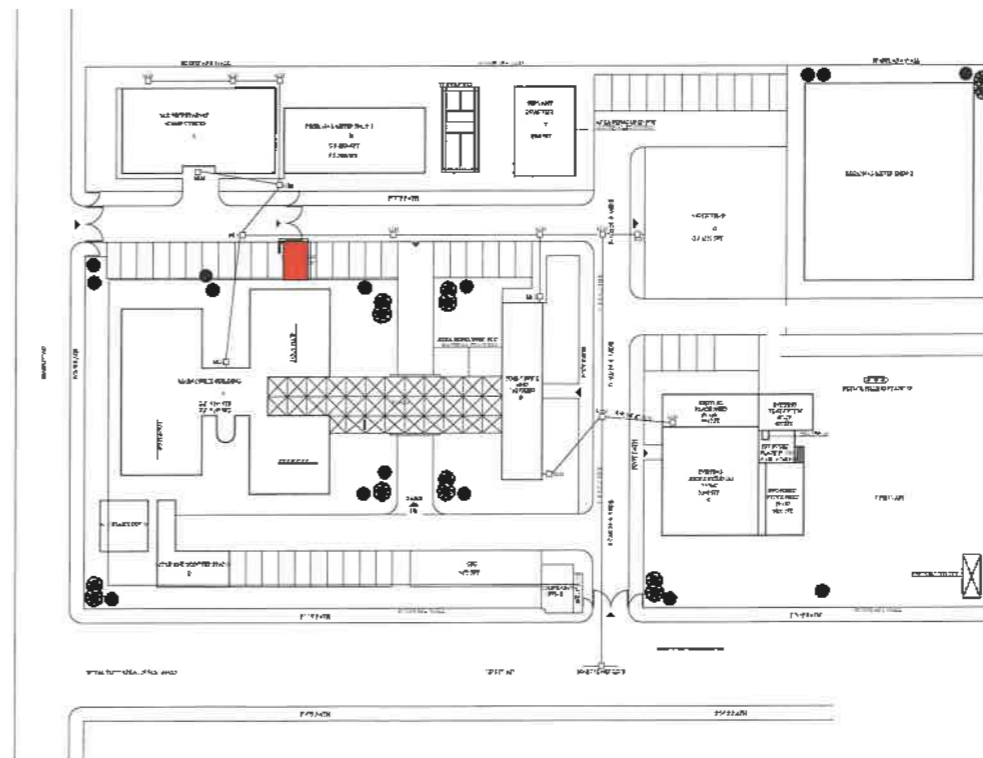
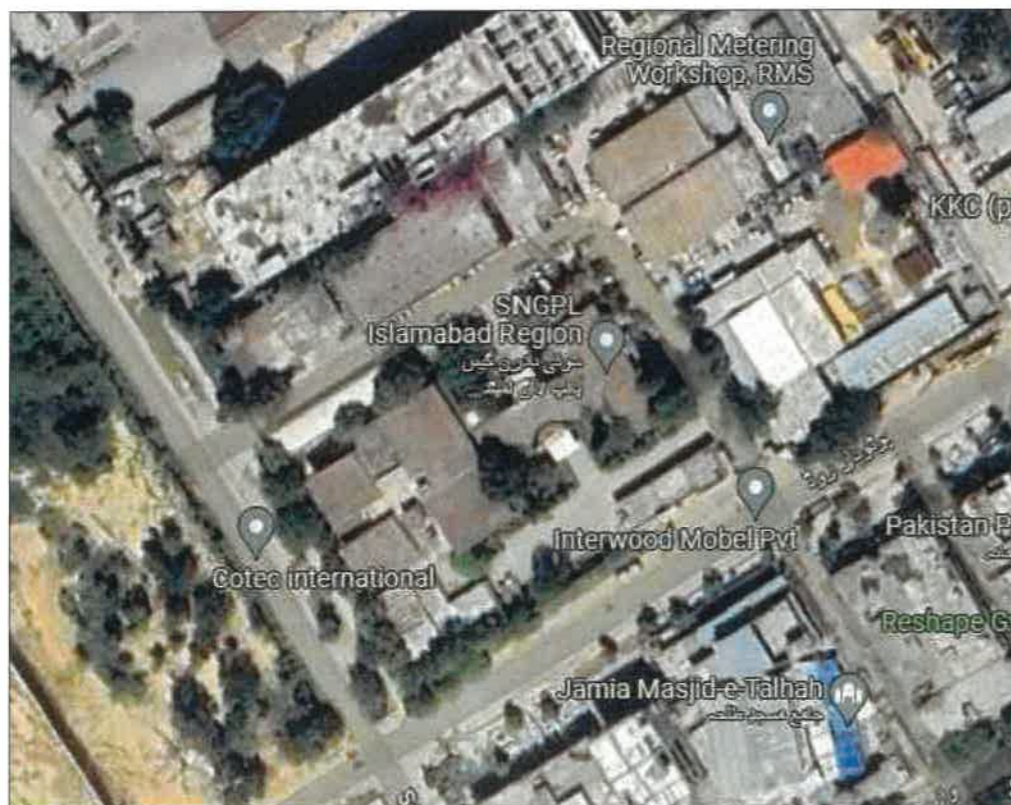
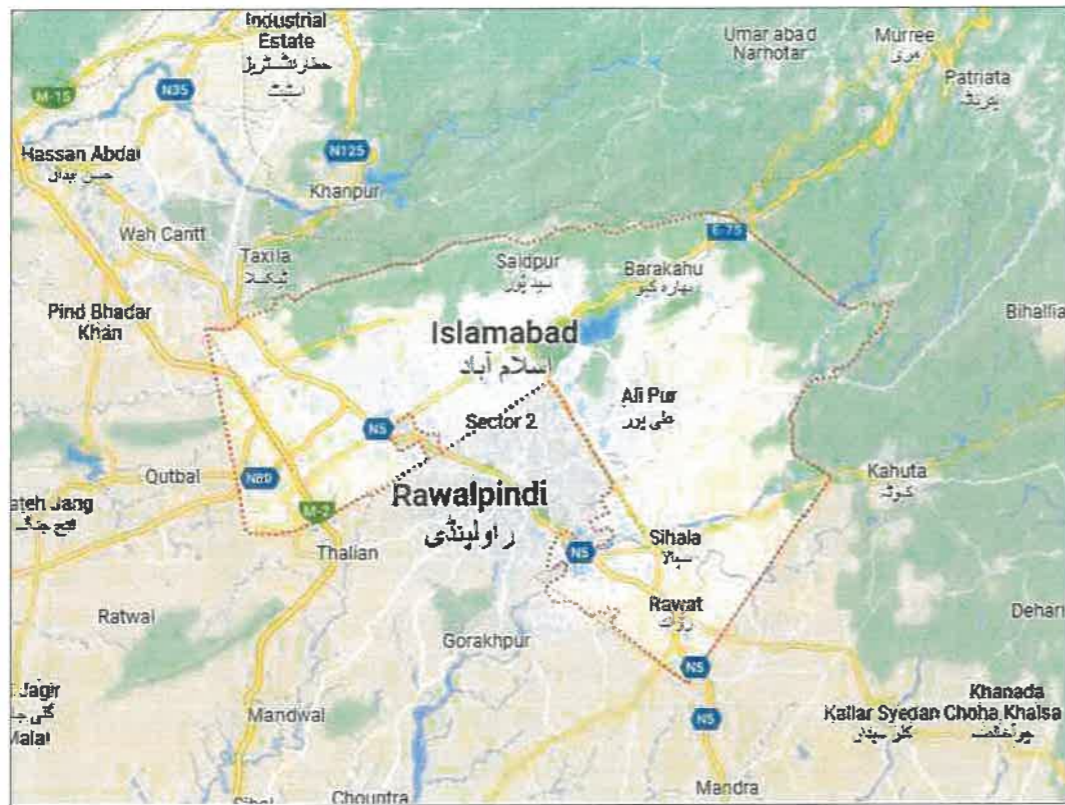


SNGPL ISLAMABAD

DRIVER ROOM ISLAMABAD
APRIL, 2026

Architecture

Sr. Nr.	Description	Drg.Nr.
Civil Works		
1	LOCATION PLAN	SNGPL-ISL-DR-C-01
2	GROUND & FIRST FLOOR WORKING LAYOUT	SNGPL-ISL-DR-C-02
3	ELEVATIONS A-A,B-B,C-C & D-D	SNGPL-ISL-DR-C-03
4	SECTION A-A	SNGPL-ISL-DR-C-04
5	DOOR & WINDOW SCHEDULE	SNGPL-ISL-DR-C-05
6	FLOORING LAYOUT	SNGPL-ISL-DR-C-06
7	FALSE CEILING LAYOUT	SNGPL-ISL-DR-C-07
8	WARDROBE DETAILS	SNGPL-ISL-DR-C-08
Structure Works		
8	Foundation Layout Plan & Sectional Details	SNGPL-ISL-DR-S-01
9	Ground & Roof Slab Reinforcement Plan	SNGPL-ISL-DR-S-02
Electrical Works		
10	Electrical Layout Plan-Ground & First Floor	SNGPL-ISL-DR-E-01
M&P		
11	Legend And Notes Plumbing	SNGPL-ISL-DR-PL-01
12	Ground Floor Drainage System Layout	SNGPL-ISL-DR-PL-02
13	First Floor Drainage System Layout	SNGPL-ISL-DR-PL-03
14	Legend and Notes (HVAC)	SNGPL-ISL-DR-AC-01
15	Ground Floor HVAC System Layout	SNGPL-ISL-DR-AC-02





SNGPL
TITLE: **LOCATION PLAN**

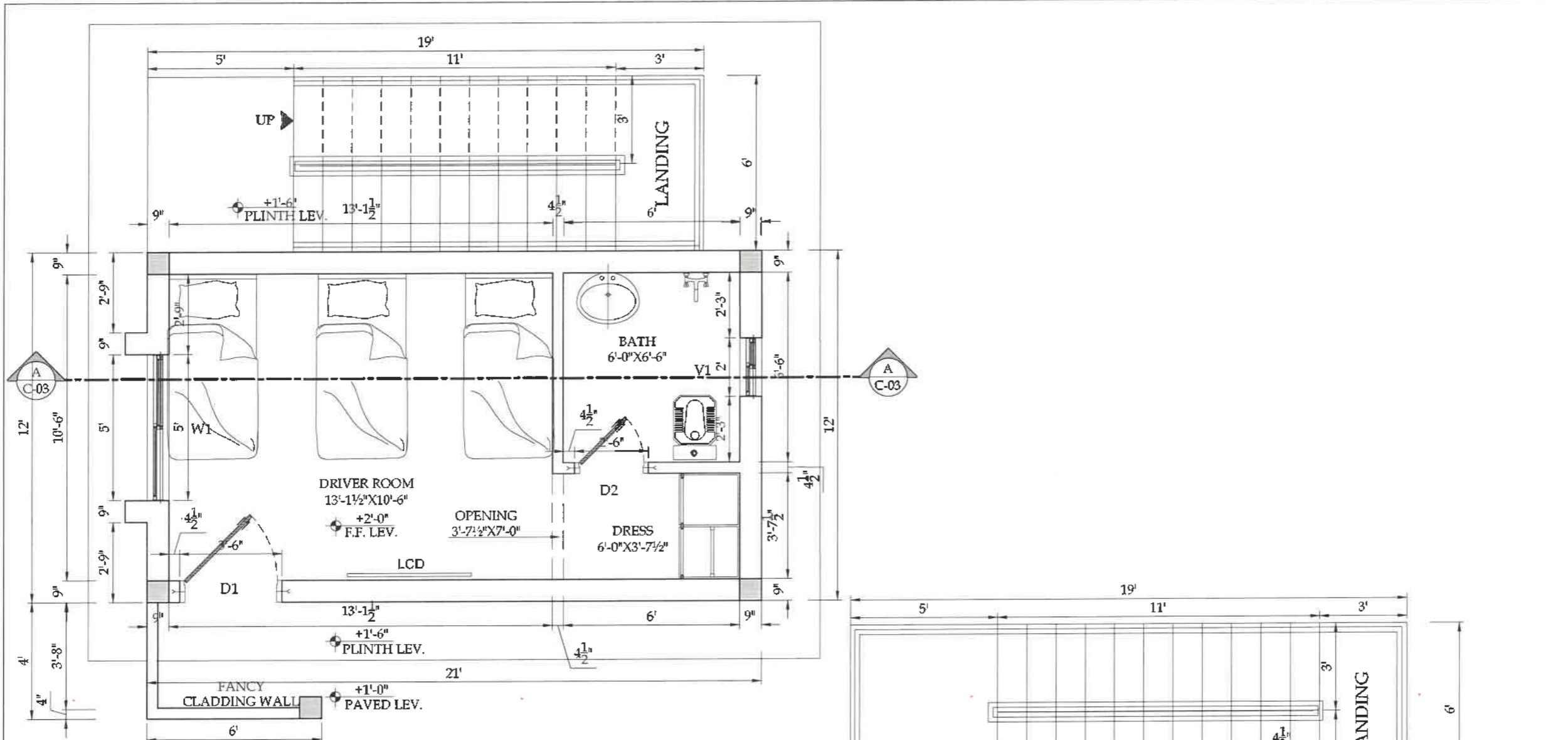
ISSUE NO.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
01	16-01-2009	PRELIMINARY DESIGN	MUSHAH	AKH	AKH

DRAWING NO: **SNGPL-ISL-DR-C-00** SHEET: **00** REV: **00**

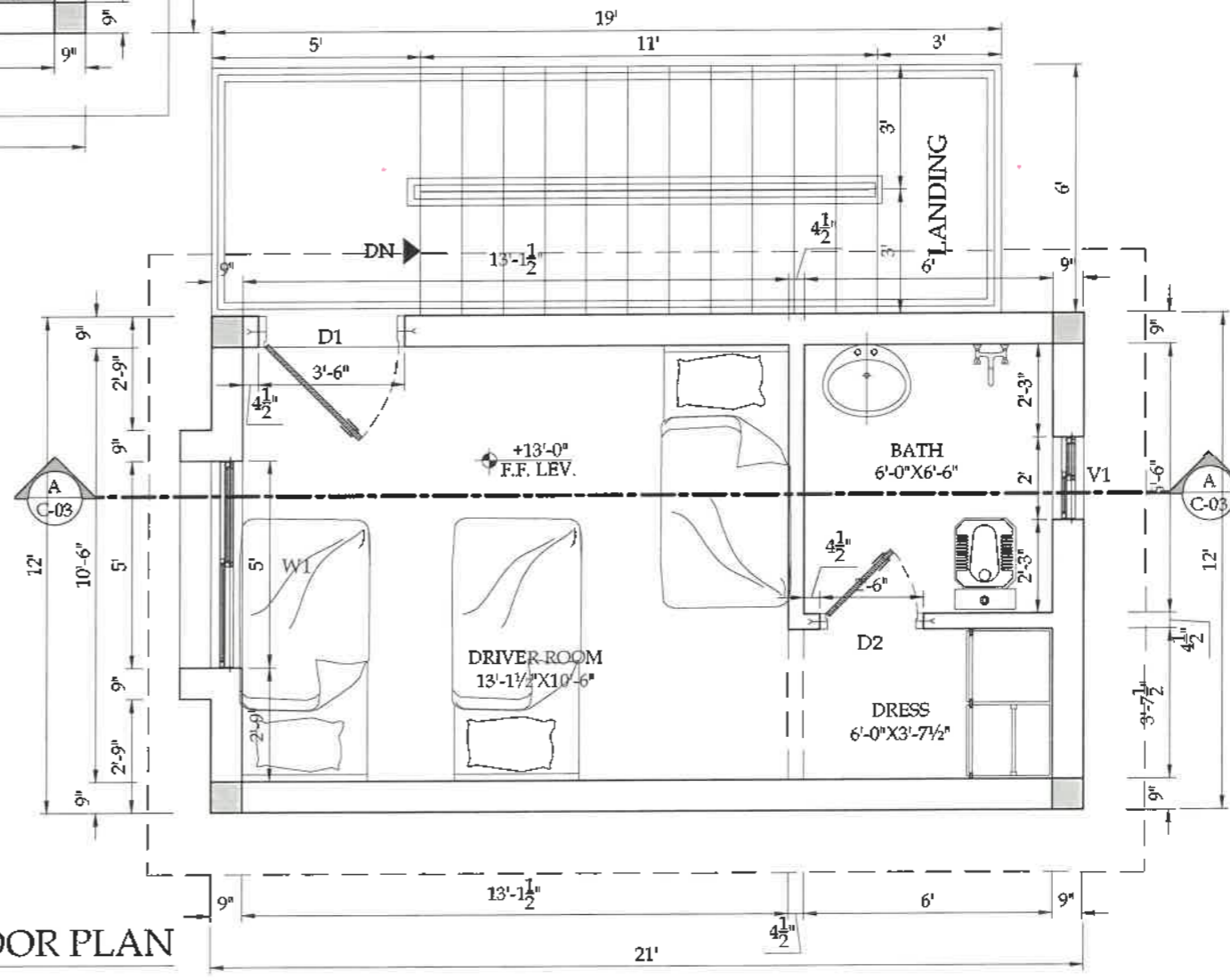
PROJECT: **REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD**

CLIENT: 
Sudharwan Gas Pipelines Limited SNGPL

CONSULTANT:  **ASIAN CONSULTING ENGINEERS PVT.LTD**
D-3 JHILLUM BLOCK, GREEN FORT-II, LAHORE, PAKISTAN
TELEPHONE: +92 42 3646014-5 +92 33-142-71301
FAX: +92 42 33-00915 /988 www.asiancon.com



GROUND FLOOR PLAN
SCALE: - 3/8" = 1'-0"



FIRST FLOOR PLAN
SCALE: - 3/8" = 1'-0"



KEY PLAN

SNGLP
TITLE:
GROUND & FIRST FLOOR WORKING LAYOUT

ISSUE NO.	DATE	DESCRIPTION	DRAWN	DESIGNED	APPROVED
D1	15-01-2006	PRELIMINARY DESIGN	ASLAN	ASLAN	ASLAN
D2					

DRAWING NO: **SNGLP4SL-DR-C-02** SHEET: **00** REV: **00**

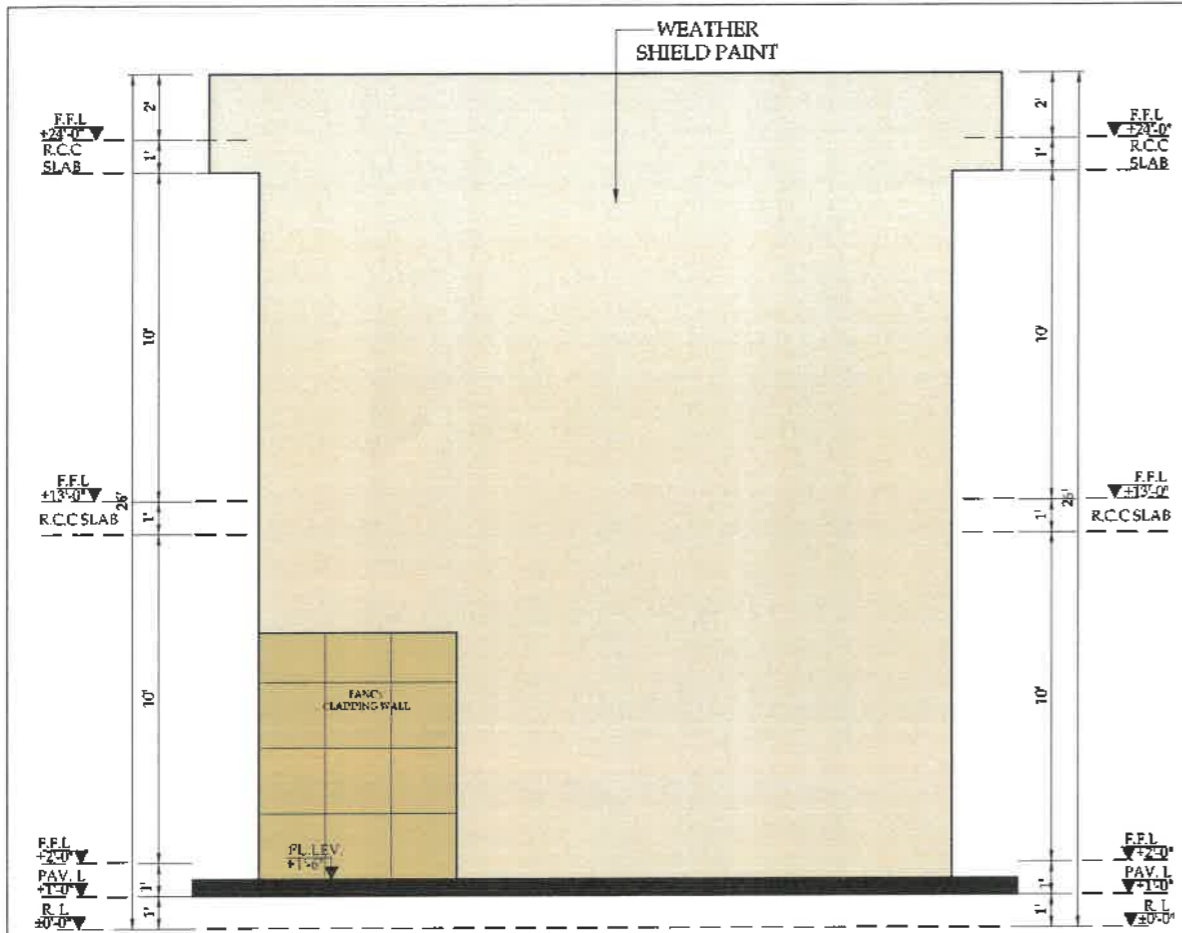
PROJECT:
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

CLIENT:

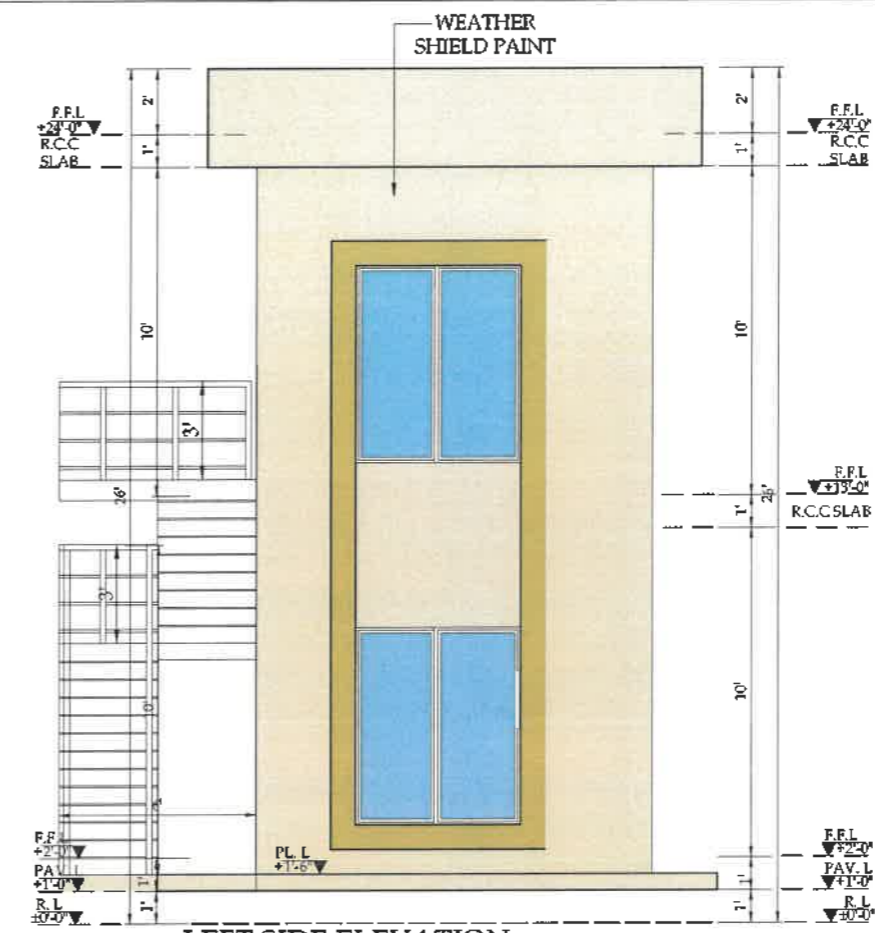
CONSULTANT:

ASIAN CONSULTING ENGINEERS PVT. LTD.
C-3 JHILMI BLOCK, GREEN FORT LAHORE, PAKISTAN
TELEPHONE: +92-42-3545914-8 +92-33-4427181
FAX: +92-42-3545818 WEB: www.asiancoep.com

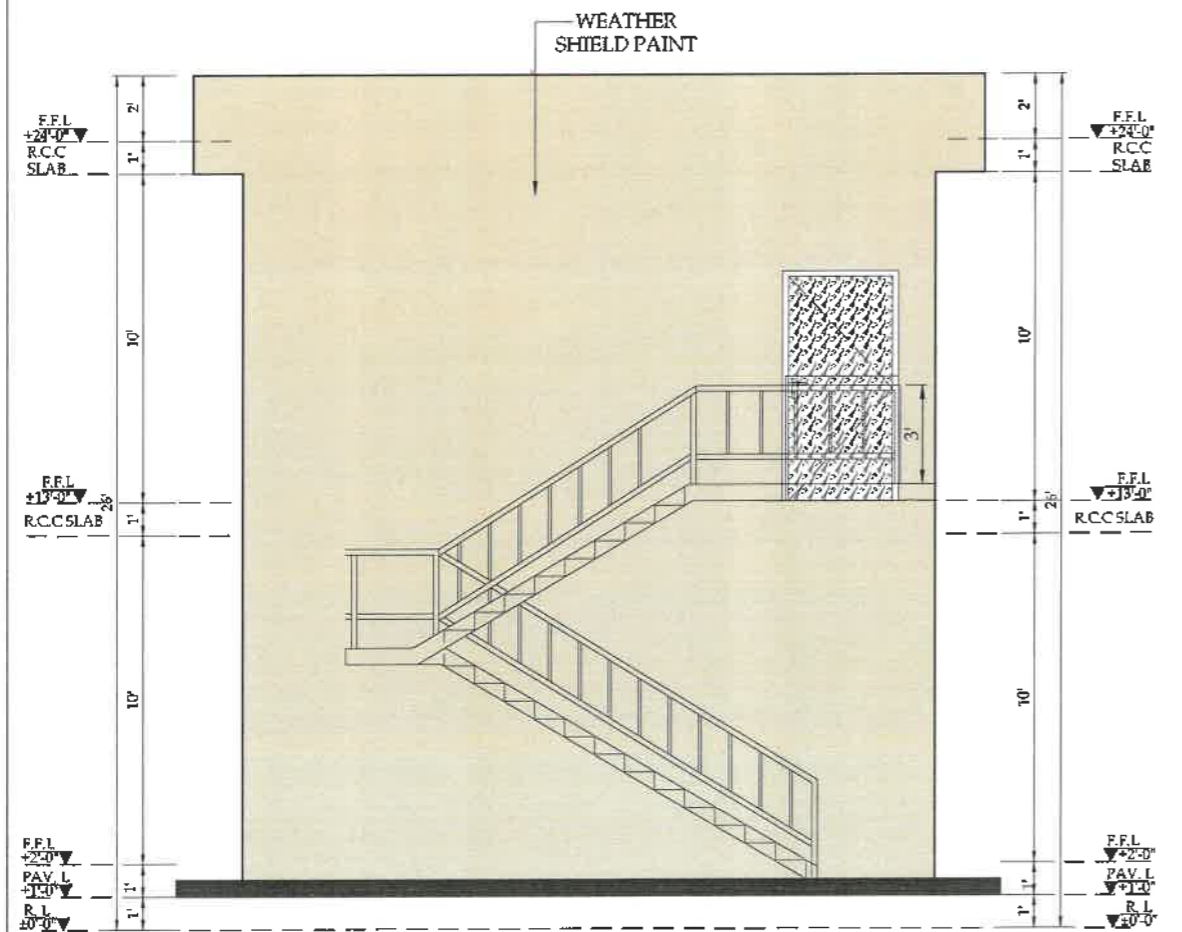
SNGLP-ISL-DR-C-01



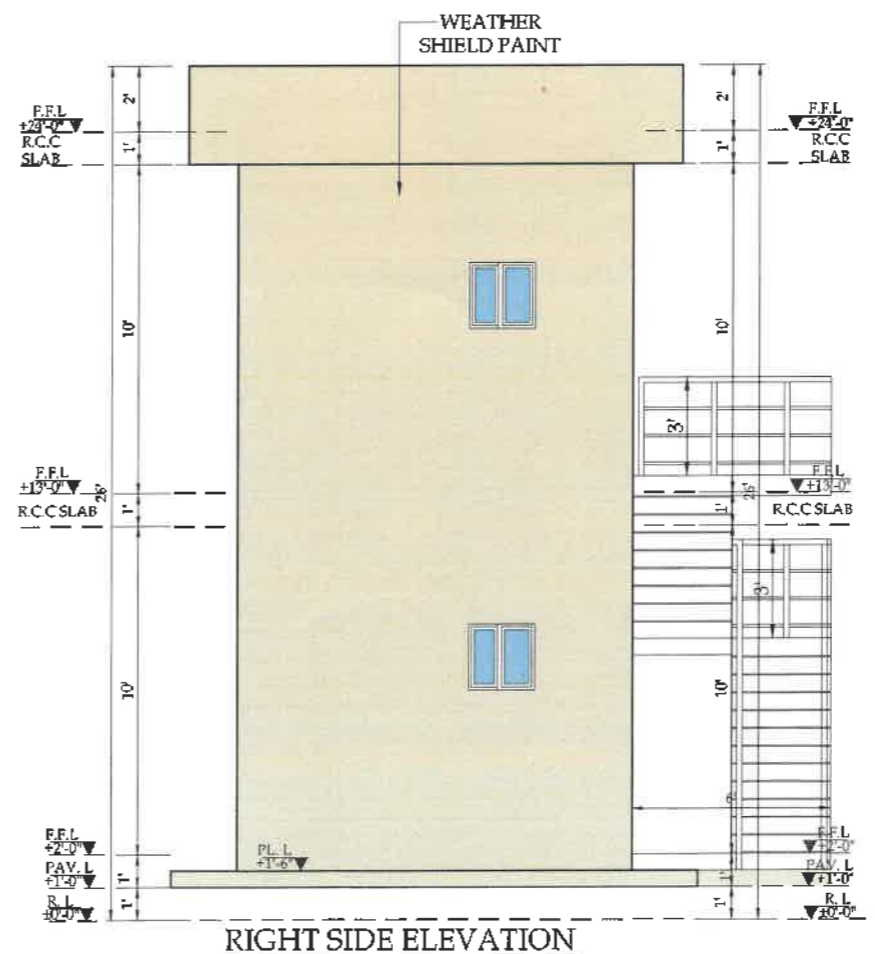
FRONT ELEVATION
SCALE:- 1/4" = 1'-0"



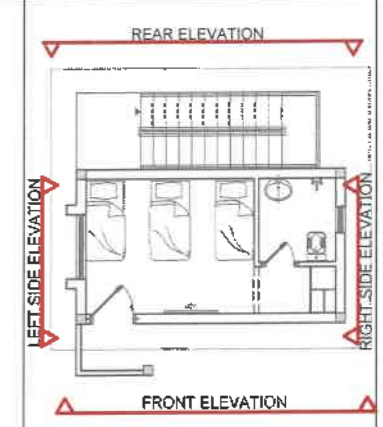
LEFT SIDE ELEVATION
SCALE:- 1/4" = 1'-0"



BACK SIDE ELEVATION
SCALE:- 1/4" = 1'-0"



RIGHT SIDE ELEVATION
SCALE:- 1/4" = 1'-0"




SNGPL-ISL-DR-C-01


SNGPL
TITLE
ELEVATIONS
A-A-B-B,C-C & D-D

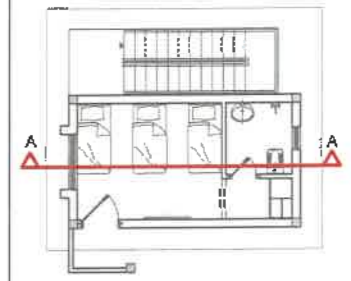
ISSUE NO.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
01	15/01/2025	PRELIMINARY DESIGN	MSLUM	AK. KHAN	AK. KHAN
02					

DRAWING NO: SNGPL-ISL-DR-C-03
SHEET 03
REV 00

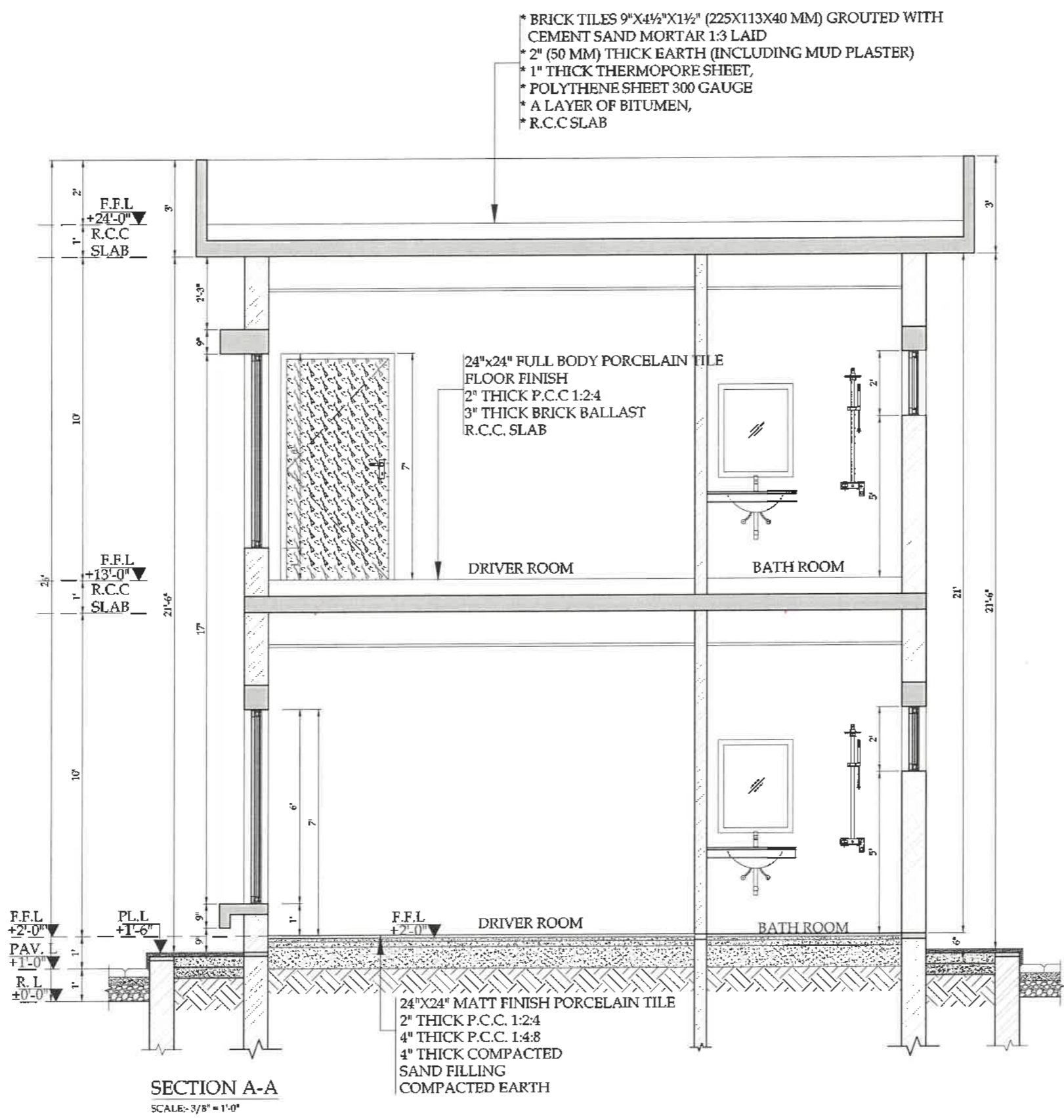
PROJECT:
REGIONAL DISTRIBUTION
OFFICE I-9 ISLAMABAD

CLIENT:

 Sul Haryana Gas Pipelines Limited
 SGNPL

CONSULTANT:

 ASIAN CONSULTING ENGINEERS PVT. LTD.
 C-2, B-11/116 BLOCK, GREEN FORT-II, LAHORE, PAKISTAN
 TELEPHONE: +91 42 35450914-5 +92 352-142-71101
 FAX: +92 42 35450916 WEB: www.asiancon.com



KEY PLAN



SNGPL
 TITLE

SECTION A-A


ORIGINAL	DATE	SCALE
A2	JANUARY 2008	


NO.	DATE	DESCRIPTION	DRAWN	DESIGNED	APPROVED
01	19-01-2008	PRELIMINARY DESIGN	ABBAKH	ASL	ASL
02					

DRAWING NO: SNGPL-ISL-DR-C-04

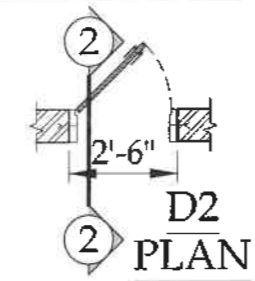
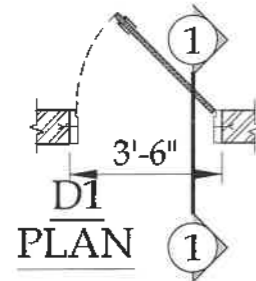
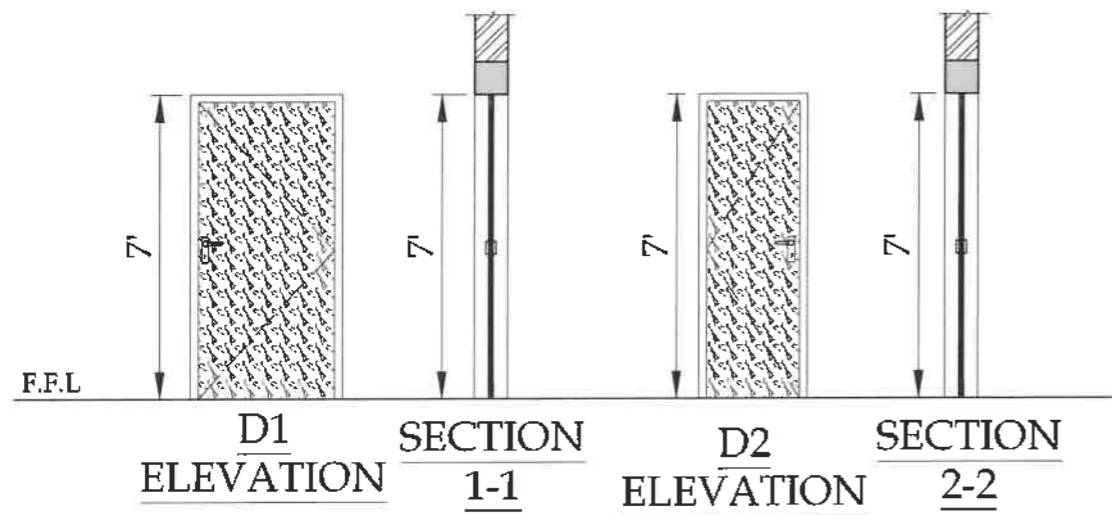
SHEET	REV
00	00

PROJECT:
 REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

CLIENT:

 SNGPL

CONSULTANT:
 ASIAN CONSULTING ENGINEERS PVT (PTY)
 C-3 JILANI BLOCK GREEN FORT-II LAHORE, PAKISTAN
 TELEPHONE: +92 42 35450914-8 FAX: +92 42 35450918
 WWW.ASIANCOE.COM

SNGPL-ISL-DR-C-01

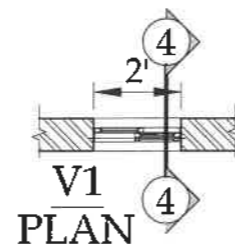
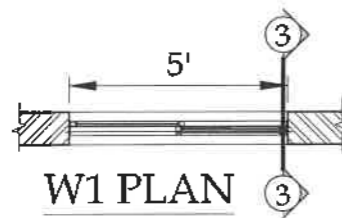
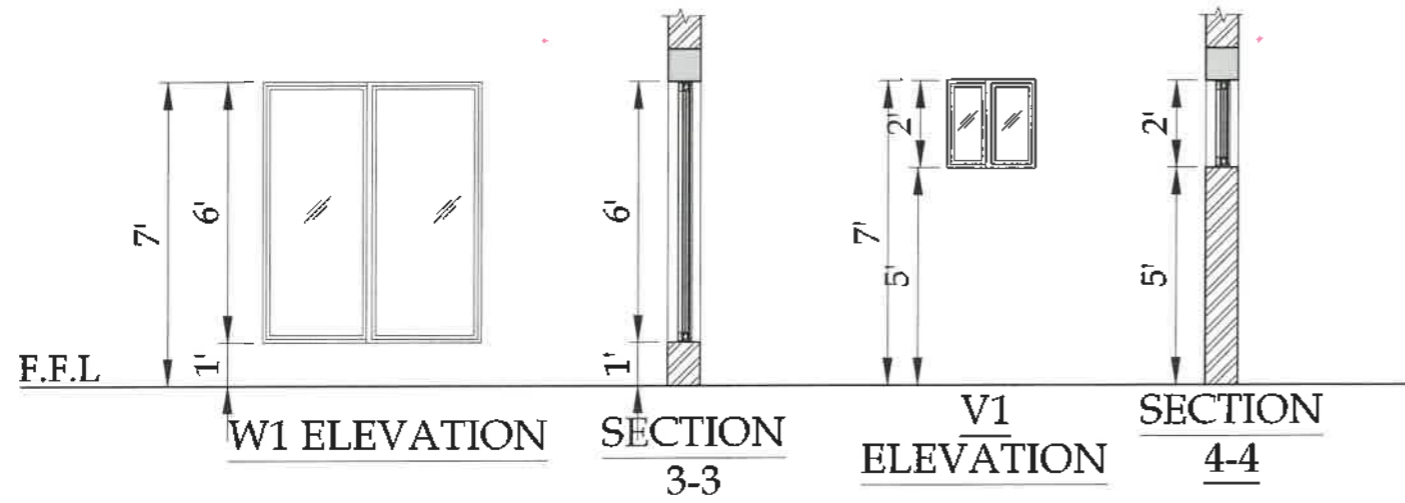


DOORS SCHEDULE

Sr No.	TYPE	SIZE	SILL	QTY.	DESCRIPTION
1	D1	3'-6"x7'-0"	0'-0"	02	WOODEN DOOR
2	D2	2'-6"x7'-0"	0'-0"	02	WOODEN DOOR

WINDOWS SCHEDULE

3	W1	5'-0"x6'-0"	1'-0"	02	1.6 mm TH. ALUMINUM SINGLE GLAZED WITH 5mm TH.GLASS FIXED WINDOW
4	V1	2'-0"x2'-0"	5'-0"	02	1.6 mm TH. ALUMINUM SINGLE GLAZED WITH 5mm TH.GLASS FIXED WINDOW





SNGPL
TITLE:
DOOR & WINDOW SCHEDULE

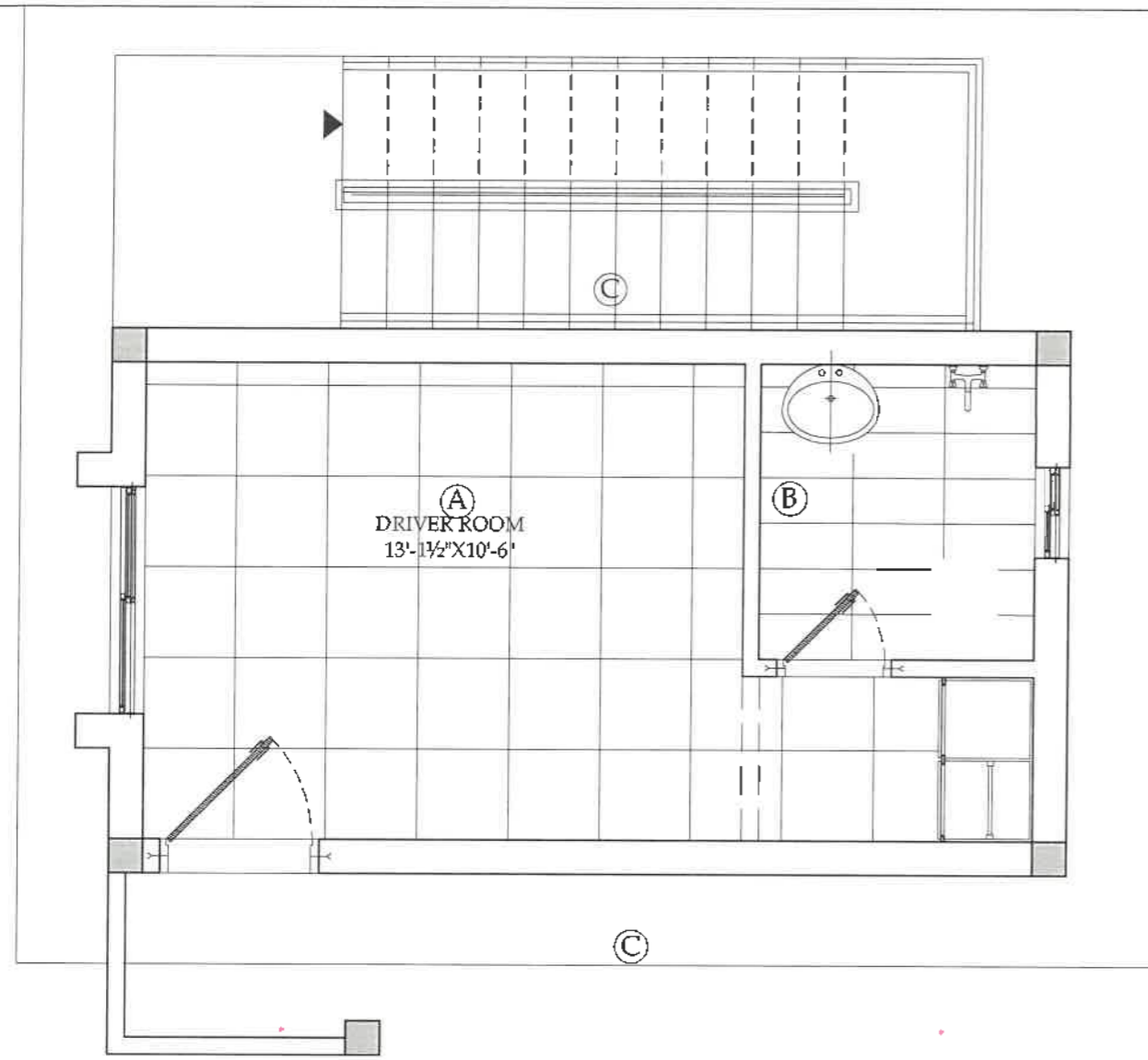
NO.	DATE	DESCRIPTION	DESIGNER	REVISION	APPROVED
01	16-01-2024	PROBABILITY DESIGN	ASLAN	01	ASLAN

DRAWING NO:
SNGPL-ISL-DR-C-05

PROJECT:
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

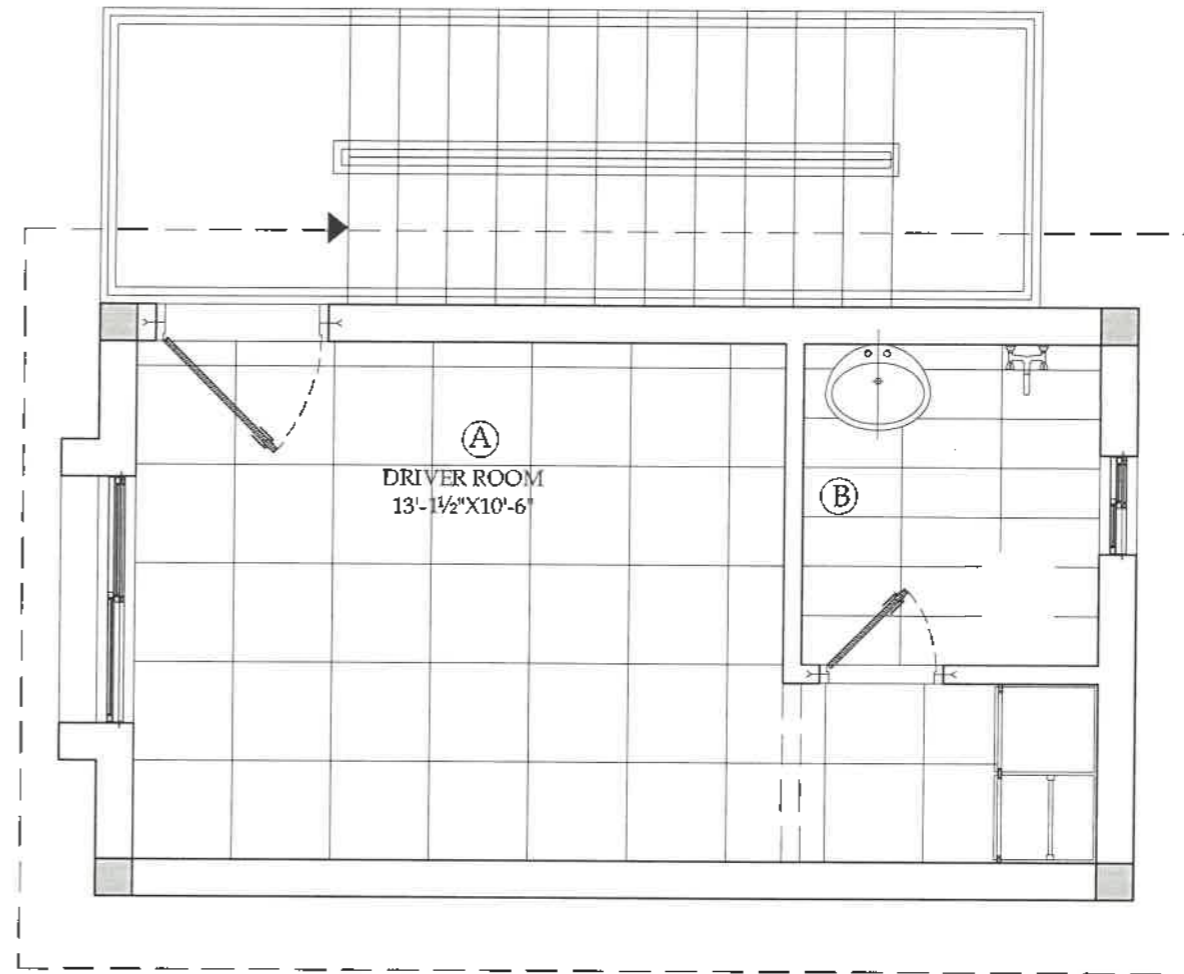
CLIENT:

 SNGPL
 Sui Northern Gas Pipelines Limited

CONSULTANT:

 ASIAN CONSULTING ENGINEERS PVT (LTD)
 C-3 JALALI BLOCK, GREEN PORT-8, LAHORE, PAKISTAN
 TELEPHONE: +92 42 3545994-5 +92 32-34271101
 FAX: +92 42 35459718 WEB: www.asiancon.com



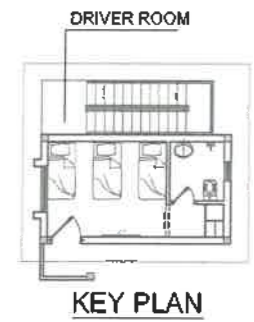
GROUND FLOOR PLAN

FLOORING LAYOUT
SCALE:- 3/8" = 1'-0"



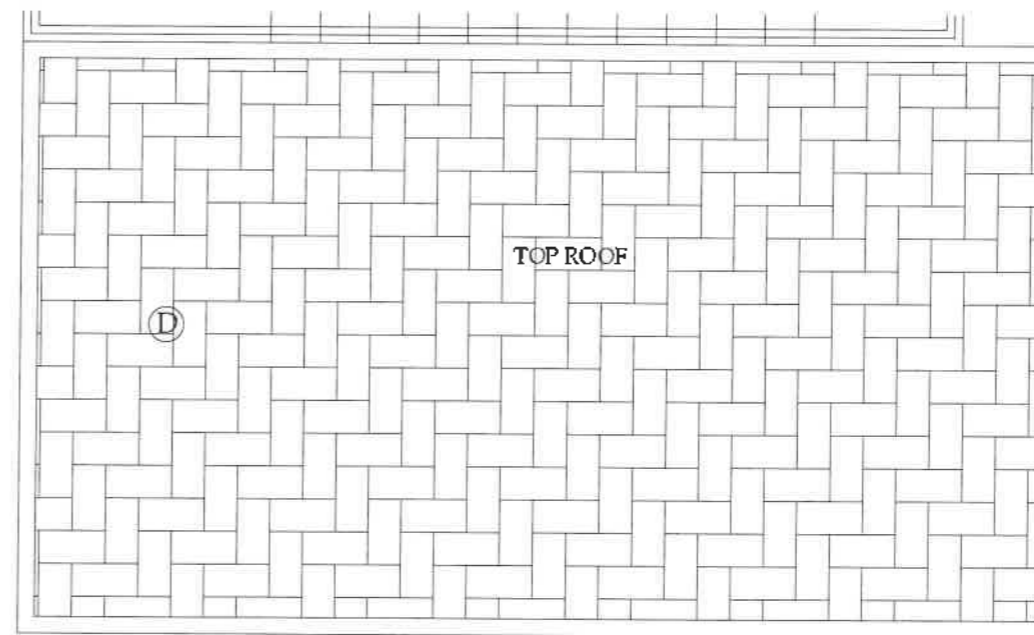
FIRST FLOOR PLAN

FLOORING LAYOUT
SCALE:- 3/8" = 1'-0"





LEGEND:

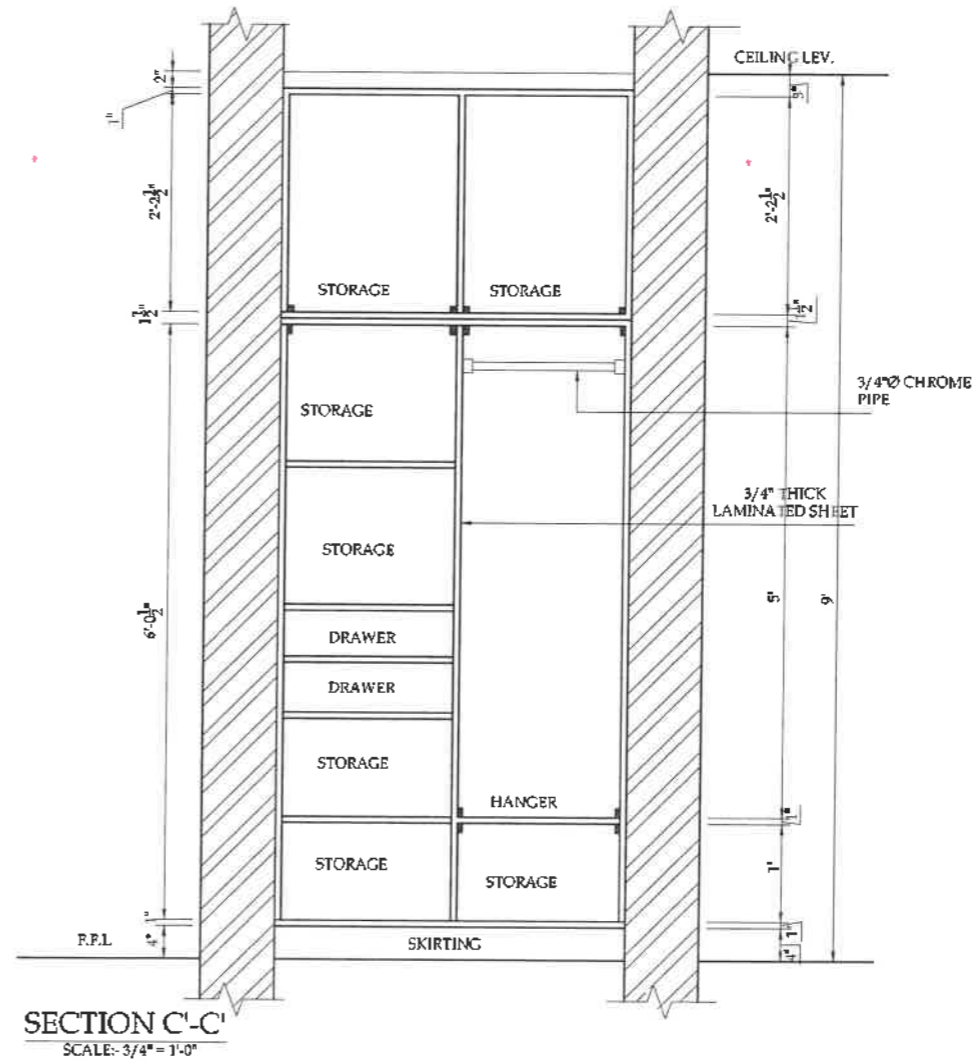
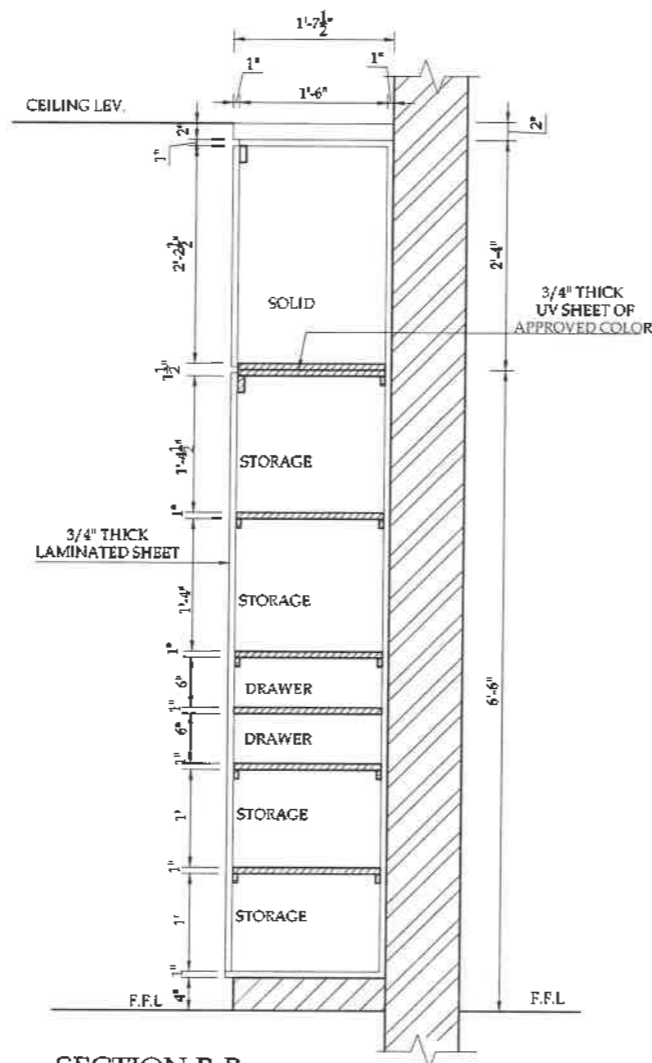
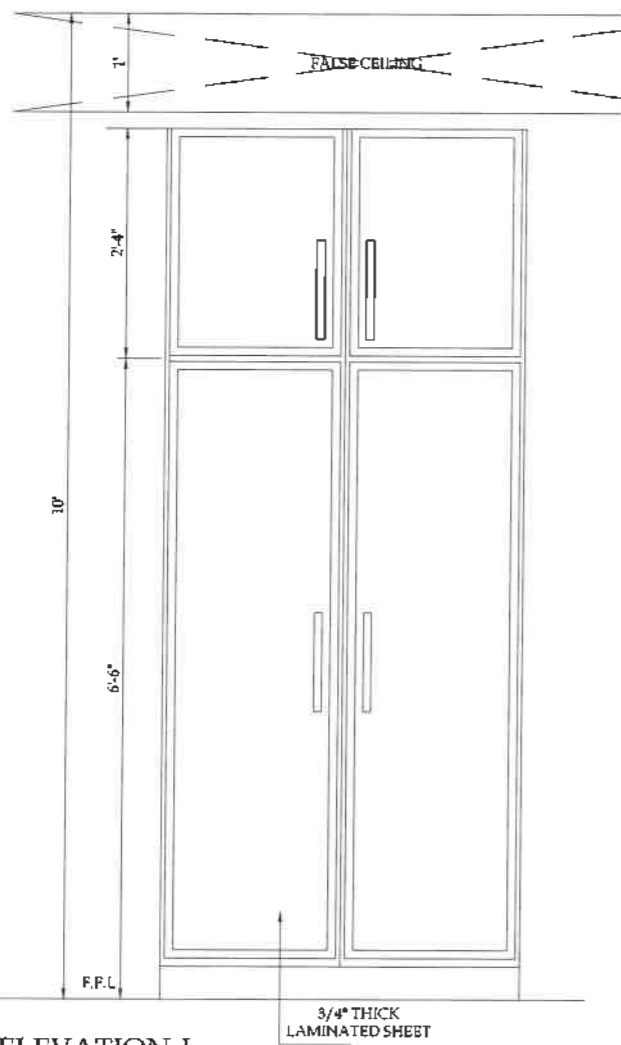
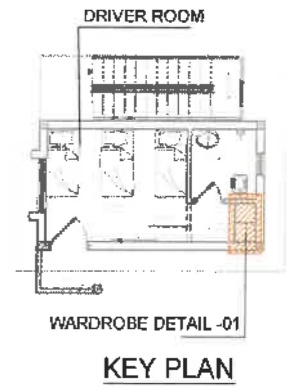
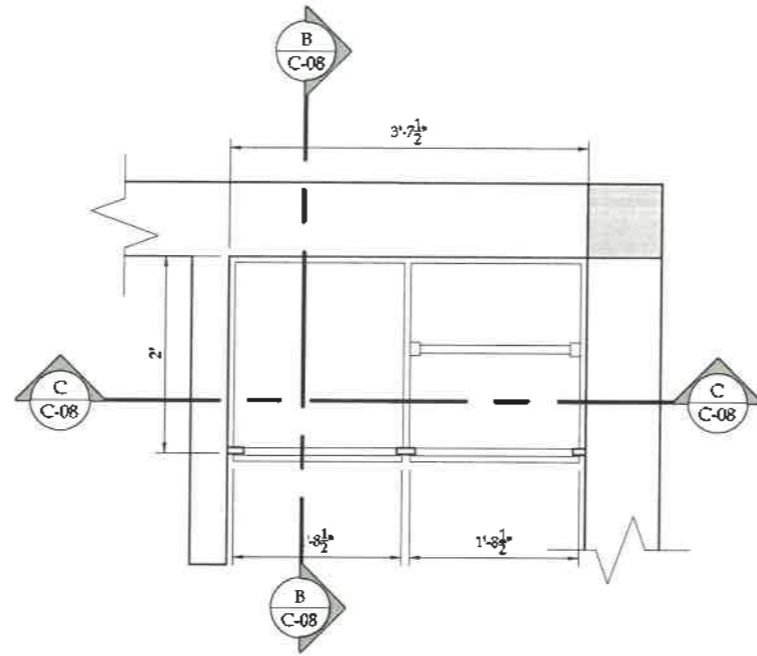
- A=24"X24" MATT FINISH PORCELAIN TILE
- B=24"X12" MATT FINISH PORCELAIN TILE
- C = 4mm EPOXY PAINT
- D = ROOF TILE





ROOF PLAN

SCALE:- 3/8" = 1'-0"

SNGPL			
TITLE			
GROUND & FIRST FLOOR FLOORING LAYOUT			
ORIGIN	DATE	SCALE	
A2	JANUARY 2023		
ISSUE NO	DATE	DESCRIPTION	BY/CHKD
01	15-01-2023	PRELIMINARY DESIGN	MUSLAK / AK
02			ENGINEER
DRAWING NO:		SHEET	REV
SNGPL-ISL-DR-C-06		01	00
PROJECT:			
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD			
CLIENT:			
 <small>Sul Eastern Gas Pipelines Limited SNGPL</small>			
CONSULTANT:			
 <small>ASIAN CONSULTING ENGINEERS PVT. LTD. C-3 ANILAM BLOCK, GREEN FORT 4, LAHORE, PAKISTAN TELEPHONE: +92 42 35450914-5 +92 3214071101 FAX: +92 42 35450998 WEB: www.asiancep.com</small>			



SNGPL		TITLE:	
		GROUND & FIRST FLOOR FALSE CEILING LAYOUT	
ORIGINAL:	DATE:	SCALE:	
A2	JANUARY, 2020		
DATE:	DESCRIPTION:	DESIGN:	APPROVED:
15.01.2020	PRELIMINARY DESIGN	ARJAN	ARJAN
DATE:	DESCRIPTION:	DESIGN:	APPROVED:
02			
DRAWING NO:		SHEET	REV
SNGPL-ISL-DR-C-07		00	00
PROJECT:			
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD			
CLIENT:			
 Sui Northern Gas Pipelines Limited SNGPL			
CONSULTANT:			
 ASIAN CONSULTING ENGINEERS (PVT.) LTD. C-3, HELIM BLOCK GREEN FORT-4, LAHORE, PAKISTAN TELEPHONE: +92 42 35450014-5 +92 32 342 7111 FAX: +92 42 35450015 WEB: www.asiancon.com			

SNGPL-ISL-DR-C-01

Structure

A. GENERAL

- 1- READ ALL DRAWINGS IN CONJUNCTION WITH ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL & ANY OTHER RELEVANT DRAWING.
- 2- NOTES GIVEN IN THIS DRAWING, ARE APPLICABLE TO ALL DRAWINGS UNLESS MENTIONED OTHERWISE. NOTES WRITTEN ON A DRAWING, SHALL BE APPLICABLE TO THAT PARTICULAR DRAWING ONLY UNLESS OTHERWISE CROSS-REFERRED.
- 3- ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO CONTRACT SPECIFICATIONS. IN THE ABSENCE OF ANY SPECIFICATIONS, ALL MATERIALS & WORKMANSHIP SHALL CONFORM TO RELEVANT BRITISH/ACI CODES AND SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- 4- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE STRUCTURES DURING CONSTRUCTION. HE SHALL ALSO VERIFY ALL DIMENSIONS AND LEVELS BEFORE EXECUTION OF WORK. ANY DISCREPANCY, ERROR OR OMISSION, IF FOUND SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR CORRECTION AND APPROVAL.
- 5- THE CONTRACTOR SHALL CO-ORDINATE WITH ARCHITECTURAL AND VARIOUS SERVICES DRAWINGS FOR SIZES & LOCATION OF ALL STRUCTURAL MEMBERS, FLOORS, WALLS, OPENINGS, FLOOR FINISHES, PIPES ETC.
- 6- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXECUTION OF DEWATERING SYSTEM WHERE SO REQUIRED DURING CONSTRUCTION-COST DEEMED TO BE INCLUDED IN OTHER COST DETAILED ITEMS.
- 7- ALL LEVELS AND DIMENSIONS ARE IN FEET & INCHES UNLESS OTHERWISE NOTED.
- 8- DO NOT SCALE THE DRAWINGS. DIMENSIONS, GIVEN ON THE DRAWING, SHALL GOVERN.
- 9- ALL FABRICATION, PAINTING, ERECTION AND QUALITY CONTROL IS TO BE DONE IN ACCORDANCE WITH THE LATEST APPLICABLE SPECIFICATIONS/ BRITISH STANDARDS.

B. FOUNDATION

- 1- THE DESIGN OF FOUNDATION AS REPORTED IN GEO TECHNICAL INVESTIGATION REPORT. CONTRACTOR SHOULD FOLLOW THE GEO-TECHNICAL REPORT BEFORE CONSTRUCTION OF THE FOUNDATION.
- 2- BEFORE LAYING OF FOUNDATION ALL EXCAVATED AREA SHOULD BE INSPECTED BY THE ENGINEER FOR COMMENCEMENT OF WORKS.
- 3- COMPACTED SAND FILL AS PER GEOTECH REPORT.
- 4- PROVIDING AND LAYING OF BITUMINOUS WATER PROOFING MEMBRANE 1MM THICK REINFORCED WITH ROT-PROOF, NON-WOVEN POLYESTER CARRIER OVER ONE COAT OF PRIMER GRIP CONFIRMS TO ASTM D1181
- 5- FOUNDATION SUBGRADE INSPECTION AND PREPARATION SHOULD BE PERFORMED BY A QUALIFIED GEOLOGIST/GEOTECHNICAL ENGINEER AS SPECIFIED THE BOTTOM OF THE EXCAVATION SHALL BE SCARIFIED AND RECOMPACTED TO 95% MDD AS SPECIFIED AND TO THE APPROVAL OF THE ENGINEER. FOUNDATION SUBGRADES SHALL BE THOROUGHLY INSPECTED AND ALL UNSUITABLE HETEROGENEOUS FILL, SILT, SOFT SPOTS, WEAK, DELETERIOUS, OR OTHER UNSUITABLE MATERIAL, IF ENCOUNTERED, SHALL BE TOTALLY REMOVED AND REPLACED WITH ENGINEERED FILL, COMPACTED AS SPECIFIED. THE BOTTOM OF THE EXCAVATION SHOULD BE WETTED AND COMPACTED AS PER THE REQUIREMENTS OF PROJECT SPECIFICATIONS AND TO THE APPROVAL OF THE ENGINEER.
- 6- THE CONTRACTOR SHALL ENSURE ADEQUATE SURFACE WATER CONTROL AND INFILTRATION MEASURES AS AND WHERE NECESSARY WITHIN EXCAVATION AREAS IN ORDER TO ENSURE WORKS WILL PROCEED IN DRY CONDITIONS AND TO MINIMIZE MOISTURE CHANGE IN SOILS UNDERNEATH THE FOUNDATIONS AND AVOID SEEPAGE OF WATER INTO THE GROUND.
- 7- CONTRACTOR SHALL PROVIDE AT HIS OWN COST DEWATERING SYSTEM TO ENSURE GROUND WATER TABLE IS KEPT 1M BELOW 1.5M DURING CONSTRUCTION.
- 8- EFFICIENT SITE DRAINAGE DURING CONSTRUCTION OF PROJECT SHOULD BE PROVIDED BY CONTRACTOR.
- 9- FOUNDATION IS DESIGNED FOR GROUND + 1 STORY ONLY.
- 10- THE ON-SITE SOIL AT FOUNDATION EXCAVATION LEVEL SHOULD BE PROOF ROLLED AND ANY SOFT/ LOOSE POCKETS AT EXCAVATION BASE LEVELS SHOULD BE EXCAVATED AND REPLACED WITH SELECTED FILL MATERIAL APPROVED BY ENGINEER.
- 11- COMPACTED SAND FILL (THE ENGINEER FILL MATERIAL OF AN GROUP AS PER AASHTO SOIL CLASSIFICATION UP TO 95% MODIFIED PROCTOR DENSITY)
- 12- USE OPC AND BLAST FURNACE SLAG CEMENT IN RATIO OF 1:1 FOR THE CONSTRUCTION OF SUB-STRUCTURES IN CONTACT WITH SUB SOILS.

C. DESIGN & LOADS

(C1) CODES OF PRACTICE AND STANDARDS

- 1- BUILDING CODE OF PAKISTAN 2007.
- 2- ACI 318 BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE.
- 3- ACI 315 GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS.
- 4- ACI 224R-01, CONTROL OF CRACKING IN CONCRETE STRUCTURES.
- 5- ACI 308R-06, CODE REQUIREMENT FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES.
- 6- ACI 209R-92, AMERICAN CONCRETE INSTITUTE PREDICTION OF CREEP, SHRINKAGE, AND TEMPERATURE EFFECTS IN CONCRETE STRUCTURE.
- 7- ACI 308R-10, HOT WEATHER CONCRETING.
- 8- ACI 308R-10, GUIDE TO DESIGN OF SLAB ON GROUND.
- 9- ACI 307R-16, GUIDE FOR THE ANALYSIS DESIGN, AND CONSTRUCTION OF ELEVATED CONCRETE AND COMPOSITE STEEL CONCRETE WATER STORAGE TANKS.
- 10- ACI 117R-10, SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS.
- 11- UCB 1997, UNIFORM BUILDING CODE.
- 12- MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
- 13- AISC 360, CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES.
- 14- AISC 360, SPECIFICATION FOR STRUCTURAL STEEL BUILDING.

D. REINF. CONCRETE WORKS

- 1- ALL STRUCTURAL CONCRETE SHALL CONFORM TO AMERICAN STANDARD AS PER FOLLOWING TABLE.
- 2- WATER CEMENT RATIO SHALL NOT EXCEED 0.50 OR AS INCLUDED IN CONTRACT SPECIFICATIONS.
- 3- NO CONCRETING SHALL BE CARRIED OUT UNTIL PERMISSION IS GIVEN IN WRITING TO DO SO BY THE ENGINEER.
- 4- ALL REINFORCEMENT FOR FOUNDATION, COLUMNS, WALLS, BEAMS & SLABS SHALL BE HIGH STRENGTH DEFORMED STEEL GRADE 60 WITH A MINIMUM YIELD STRENGTH OF 60,000 psi UNLESS OTHERWISE MENTIONED.
- 5- ALL REINFORCEMENT SHOULD BE HEAT TREATED.
- 6- ALL STRUCTURAL STEEL SHALL CONFORM TO REQUIREMENTS OF AMERICAN STANDARD ASTM 615 OR EQUIVALENT.

REINFORCED CONCRETE (RC) ELEMENT	CONCRETE GRADE DESIGNATION	CYLINDRICAL COMPRESSIVE STRENGTH (F'') (C) Psi
COLUMNS, LIFT WALL & WATER RETAINING STRUCTURES.	GRADE-A	4000
BEAMS, FOUNDATION & SLABS	GRADE-B	3000
BLINDING CONCRETE	GRADE-C	1500

DD. CAMBER

MEMBER SPAN LENGTH CAMBER INCH	
18 TO 25 FT	1"
MORE THAN 25 FT	1.5"

PROVIDE CAMBER IN FORM WORK BEFORE POURING OF CONCRETE IN BEAMS AND SLABS AT CENTER LOCATION.

E. MISCELLANEOUS WORKS

- 1- THE CONTRACTOR SHALL SUBMIT CONCRETE POURING SCHEDULE FOR ENGINEER'S APPROVAL. NO CONCRETE SHALL BE PLACED UNTIL WRITTEN PERMISSION IS GIVEN BY THE ENGINEER.
- 2- DURING CONSTRUCTION, STACKING OF CONSTRUCTION MATERIALS, BLOCKS, etc. SHOULD BE AVOIDED ON SLAB PANELS.
- 3- BEFORE CASTING OF ANY STRUCTURAL MEMBER, THE CONTRACTOR SHALL ENSURE THAT ALL EMBEDDED ITEMS FOR ELECTRICAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL STEEL AND OTHER WORKS ARE PROPERLY LOCATED IN PLACE.
- 4- THE CONNECTION OF COLUMN & MASONRY SHALL BE BY G.I. SHEET 4" WIDE, GAUGE 22 EXTENDING 3 FEET FROM FACE OF COLUMN, IN TWO LAYERS, 6 SHEETS ON EACH COLUMN (PER STOREY), 3 ON EITHER SIDE.
- 5- IN 4-1/2" THICK WALLS, A REINFORCEMENT OF 1" WIDE 18 GAUGE HOOP IRON SHALL BE PLACED IN COURSES NOT MORE THAN 12" APART AND CONTINUED FOR 9" INTO THE MAIN WALL ON WHICH THE PARTITION WALL ABUTS. IF THE PARTITION WALL EXCEEDS 20' IN LENGTH OR 15' HEIGHT, THE HOOP IRON SHALL BE INTRODUCED AT COURSES NOT MORE THAN 6' APART.

F. CONSTRUCTION JOINTS

- 1- JOINTS, NOT SHOWN ON THE DRAWING, SHALL BE SO MADE AND LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL NEED PRIOR APPROVAL OF THE ENGINEER. THEY SHALL BE LOCATED NEAR THE MIDDLE OF THE SPANS OF SLAB & BEAMS. JOINT IN WALLS & COLUMNS SHALL BE AT THE UNDER-SIDE OF FLOORS, SLABS OR BEAMS AND AT THE TOP OF FOOTINGS OR FLOOR SLABS.
- 2- JOINTS SHALL BE PERPENDICULAR TO MAIN REINFORCEMENT. ALL REINFORCING STEEL SHALL BE CONTINUED ACROSS JOINTS.
- 3- JOINTS IN THE BASE SLAB & WALLS AND ROOF SLAB, IN ADDITION TO THOSE SHOWN ON THE DRAWINGS SHALL BE BORNE BY THE CONTRACTOR. BEAMS & BRACKETS SHALL BE PLACED AT THE SAME TIME AS SLABS.

9. CLEAR COVER TO REINFORCEMENT SHALL BE (INCHES)

STRUCTURAL ELEMENT	COVER (INCHES)
BASE SLAB / RAFT:	
a) BOTTOM SIDE	2
b) TOP SIDE	2
c) SIDES	3
BEAMS	1 1/2
COLUMNS	1 1/2
SLABS, POTABLE WATER TANK BASE & ROOF SLABS:	
a) BOTTOM SIDE	2
b) TOP SIDE	3/4
ROOF SLAB:	
a) BOTTOM SIDE	3/4
b) TOP SIDE	1
EXTERNAL WALLS:	
a) OUTER FACE	2
b) INNER FACE	2
NOTE: CLEAR COVER IN PORTION OF EXTERNAL WALLS FORMING INTERNAL PART OF DUCTS WILL REMAIN SAME AS FOR EXTERNAL WALL.	
ALL INTERNAL WALLS:	
a) OUTER FACE	3/4
b) INNER FACE	3/4

- 10- ALL REINF. STEEL SHALL BE ACCURATELY LOCATED IN THE FORMS AND HELD FIRMLY IN PLACE BEFORE & DURING THE PLACING OF CONCRETE, BY MEANS OF WIRE AND SUPPORTS ADEQUATE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION.

G. ELECTRICAL & COMMUNICATION SYSTEMS

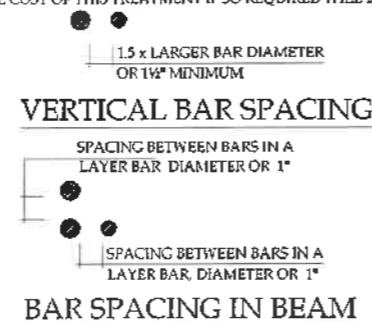
- 1- CONDUITS, FOR ELECTRICAL WORKS, SHALL BE PLACED WITHIN THE REINFORCED CONCRETE. THEY SHALL BE PLACED WITHIN THE MIDDLE THIRD OF THE SECTION IN BEAMS & SLABS AND WITHIN THE MIDDLE HALF OF THE THICKNESS SPACING BETWEEN PARALLEL CONDUITS SHALL NOT BE LESS THAN 6 INCHES.
- 2- THE CONTRACTOR WILL PREPARE SHOP DRAWINGS FOR ALL THE ELECTRICAL & COMMUNICATION SYSTEMS FOR THE PROJECT MANAGER APPROVED BEFORE EXECUTION OF WORK.
- 3- SAMPLES / TECHNICAL DATA FOR ALL THE ITEMS WILL BE SUBMITTED & APPROVED BY THE PROJECT ENGINEER BEFORE PROCUREMENT.
- 4- THE WORK WILL BE CARRIED OUT THROUGH APPROVED ELECTRICAL CONTRACTOR HAVING A VALID ELECTRICAL LICENCE OF THE AREA.
- 5- CONTRACTOR WILL PROVIDE TEST REPORT DULY VERIFIED FROM THE ELECTRICAL INSPECTOR OF THE AREA.
- 6- THE CONTRACTOR WILL USE MATERIALS OF APPROVED MAKE & VENDORS / MANUFACTURERS.

H. SHORING & BRACING

- 1- SHORE & BRACE ALL PARTS OF THE BUILDING DURING CONSTRUCTION, TO THE EXTENT NECESSARY TO ENSURE COMPLETE SAFETY, STRENGTH & SERVICEABILITY OF ALL STRUCTURAL ELEMENTS UNDER ALL CONDITIONS OF LOADS WHICH MAY OCCUR DURING CONSTRUCTION, SUCH SHORING & BRACING IS THE CONTRACTOR'S SOLE RESPONSIBILITY AND IS NOT SHOWN ON STRUCTURAL DRAWINGS OR SPECIFIED IN THE PROJECT.

I. WATER RETAINING STRUCTURES

WATER PROOFING ADMIXTURE OF APPROVED BRAND/TYPE WILL BE ADDED TO CEMENT CONCRETE OF WATER TANK, THE COST DEEMED TO BE INCLUDED IN THE RESPECTIVE ITEM OF CEMENT CONCRETE. THE PERFORMANCE OF TANK WITH RESPECT TO LEAKAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR; ADDITIONAL PROTECTION IF SO REQUIRED TO MAKE IT WATER PROOF WILL BE APPLIED SUBJECT TO ENGINEER APPROVAL. NO ADDITIONAL COST OF THIS TREATMENT IF SO REQUIRED WILL BE PAYABLE.



J. WORKMANSHIP AND CONSTRUCTION REQUIREMENTS

- 1- INTERNAL SURFACES FOR ALL STRUCTURAL ELEMENTS IN CONTACT WITH FUEL, WATER OR SEWAGE SHOULD BE PROTECTED WITH CRYSTALLINE WATER PROOFING AS PER MANUFACTURER'S INSTRUCTIONS. AND AS PER PROJECT SPECIFICATION.
- 2- THE CONTRACTOR SHALL CLEARLY INDICATE ON THE CONSTRUCTION SHOP DRAWINGS THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS IN ALL CONCRETE STRUCTURES TO THE ENGINEER'S APPROVAL.
- 3- ALL PIPES, DUCTS, AND OTHERS PENETRATING THROUGH WATERPROOFING MEMBRANE SHOULD BE APPROVED BY THE ENGINEER. IN SUCH CASE CONTRACTOR IS TO PREPARE SPECIAL WATERPROOFING DETAILS TO PREVENT THE PASSAGE OF WATER.
- 4- REFER TO MECHANICAL DRAWINGS FOR DETAILS OF PIPE SLEEVES WITH THEIR PUDDLE FLANGES AT THEIR CONNECTION WITH THE CONCRETE WALLS. CONCRETE SHALL BE CAST AROUND THESE PUDDLE FLANGED PIPE SLEEVES IN A MANNER THAT DOES NOT HINDER WATERPROOFING.
- 5- NO CONCRETE SHALL BE POURED INTO AN EXCAVATED AREA CONTAINING FREE WATER.
- 6- FINISHES TO ALL EXPOSED FORMED SURFACES ARE OF GREAT IMPORTANCE & THE CONTRACTOR SHALL DEMONSTRATE BY MEANS OF TESTS BEFORE WORK COMMENCES THAT EACH TYPE OF FINISH SPECIFIED CAN BE CONSISTENTLY ACHIEVED TO THE SATISFACTION OF THE ENGINEER.
- 7- ALL FORMS, FALSEWORK ERECTION PROCEDURES ETC. SHALL BE APPROVED BY THE ENGINEER BEFORE THEY CAN BE USED ON SITE.
- 8- CONSTRUCTION JOINTS: THE SURFACE OF THE CONCRETE SHOULD BE THOROUGHLY CLEANED AND ALL LATTICE AND STANDING WATER REMOVED.
- 9- THE INTERFACE BETWEEN CONCRETE CAST ON PREVIOUSLY HARDENED CONCRETE SHALL BE CLEAN AND FREE OF LATTICE AND SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 7 mm UNLESS OTHERWISE SHOWN ON THE DRAWINGS. WATER STOPS SHALL BE PROVIDED IN ALL CONSTRUCTION JOINTS FOR TANKS AND ALL UNDERGROUND STRUCTURES IN CONTACT WITH SOIL.
- 11- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- 12- CONTRACTOR TO PROVIDE CONSTRUCTION JOINT LOCATION FOR ENGINEER CHECK AND APPROVAL PRIOR TO START CASTING, ANY ADDITIONAL REINFORCEMENT SHALL BE ADDED AS REQUIRED.
- 13- VERTICAL CONSTRUCTION JOINT IN RAFT ARE NOT ALLOWED WITHOUT ADDITIONAL SHEAR LINKS THAT SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
- 14- RETAINING WALLS: BACKFILLING BEHIND THE RETAINING WALL SHALL BE DONE ON TWO STAGES STAGE 1: BACKFILLING TO THE BASEMENT 1 FLOOR LEVEL AND THIS STAGE SHALL BE COMMENCED AFTER THE CONSTRUCTION OF THE BASEMENT 1 SLAB STAGE 2: BACKFILLING TO THE FINAL GRADING LEVEL AND THIS STAGE SHALL BE COMMENCED AFTER THE CONSTRUCTION OF THE GROUND FLOOR SLAB.

K. BRICK WORK

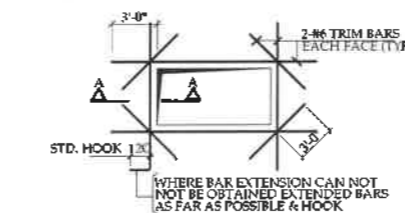
- 1- ALL BRICK WORK SHALL CONFORM TO SPECIFICATIONS GIVEN IN CONTRACT DOCUMENT.
- 2- ALL BRICKS SHALL BE SOUND, HARD, WELL BURNED AND OF UNIFORM SIZE, COLOUR AND TEXTURE. DIMENSIONAL VARIATION IN SIZES SHALL NOT EXCEED 1/8 INCHES.
- 3- ALL BRICK WORK SHALL BE ERECTED PLUMB AND TRUE TO LINE AND LEVEL. THE MAXIMUM VARIATION IN ANY STOREY HEIGHT OR ANY LENGTH OF WALL SHALL BE 1/8 INCHES IN 10 FEET OR AS SPECIFIED IN CONTRACT SPECIFICATIONS.
- 4- MORTAR USED IN MASONRY CONSTRUCTION SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF NOT LESS THAN 1800 PSI AND SHALL CONFORM TO ASTM C270. COMPRESSIVE STRENGTH OF MASONRY AT 28 DAYS SHALL NOT BE LESS THAN 1350 PSI.
- 5- ALL DESIGN DETAILING, MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH RELEVANT ACT, ASTM AND UBC CODE AND STANDARDS. TESTING OF COMPRESSIVE STRENGTH OF MASONRY SHALL BE DONE, IF SO DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH ASTM C67 OR PAKISTAN STANDARD-201.
- 6- THE AVERAGE COMPRESSIVE STRENGTH OF TWELVE HALF BRICKS SHALL NOT BE LESS THAN 2000 PSI AND SHALL BE NOT LESS THAN 1800 PSI FOR ANY INDIVIDUAL BRICK.
- 7- BRICK SHALL BE LAID "FROG" UPWARD WITH MORTAR JOINT AND IN ENGLISH AND FLEMISH BOND OR AS DIRECTED BY THE ENGINEER.
- 8- TESTING OF COMPRESSIVE STRENGTH OF MASONRY SHALL BE DONE, IF SO DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH ASTM C67 OR AS PER LATEST BUILDING CODE OF PAKISTAN.
- 9- HORIZONTAL D.P.C. WILL BE 1 1/2" TH. P.C.C. (1:2:4) WITH 1 COAT OF HOT BITUMEN 10/20@20 LBS/100SQ FT ON ONE LAYER OF POLYTHENE SHEET, 500 GAUGE.
- 10- VERTICAL D.P.C. WILL BE 7/8" THICK VERTICAL D.P.C. 1:3 CEMENT SAND MORTAR WITH HOT BITUMEN 1 COAT 10/20@20 LBS/100 SQ FT & ONE LAYER OF POLYTHENE SHEET, GAUGE 500.



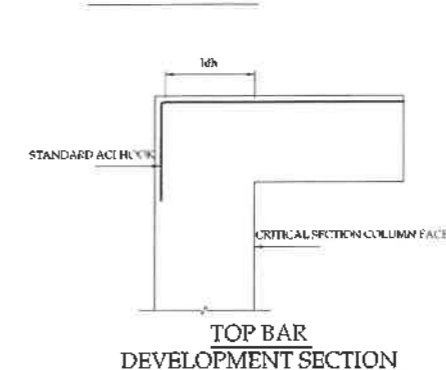
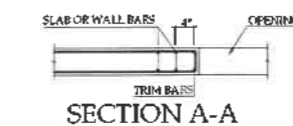
NOTES

- FOR OPENING WITH MAXIMUM DIMENSION OVER 3'-0" REFER TO OTHER DETAILS.
- USE THIS DETAILS IF NOT SHOWN IN DESIGN DRAWINGS.

REINFORCEMENT AROUND SLEEVE IN SLAB & WALLS (TYP)
(NOTE: FOLLOW ABOVE REINFORCEMENT PATTERN ONLY IF NOT SPECIFICALLY SHOWN ON RESPECTIVE DESIGN / REINF. DETAIL DRAWINGS)



REINFORCEMENT DETAIL AT OPENING IN SLAB & WALLS (TYP)
(NOTE: FOLLOW ABOVE REINFORCEMENT PATTERN ONLY IF NOT SPECIFICALLY SHOWN ON RESPECTIVE DESIGN / REINF. DETAIL DRAWINGS)



SNGPL

TITLE: **GENERAL NOTES-I**

ORIGINAL: AS DATE: JANUARY, 2008 SCALE:

DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
18-01-2008	PRELIMINARY DESIGN	MAM	SHARIF	ENGR. (P)

DRAWING NO: **SNGPL-ISL-DR-GN-01** SHEET: **06** REV: **00**

PROJECT: **REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD**

CLIENT: **Sub Maritime Gas Pipeline Limited SNGPL**

CONSULTANT: **ASIAN CONSULTING ENGINEERS PVT. LTD.**
C-3 JILANI BLOCK GREEN FORT, LAHORE, PAKISTAN
TELEPHONE: +92 42 3540914-5 +92 32-142-71101
FAX: +92 42 3540916 WEB: www.asiancon.com

DEVELOPMENT LENGTH l_{dh} (INCHES) OF STANDARD HOOKS FOR UNCOATED GRADE 60 BARS*

BAR NO.	f'c (NORMAL WEIGHT CONCRETE), PSI		
	3000	4000	5000
3	8.2	7.1	6.4
4	11.0	9.5	8.5
5	13.7	11.9	10.6
6	16.4	14.2	12.7
7	19.2	16.6	14.8
8	21.9	19.0	17.0
9	24.7	21.4	19.1
10	27.8	24.1	21.6
11	30.9	26.8	23.9
14	37.1	32.1	28.7
18	49.5	42.8	38.3

DEVELOPMENT LENGTH IN TENSION (a) TOP BARS

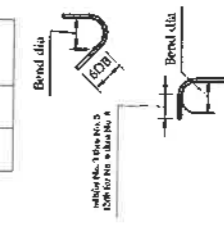
f'c (psi)	BAR SIZE	DEVELOPMENT LENGTH 'inch'					
		#3	#4	#5	#6	#8	#10
3000	60KSI	21	29	36	43	71	90
4000	60KSI	18	25	33	37	63	78
5000	60KSI	17	22	30	34	56	70

(b) BOTTOM BARS

f'c (psi)	BAR SIZE	DEVELOPMENT LENGTH 'inch'					
		#3	#4	#5	#6	#8	#10
3000	60KSI	17	22	27	33	55	68
4000	60KSI	15	19	24	30	48	60
5000	60KSI	13	17	21	26	43	54

STANDARD HOOKS FOR STIRRUPS AND TIE REINFORCEMENT

BAR SIZE, NO.	MIN. FINISHED BEND DIA. (in)
3 THROUGH 5	4D _s
6 THROUGH 8	6D _s



^(a) MEASURED ON INSIDE OF BAR

DEVELOPMENT LENGTH IN COMPRESSION

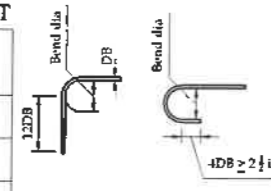
f'c (psi)	BAR SIZE	DEVELOPMENT LENGTH 'inch'					
		#3	#4	#5	#6	#8	#10
3000	60KSI	9	11	14	17	22	28
4000	60KSI	8	10	12	15	19	24
5000	60KSI	8	9	11	14	18	22

SPLICE LENGTH IN COMPRESSION

BAR SIZE	SPLICE / LAP LENGTH 'inch'					
	#3	#4	#5	#6	#8	#10
SPLICE LENGTH	12	15	19	23	30	40

STANDARD HOOKS FOR PRIMARY REINFORCEMENT

BAR SIZE, NO.	MIN. FINISHED BEND DIA. (a)
3 THROUGH 8	6D _s
9, 10, 11	8D _s
14 and 18	10D _s



^(a) MEASURED ON INSIDE OF BAR

EQUIVALENT DIAMETERS OF BUNDLED BARS, IN.

BAR NO.	BAR DIAMETER	2-BAR BUNDLE	3-BAR BUNDLE	4-BAR BUNDLE
6	0.750	1.06	1.30	1.50
7	0.875	1.24	1.51	1.75
8	1.000	1.42	1.74	2.01
9	1.128	1.60	1.95	2.26
10	1.270	1.80	2.20	2.54
11	1.410	1.99	2.44	2.82
14	1.693	2.39	2.93	3.39



SPLICE LENGTH IN TENSION (a) TOP BARS

f'c (psi)	BAR SIZE	SPLICE / LAP LENGTH 'inch'					
		#3	#4	#5	#6	#8	#10
3000	60KSI	28	37	46	56	93	114
4000	60KSI	24	33	42	48	81	102
5000	60KSI	22	30	37	45	72	92

(b) BOTTOM BARS

f'c (psi)	BAR SIZE	SPLICE / LAP LENGTH 'inch'					
		#3	#4	#5	#6	#8	#10
3000	60KSI	22	29	36	43	72	87
4000	60KSI	18	24	30	36	63	78
5000	60KSI	17	23	28	34	56	71

HOOP/TIE SPACING

SPACING S1 IN LENGTH S1. SPACING FOR HOOPS SHALL NOT EXCEED SMALLEST OF:
 a) d/4
 b) 6db OF SMALLEST BAR.
 c) 24 db OF HOOP
 d) 12 in (300 mm)

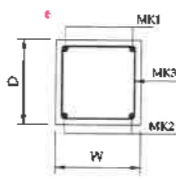
SPACING S2 IN LENGTH S2. SPACING STIRRUPS <= d/2



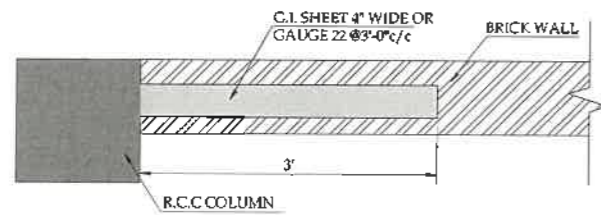
TYPICAL HOOP DETAIL

SCHEDULE OF LINTEL BEAMS

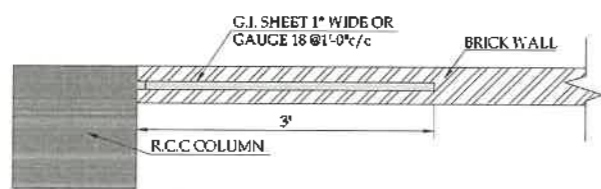
SPAN	W	D	MK-1	MK-2	MK-3
UP TO 3'-0"	WIDTH OF WALL	6"	2-#4	2-#4	3#3 c/c
3'-0" TO 3'-6"	WIDTH OF WALL	9"	2-#4	2-#6	3#3 c/c
3'-6" TO 4'-0"	WIDTH OF WALL	12"	2-#4	2-#6	2#6 c/c
4'-0" TO 4'-6"	WIDTH OF WALL	12"	2-#4	2-#6 + 1-#4	3#6 c/c
4'-6" TO 12'-0"	WIDTH OF WALL	15"	2-#4	3-#6	3#6 c/c



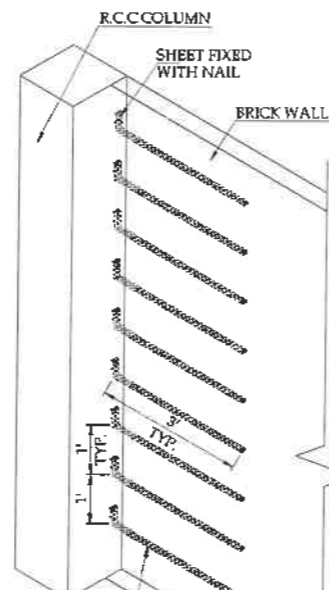
NOTE:- WHEN SPAN DIFFERENCE TO LOWER SIDE IS EXCESSIVE INTERPOLATE DEPTH USING SAME STEEL



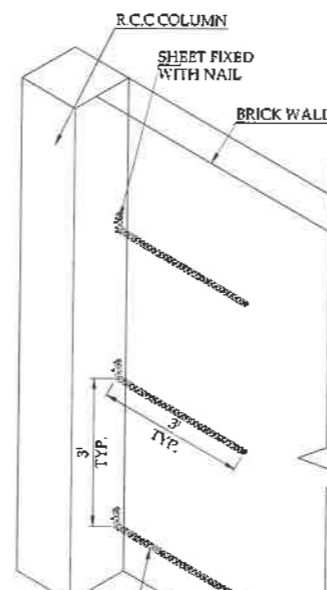
(TYP.) R.C.C COLUMN & BRICK WALL 9" THICK CONNECTION DETAIL
SCALE:- 3/4" = 1'-0"



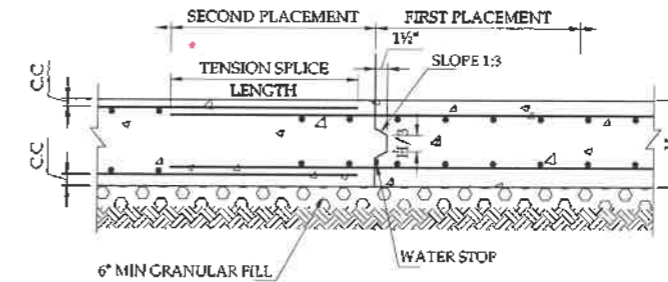
(TYP.) R.C.C COLUMN & BRICK WALL 4 1/2" THICK CONNECTION DETAIL
SCALE:- 3/4" = 1'-0"



(TYP.) ISOMETRIC VIEW OF R.C.C COLUMN & 4 1/2" BRICK WALL CONNECTION DETAIL
SCALE:- 3/8" = 1'-0"



(TYP.) ISOMETRIC VIEW OF R.C.C COLUMN & 9" BRICK WALL CONNECTION DETAIL
SCALE:- 3/8" = 1'-0"

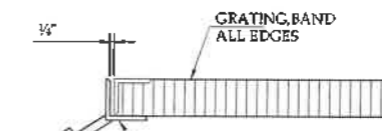


NOTE:

* MAXIMUM 80' BETWEEN CONSTRUCTION JOINTS AND 72 HOURS MINIMUM BETWEEN ADJACENT PLACEMENTS

TYPICAL DETAIL OF VERTICAL CONSTRUCTION JOINTS IN RAFT

SCALE:- 1" = 1'-0"



(REFER DIV. NO. CBD-PP-P-20), CUT VERT. LEG, IF REQUIRED TO MATCH TOP OF GRATING, MITER CUT AND WELD AT CORNERS, GALVANIZE AFTER ASSEMBLY, ADJUST ANGLE SIZE TO MATCH GRATING

NOTE:

* WHEN PROVIDING ALUMINUM OR STAINLESS STEEL GRATING, ADD 1/2"x1" NEOPRENE, TEFLON OR UHMW POLYETHYLENE PAD, ADHERE TO ANGLE

GRATING ANGLE SUPPORT

SCALE:- 1" = 3"

SNGLP
TITLE: GENERAL NOTES - II

DATE	SCALE
JANUARY, 2020	

DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
	PRELIMINARY DESIGN			

DRAWING NO: SNGLP-ISL-DR-GN-02 SHEET 00 REV 00

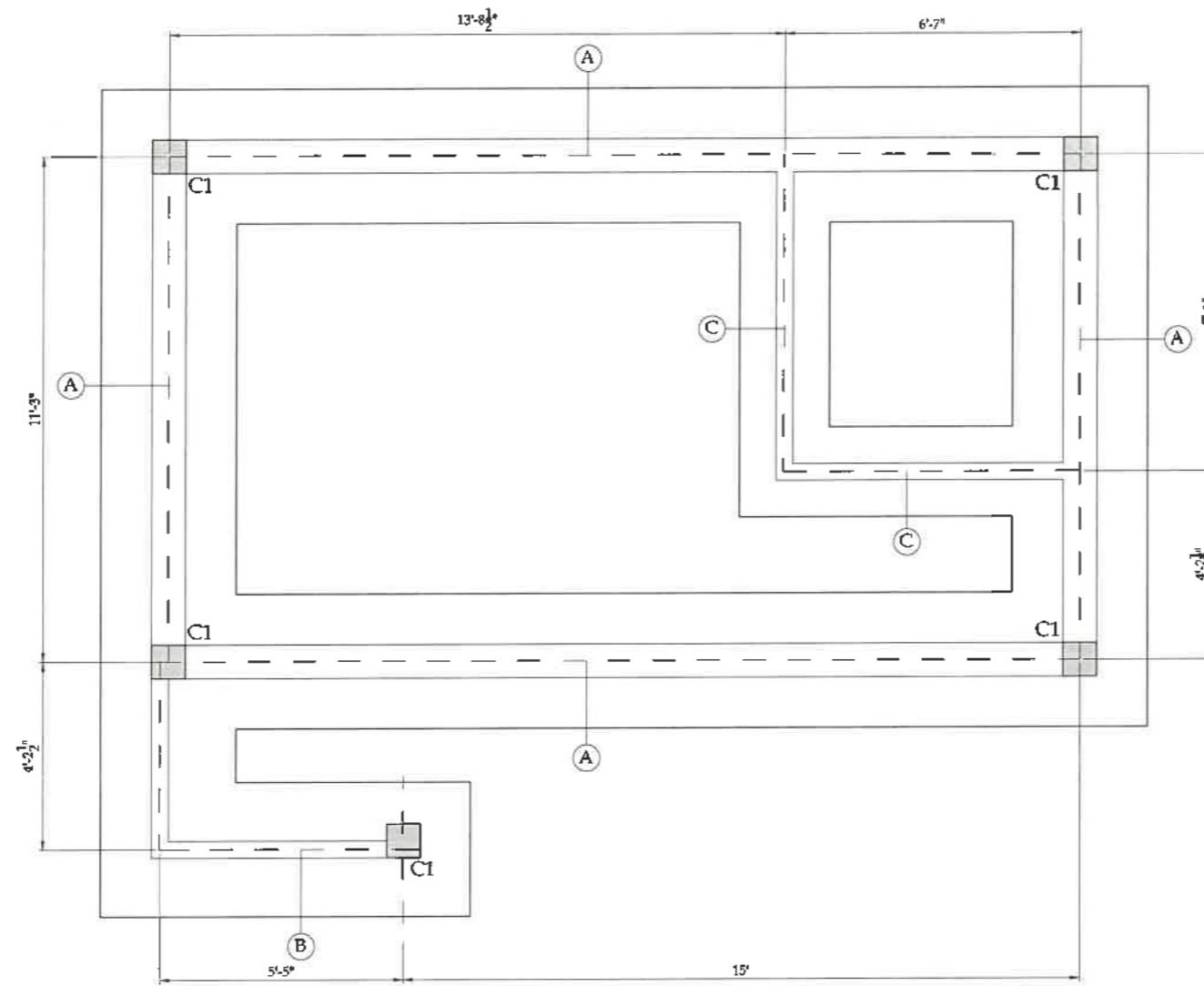
PROJECT: REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

CLIENT:

CONSULTANT:

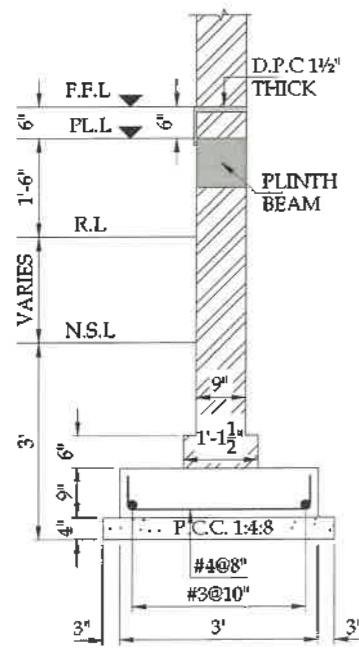
ASIAN CONSULTING ENGINEERS (ACE)
C-3 JHELMUM BLOCK, GREEN PORT-4, LAHORE, PAKISTAN
TELEPHONE: +92 42 3550944-5 +92 30 142 7101
FAX: +92 42 3550911 WEB: www.ace.com

SNGLP-ISL-DR-GN-02

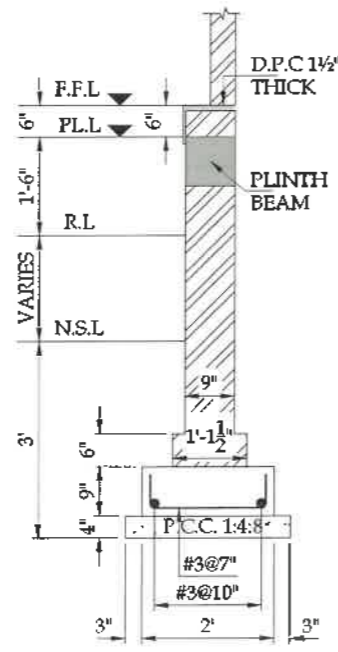


FOUNDATION LAYOUT PLAN

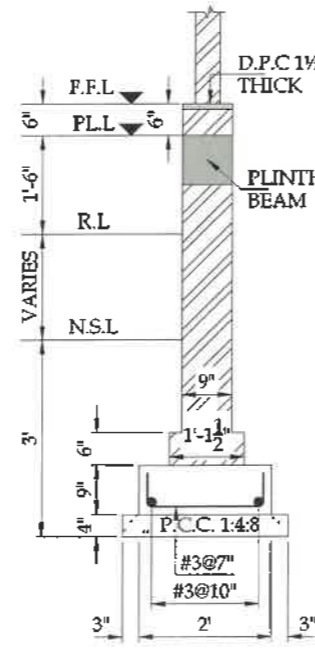
SCALE: 3/8" = 1'-0"



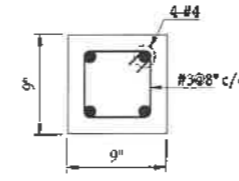
TYPE-A
SCALE: 1/2" = 1'-0"



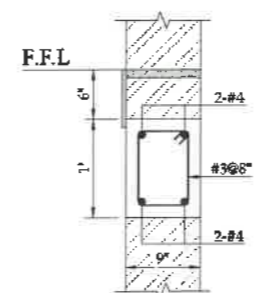
TYPE-B
SCALE: 1/2" = 1'-0"



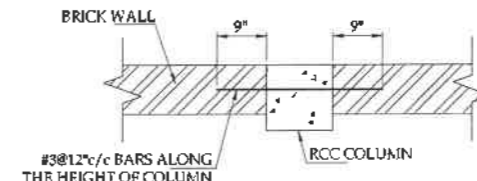
TYPE-C
SCALE: 1/2" = 1'-0"



COLUMN C1
SCALE: 1" = 1'-0"



PLINTH BEAM
SCALE: 3/4" = 1'-0"



RCC COLUMN TO BRICK WALL CONNECTION DETAIL
SCALE: 1/2" = 1'-0"


SNGPL-ISL-DR-S-01


SNGPL
TITLE
FOUNDATION LAYOUT PLAN & SECTIONAL DETAILS

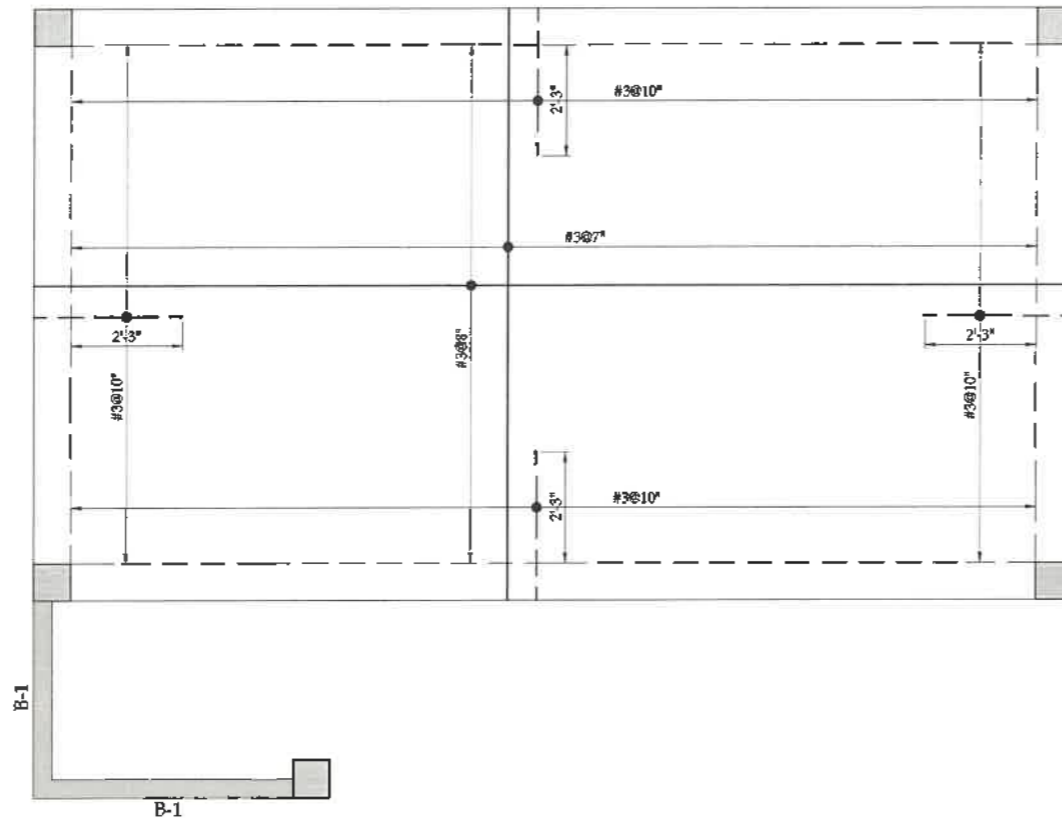
DATE	DESCRIPTION	DRAWN	DESIGNED	APPROVED
15-01-2020	PRELIMINARY DESIGN	SKALI	ENGR. BIKHTAN	ENGR. ENDRUOT

DRAWING NO: **SNGPL-ISL-DR-S-01** SHEET: 00 REV: 00

PROJECT:
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

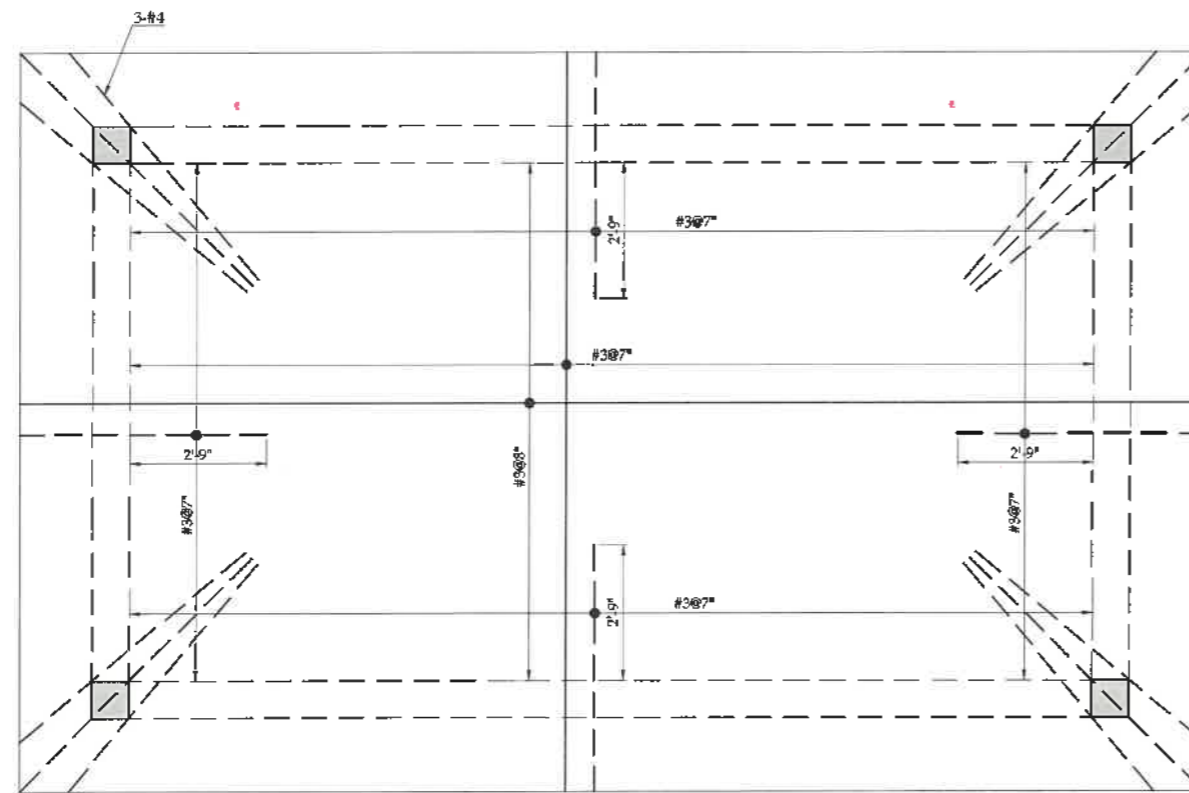
CLIENT:

SNGPL

CONSULTANT:
 **ASIAN CONSULTING ENGINEERS PVT. LTD.**
C-3, MELBURN BLOCK, ORSBY FORT-2, LAHORE, PAKISTAN
TELEPHONE: +92 42 35499145 +92 32 142-1111
FAX: +92 42 35 52915 WEB: www.asiancon.com



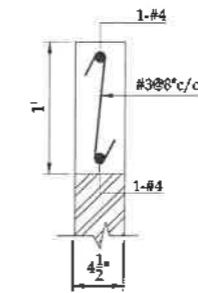
GROUND FLOOR SLAB REINFORCEMENT PLAN

SCALE:- 3/8" = 1'-0"



ROOF SLAB REINFORCEMENT PLAN

SCALE:- 3/8" = 1'-0"



BEAM B-1

SCALE:- 1" = 1'-0"

NOTE:

1. THICKNESS OF ALL SLABS IS 6" UNLESS OTHERWISE NOTED.
2. DISTRIBUTION TOP BARS #3@12"c/c.


SNGPL-ISL-DR-S-02


SNGPL
TITLE:
GROUND & ROOF SLAB REINFORCEMENT PLAN

ISSUE NO.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
01	18-01-2020	PRELIMINARY DESIGN	MAJ	ENGR. (SNGPL)	ENGR. (SNGPL)

DRAWING NO: **SNGPL-ISL-DR-S-02** SHEET NO: REV NO:

PROJECT:
REGIONAL DISTRIBUTION OFFICE I-S ISLAMABAD

CLIENT:

 SNGPL
 Sui Northern Gas Pipelines Limited

CONSULTANT:
 **ASIAN CONSULTING ENGINEERS PVT. LTD.**
 C-3 JHILLUM BLOCK, GREEN FORT-4, LAHORE, PAKISTAN
 TELEPHONE: +92 42 35450914-5 +92 32-14271101
 FAX: +92 42 35450918 WEB: www.asiancoz.com

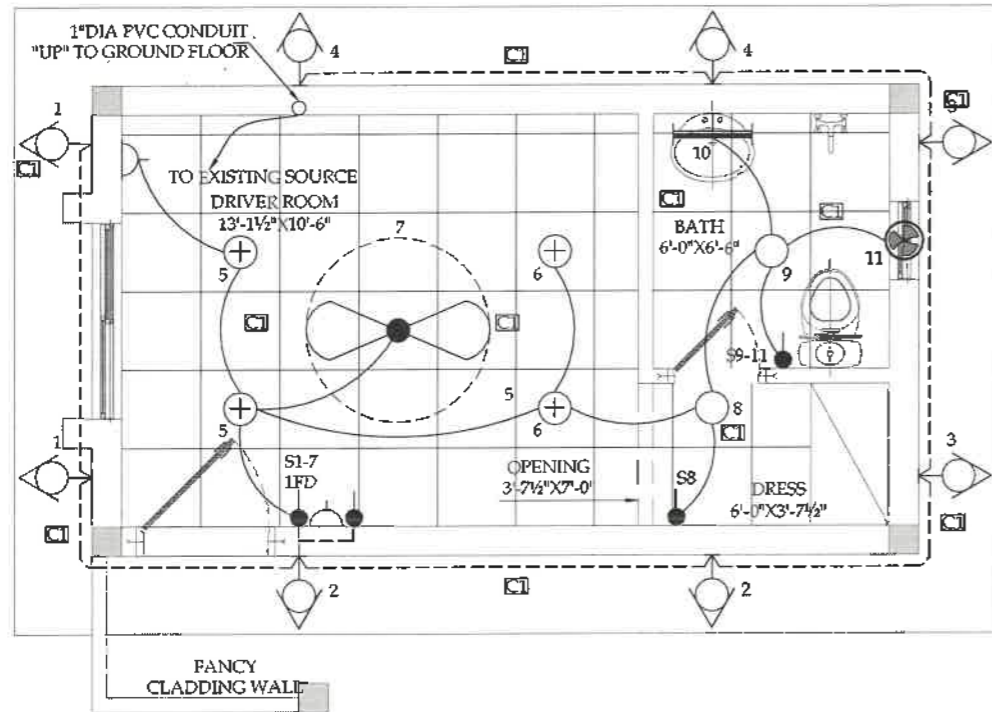
Electrical

" LIGHTS "						
NO.	SYMBOL	DESCRIPTION	TYPE / DETAIL / SPEC			
			COLOR TEMP.	LUMENS	CRI	P.F.
01		WALL BRACKET LIGHT WITH 18 WATT LED	3000-6000K	> 100lm/w	> 80	> .95
02		LED DOWN LIGHT WITH 12 WATT	3000-6000K	> 100lm/w	> 80	> .95
03		LED DOWN LIGHT WITH 18 WATT	3000-6000K	> 100lm/w	> 80	> .95
04		MIRROR LIGHT WITH 1X20 WATT	3000-6000K	> 100lm/w	> 80	> .95

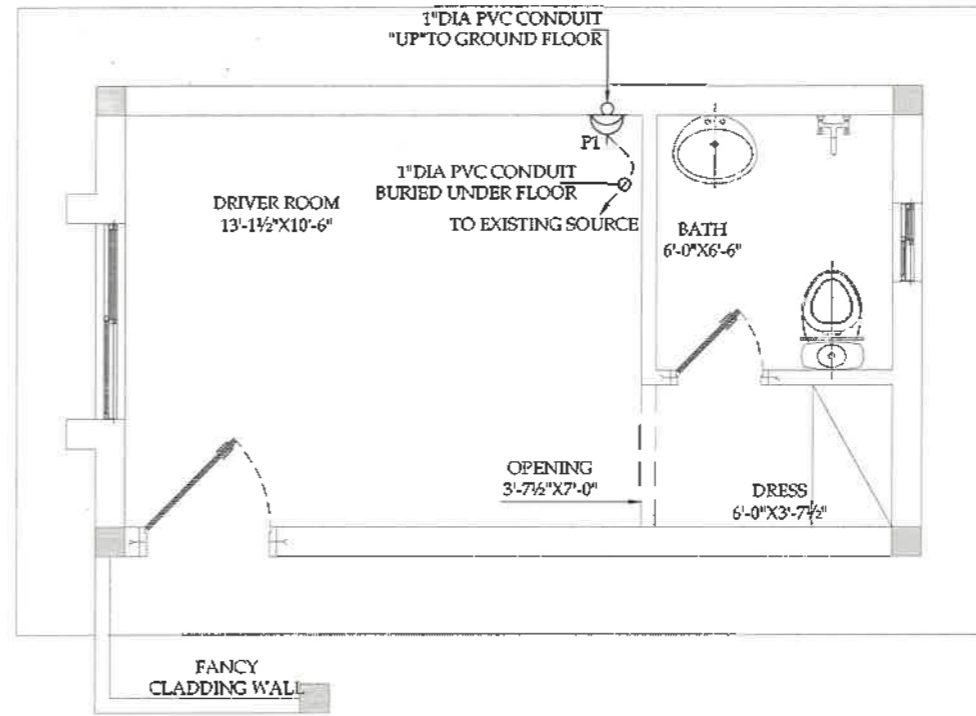
" LT SWITCH GEAR "			
NO.	SYMBOL	DESCRIPTION	TYPE
01		10 AMP, 1 WAY FLUSH TYPE SWITCH (SWITCH BOARD).	GANG TYPE SWITCH
02		3/5 PIN 10 AMP LIGHT PLUG RECESSED TYPE.	GANG TYPE SWITCH

" FANS "				
NO.	SYMBOL	DESCRIPTION	SIZE	DETAIL
01		CEILING FAN 36" SWEEP WITH M.S HOOK	36" Ø	99.9% COPPER
02		EXHAUST FAN WITH PLASTIC/STEEL BODY WITH 18" Ø 99.9% COPPER	18" Ø	99.9% COPPER

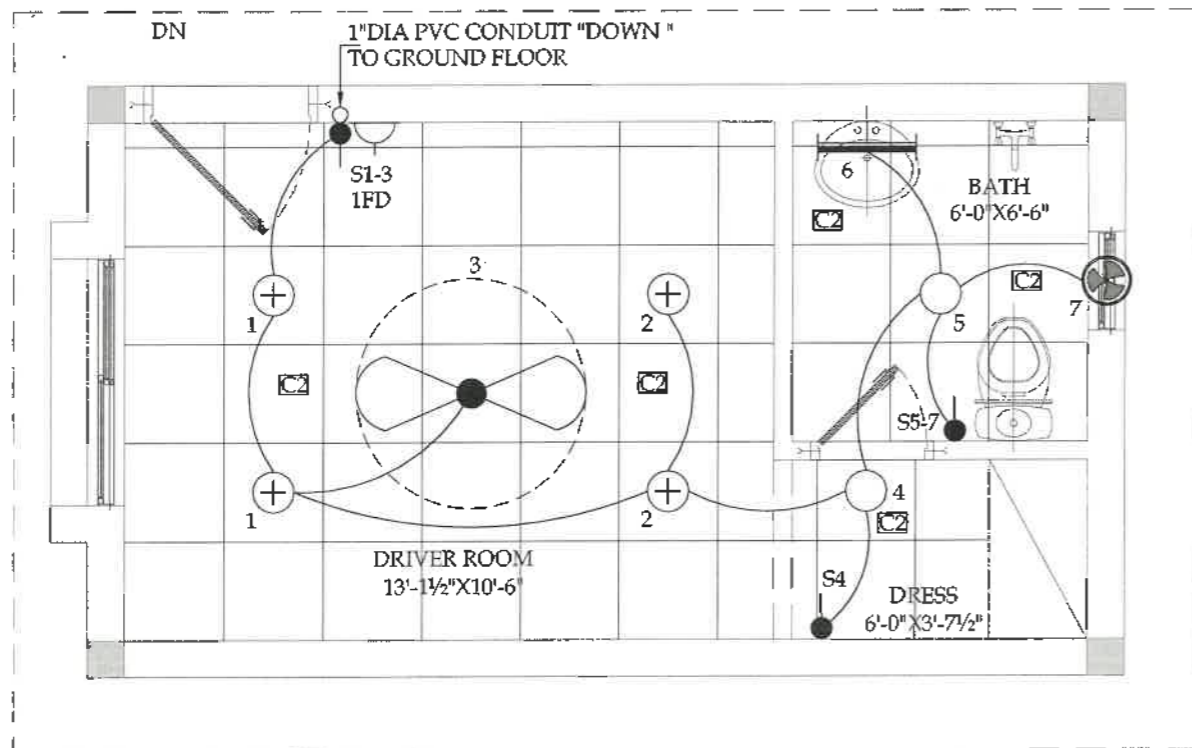
" POWER SYSTEM "			
NO.	SYMBOL	DESCRIPTION	HEIGHT
01		5/3 PIN 15 AMP WALL SOCKET UNIVERSAL TYPE.	1'-0" ABOVE F.F.L
02		EXISTING DISTRIBUTION BOARD "LIGHT & POWER" (DBLP)	4'-0" ABOVE F.F.L



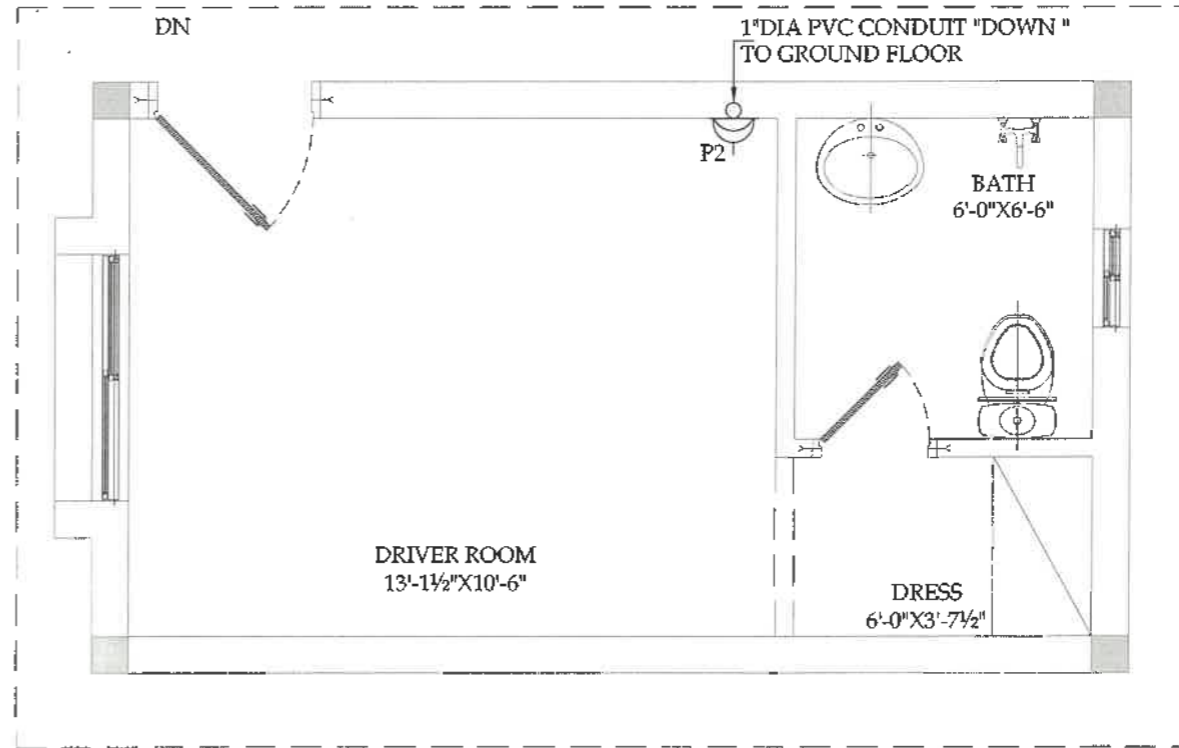
LIGHTING LAYOUT GROUND PLAN-FLOOR
SCALE: 3/8-1'-0"



POWER LAYOUT PLAN-GROUND FLOOR
SCALE: 3/8-1'-0"



LIGHTING LAYOUT PLAN-FIRST FLOOR
SCALE: 3/8-1'-0"



POWER LAYOUT PLAN-FIRST FLOOR
SCALE: 3/8-1'-0"

SNGPL
TITLE: ELECTRICAL LAYOUT PLAN GROUND & FIRST FLOOR

NO.	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED
01	15-01-2024	PRELIMINARY DESIGN	AMMUS	CHK	ENG

DRAWING NO: SNGPL-ISL-DR-E-01

PROJECT: REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

CLIENT:

CONSULTANT: ASIAN CONSULTING ENGINEERS (PVT) LTD
C-5, 8/ELLIP BLOCK, GREEN FORT 4, LAHORE, PAKISTAN
TELEPHONE: +92 42 35460814-5 +92 32-142-7110
Fax: +92 42 35460916 WEB: www.asiancon.com

SNGPL-ISL-DR-E-01

Plumbing

GENERAL NOTES

- ALL PLUMBING WORKS SHALL BE EXECUTED STRICTLY IN ACCORDANCE WITH THE LATEST APPLICABLE CODES (E.G., IPC, UPC, ASME, ASTM, AND LOCAL AUTHORITY REQUIREMENTS).
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, SITE CONDITIONS, AND UTILITY CONNECTION POINTS BEFORE COMMENCING ANY WORK.
- DO NOT SCALE DRAWINGS. ANY DISCREPANCIES BETWEEN DRAWINGS, SITE, AND SPECIFICATIONS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE EXECUTION.
- COORDINATE ALL WORK WITH ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, AND FIRE PROTECTION DRAWINGS BEFORE INSTALLATION.
- ALL PENETRATIONS THROUGH SLABS, WALLS, AND BEAMS SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER. USE SLEEVES WITH ANNULAR SPACE FILLED WITH APPROVED FIRE-STOPPING MATERIAL FOR FIRE-RATED ASSEMBLIES.
- ALL PIPES PASSING THROUGH WET AREAS OR UNDERGROUND SHALL BE WRAPPED OR SLEEVED WITH PROTECTIVE SLEEVES TO PREVENT CORROSION AND LEAKAGE.
- PROVIDE PIPE SUPPORTS, BRACKETS, HANGERS, AND ANCHORS AS PER MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES (E.G., MSS SP-38). ENSURE THERMAL EXPANSION AND CONTRACTION ALLOWANCES.
- ALL DRAINAGE AND VENT PIPING SHALL BE INSTALLED WITH REQUIRED SLOPES TO ENSURE SELF-CLEANING VELOCITY AND AVOID ACCUMULATION.
- AIR ADMITTANCE VALVES ARE NOT PERMITTED UNLESS APPROVED IN WRITING BY THE AUTHORITY HAVING JURISDICTION.
- ALL WATER SUPPLY PIPING MUST BE PRESSURE TESTED WITH POTABLE WATER TO 150% OF OPERATING PRESSURE OR MINIMUM 10 BAR (WHICHEVER IS HIGHER) FOR AT LEAST 2 HOURS WITH NO PRESSURE DROP.
- SANITARY DRAINAGE AND VENT PIPING MUST BE TESTED WITH A 10-FOOT HEAD OF WATER OR 5 PSI OF AIR PRESSURE FOR A MINIMUM OF 15 MINUTES WITHOUT LOSS.
- HOT WATER RECIRCULATION PIPING, IF REQUIRED, SHALL BE INSTALLED TO MINIMIZE WAITING TIME AT REMOTE FIXTURES. INSTALL BALANCING VALVES AND THERMAL TRAPS AS NEEDED.
- PROVIDE NON-RETURN VALVES, PRESSURE-REDUCING VALVES, STRAINERS, AND ISOLATION VALVES AT ALL STRATEGIC LOCATIONS.
- ALL PLUMBING FIXTURES AND FITTINGS MUST BE WATER-CONSERVING TYPE AND SHALL MEET RELEVANT LEED/GREEN BUILDING OR LOCAL SUSTAINABILITY REQUIREMENTS, WHERE APPLICABLE.
- WATER HEATERS (ELECTRIC, GAS, OR SOLAR) MUST BE INSTALLED WITH SAFETY VALVES, DRAIN PANS, AND THERMAL INSULATION. COORDINATE VENTING WITH MECHANICAL DRAWINGS.
- PROVIDE TRAP PRIMERS FOR FLOOR DRAINS IN DRY AREAS TO PREVENT TRAP SEAL EVAPORATION.
- ENSURE ANTI-SIPHON VACUUM BREAKERS AND BACKFLOW PREVENTERS ARE INSTALLED WHERE REQUIRED TO PROTECT POTABLE WATER SUPPLY.
- ALL PLUMBING ACCESSORIES (E.G., FAUCETS, VALVES, HOSES, DRAINS) SHALL BE OF HEAVY-DUTY COMMERCIAL GRADE AND APPROVED BY THE CONSULTANT.
- PROVIDE SEDIMENT TRAPS AT CONNECTIONS TO GAS APPLIANCES (IF APPLICABLE).
- WHERE PLUMBING SYSTEMS ARE INSTALLED IN CEILING SPACES, PROVIDE ADEQUATE ACCESS PANELS FOR MAINTENANCE OF CONCEALED FITTINGS AND VALVES.
- INSULATE ALL DOMESTIC HOT WATER AND CHILLED WATER PIPING AS PER PROJECT SPECIFICATIONS AND ENERGY CODE REQUIREMENTS.
- UNDERGROUND PIPING MUST BE LAID ON COMPACTED SAND BEDDING AND COVERED WITH FINE SAND BEFORE BACKFILLING WITH SELECTED MATERIAL.
- PROVIDE WATER HAMMER ARRESTORS ON ALL BRANCHES SERVING QUICK-CLOSING VALVES AND FIXTURES.
- IDENTIFY ALL EXPOSED PIPING AND VALVES WITH COLOR-CODED LABELS, PIPE MARKERS, AND TAGS AS PER PIPING IDENTIFICATION SCHEDULE.
- COORDINATE FINAL FIXTURE LOCATIONS WITH ARCHITECTURAL INTERIOR DRAWINGS AND SITE MOCKUPS PRIOR TO INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, EXCAVATION, CORE DRILLING, BACKFILLING, AND MAKING GOOD ALL DISTURBED SURFACES.
- PROVIDE ALL NECESSARY CLEANOUTS, VENT TERMINALS, AND INSPECTION CHAMBERS AS SHOWN ON DRAWINGS OR AS REQUIRED BY CODE.
- STORMWATER PIPING SHALL BE SEPARATE FROM SANITARY DRAINAGE AND DESIGNED FOR 100-YEAR RETURN PERIOD UNLESS OTHERWISE NOTED.
- INSTALL GREASE TRAPS, OIL INTERCEPTORS, AND SAND TRAPS AT LOCATIONS SHOWN ON PLANS AND AS REQUIRED BY LOCAL ENVIRONMENTAL AUTHORITIES.
- CONTRACTOR SHALL PREPARE AND SUBMIT COMPLETE AS-BUILT DRAWINGS SHOWING EXACT LOCATIONS, PIPE SIZES, AND VALVE TYPES UPON PROJECT COMPLETION.
- PERFORM FULL FLUSHING, CLEANING, DISINFECTION, AND COMMISSIONING OF ALL SYSTEMS BEFORE HANDING OVER TO THE CLIENT.
- SUBMIT OPERATION & MAINTENANCE MANUALS, WARRANTIES, AND TRAINING SCHEDULES TO FACILITY MANAGEMENT TEAM AT PROJECT CLOSEOUT.
- THE CONTRACTOR SHALL ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS FROM RELEVANT AUTHORITIES DURING AND AFTER CONSTRUCTION.
- ALL WORKMANSHIP SHALL BE NEAT, CLEAN, AND PROFESSIONAL. ANY POORLY EXECUTED WORK SHALL BE REMOVED AND REINSTALLED AT CONTRACTOR'S EXPENSE.

LEGEND AND ABBREVIATIONS

SYMBOL	ABRV.	DESCRIPTION
	CW	COLD WATER SUPPLY
	HW	HOT WATER SUPPLY
	HWR	HOT WATER RETURN
	W	WASTE WATER LINE
	S	SOIL WATER LINE
	V	VENT PIPE
	RWP	RAIN WATER PIPE
	GT	GREASE TRAP
	GLT	GULLY TRAP
	FD	FLOOR DRAIN
	FT	FLOOR TRAP
	WB	WASH BASIN
	KS	KITCHEN SINK
	WH	WATER HEATER
	HB	HOSE BIB
	CO	CLEANOUT
	SVP	SOIL VENT PIPE
	SWP	STORM WATER PIPE
	DP	DOWNPIPE
	DDL	DROP DOWN LINE
	TEE	TEE FITTING
	ELB	ELBOW FITTING
	C/O	CLEANOUT OPENING
	VUP	VERTICAL UP PIPE
	VDP	VERTICAL DOWN PIPE
	HFP	HORIZONTAL FLOW PIPE
	AAV	AIR ADMITTANCE VALVE
	NRV	NON-RETURN VALVE
	PRV	PRESSURE REDUCING VALVE
	BV	BALL VALVE
	GV	GATE VALVE
	SV	SOLENOID VALVE
	CV	CHECK VALVE
	RPZ	REDUCED PRESSURE ZONE VALVE
	WC	WATER CLOSET
	UR	URINAL
	BF	BIB FAUCET
	MF	MIXER FAUCET
	SF	SINK FAUCET
	HSH	HAND SHOWER HOSE
	SH	SHOWER HEAD
	TMV	THERMOSTATIC MIXING VALVE
	SP	SUMP PUMP
	IP	INSPECTION POINT
	EXP	EXPANSION TANK

	AIR	AIR VENT
	PTF	PIPE TO FIXTURE
	DCW	DOMESTIC COLD WATER
	DHW	DOMESTIC HOT WATER
	HDR	HEADER PIPE
	BR	BRANCH PIPE
	MA	MAINLINE
	IS	INSPECTION SHAFT
	BT	BOTTLE TRAP
	TRP	TRAP SEAL
	OR	OVERFLOW PIPE
	OBD	OPEN BOTTOM DRAIN
	FB	FLOOR BASIN
	DS	DRAIN STACK
	PB	PUSH BUTTON TAP
	CT	COUNTER TOP SINK
	UF	UNDER FLOOR PIPE
	A/C	AIR CONDITIONING DRAIN
	REF	REFRIGERATOR WATER SUPPLY
	DI	DIRECT INLET
	RI	REMOTE INLET
	OD	OUTER DIAMETER
	ID	INNER DIAMETER
	PEX	CROSS-LINKED POLYETHYLENE PIPE
	PPR	POLYPROPYLENE RANDOM PIPE
	CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
	UPVC	UNPLASTICIZED PVC PIPE
	CI	CAST IRON PIPE
	HDPE	HIGH-DENSITY POLYETHYLENE PIPE
	GI	GALVANIZED IRON PIPE
	PVC	POLYVINYL CHLORIDE PIPE
	SS	STAINLESS STEEL PIPE
	CU	COPPER PIPE
	F/F	FEMALE TO FEMALE
	M/M	MALE TO MALE
	M/F	MALE TO FEMALE
	ROD	ROD-OUT POINT
	TS	TEST STATION
	BP	BOOSTER PUMP
	FCUD	FAN COIL UNIT DRAIN
	AHUD	AIR HANDLING UNIT DRAIN
	COND	CONDENSATE DRAIN
	EV	EXPANSION VALVE
	IN	INLET
	OUT	OUTLET
	SLV	PIPE SLEEVE
	INS	PIPE INSULATION
	WL	WATER LEVEL
	FL	FLOOR LEVEL
	IL	INVERT LEVEL
	PL	PIPE LENGTH
	RWL	RAIN WATER LINE

PE/PPRC/uPVC PIPES

PIPE SIZE (MENTIONED IN THE DRAWING)	EQUAL TO PIPE SIZE		
	PE (O/D)	PPRC (O/D)	uPVC (O/D)
Ø $\frac{1}{2}$ "	20 mm	20 mm	
Ø $\frac{3}{4}$ "	25 mm	32 mm	
Ø1"	32 mm	40 mm	
Ø1 - $\frac{1}{4}$ "	40 mm	50 mm	
Ø1 - $\frac{1}{2}$ "	50 mm	63 mm	40 mm
Ø2"	63 mm	75 mm	50 mm
Ø2 - $\frac{1}{2}$ "	75 mm	90 mm	
Ø3"	90 mm	110 mm	75 mm
Ø4"	125 mm		110 mm
Ø5"	160 mm		
Ø6"	180 mm		160 mm
Ø8"	250 mm		200 mm

PIPE SLOPES

300mm	Ø12"	1 IN 330
225mm	Ø9"	1 IN 225
160mm	Ø6"	1 IN 160
110mm	Ø4"	1 IN 110
75mm	Ø3"	1 IN 75
50mm	Ø2"	1 IN 50


SNGPL
TITLE: **LEGEND AND NOTES PLUMBING**

DATE: JANUARY, 2020

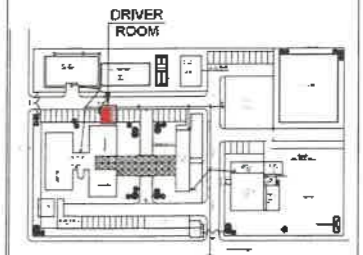
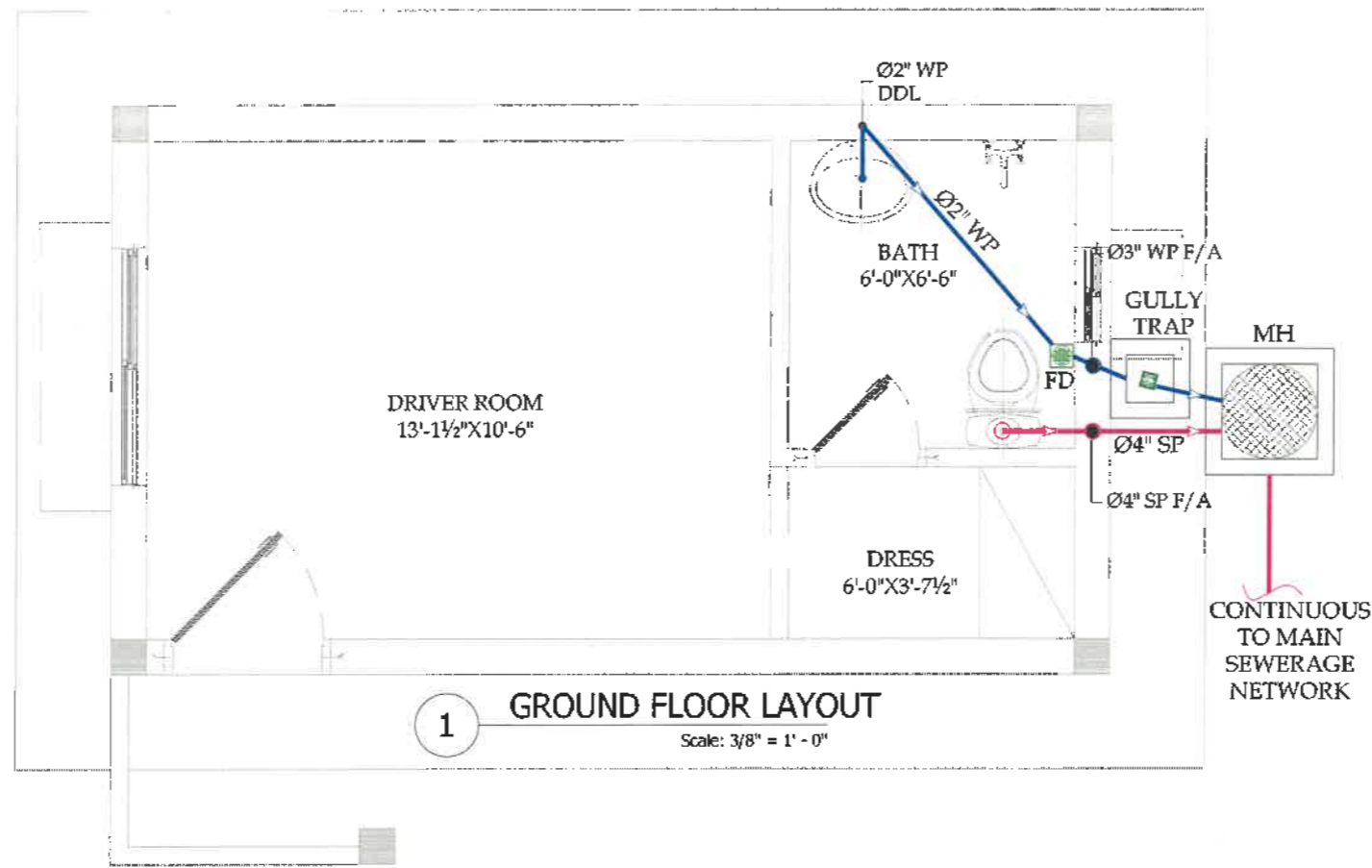
DATE	DESCRIPTION	DRAWN	DESIGNED	APPROVED
01/15/2020	PRELIMINARY DESIGN	ALI	ALI	ALI

DRAWING NO: SNGPL-ISL-DR-PL-01

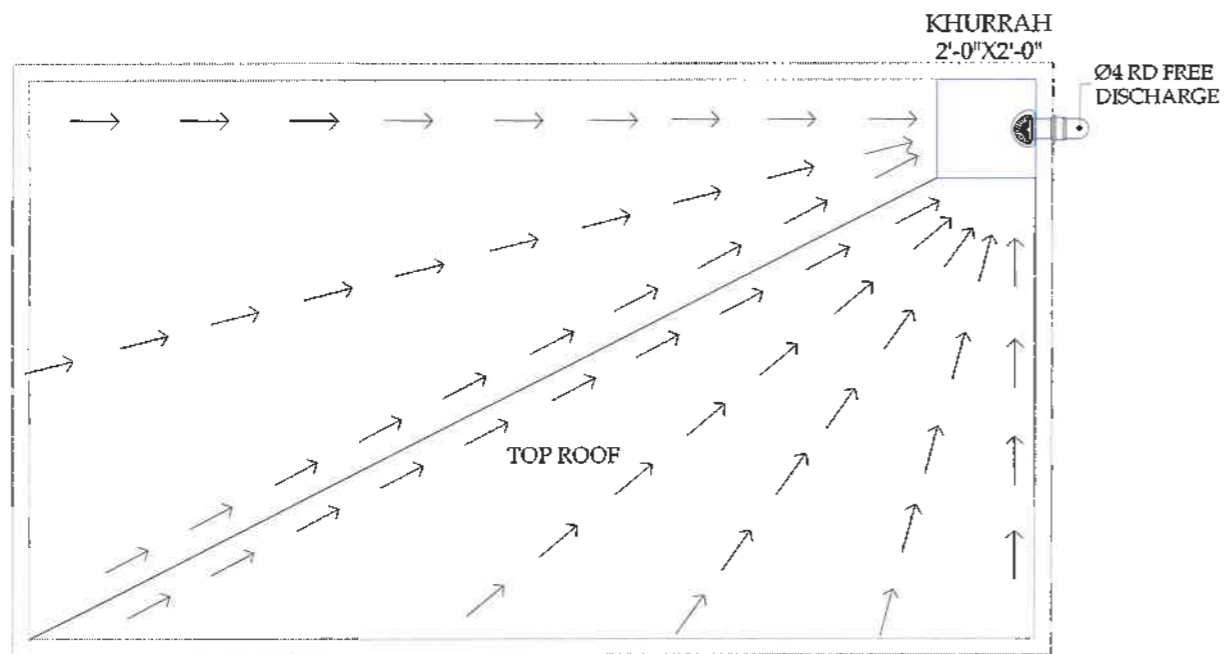
PROJECT: **REGIONAL DISTRIBUTION OFFICE I-8 ISLAMABAD**

CLIENT: 

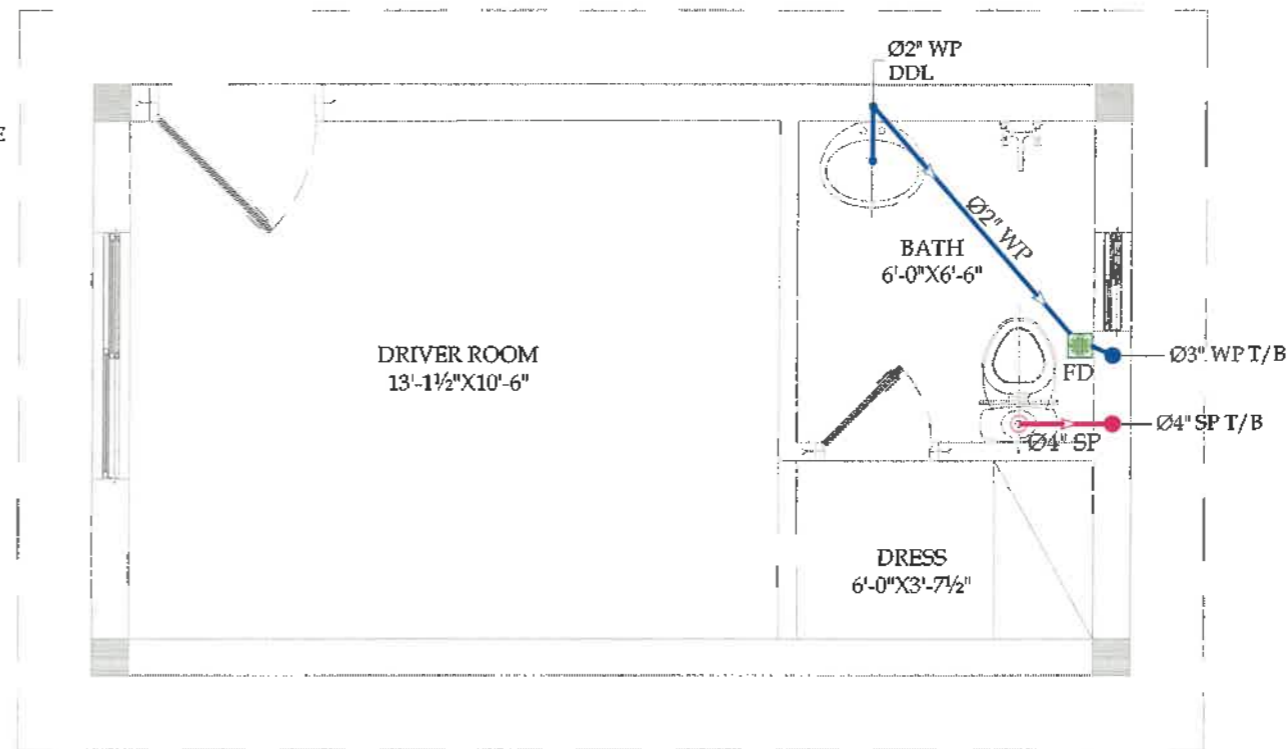
CONSULTANT: **ASIAN CONSULTING ENGINEERS PVT.LTD**
C-3 ANJELUM BLOCK, GREEN FORT-4, LAHORE, PAKISTAN
TELEPHONE: +92 42 35409145 +92 32 14271101
FAX: +92 42 35409116 WEB: www.asiancon.com



KEY PLAN



3 ROOF FLOOR LAYOUT
Scale: 3/8" = 1' - 0"



2 FIRST FLOOR LAYOUT
Scale: 3/8" = 1' - 0"

SNGPL
TITLE
GROUND, FIRST & ROOF FLOOR
DRAINAGE SYSTEM LAYOUT

DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED
02/01/2020	PRELIMINARY DESIGN			

DRAWING NO:
SNGPL-ISL-DR-PL-02

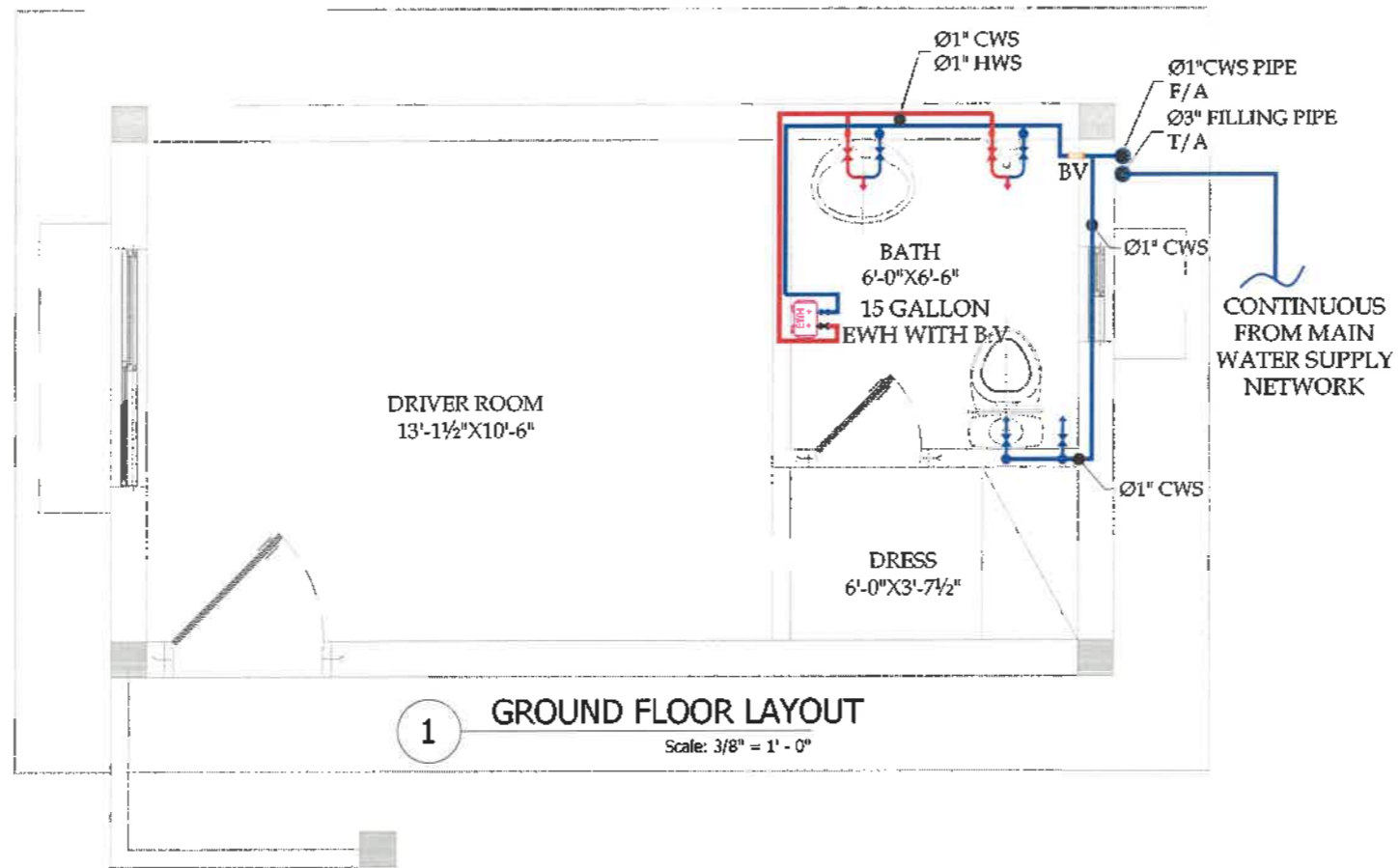
SHEET 00

REV 00

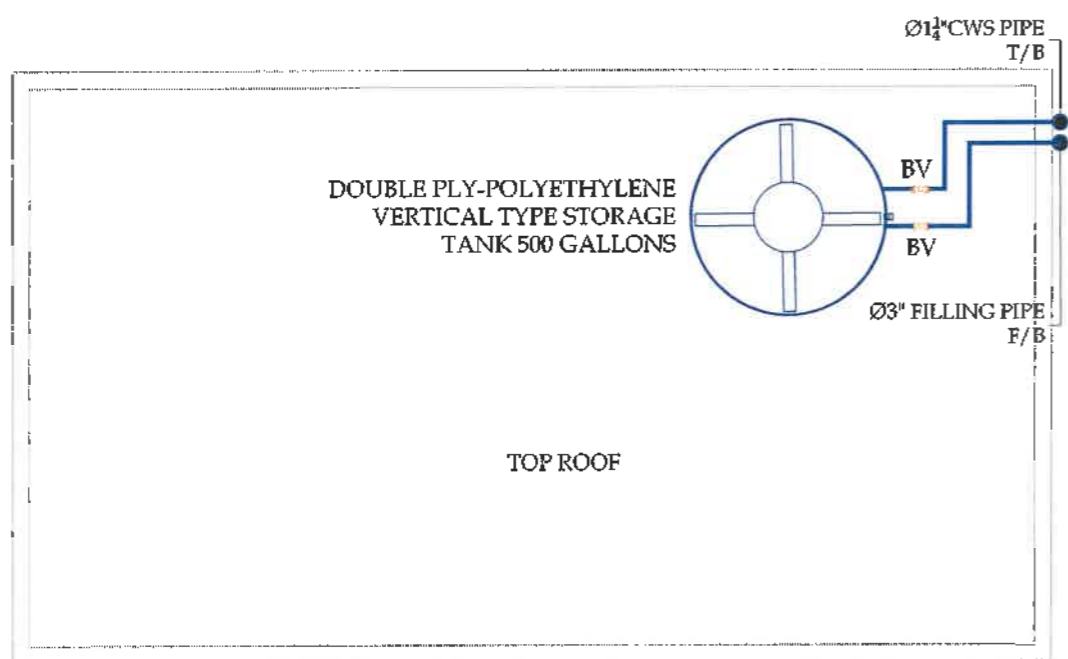
PROJECT:
REGIONAL DISTRIBUTION
OFFICE I-9 ISLAMABAD



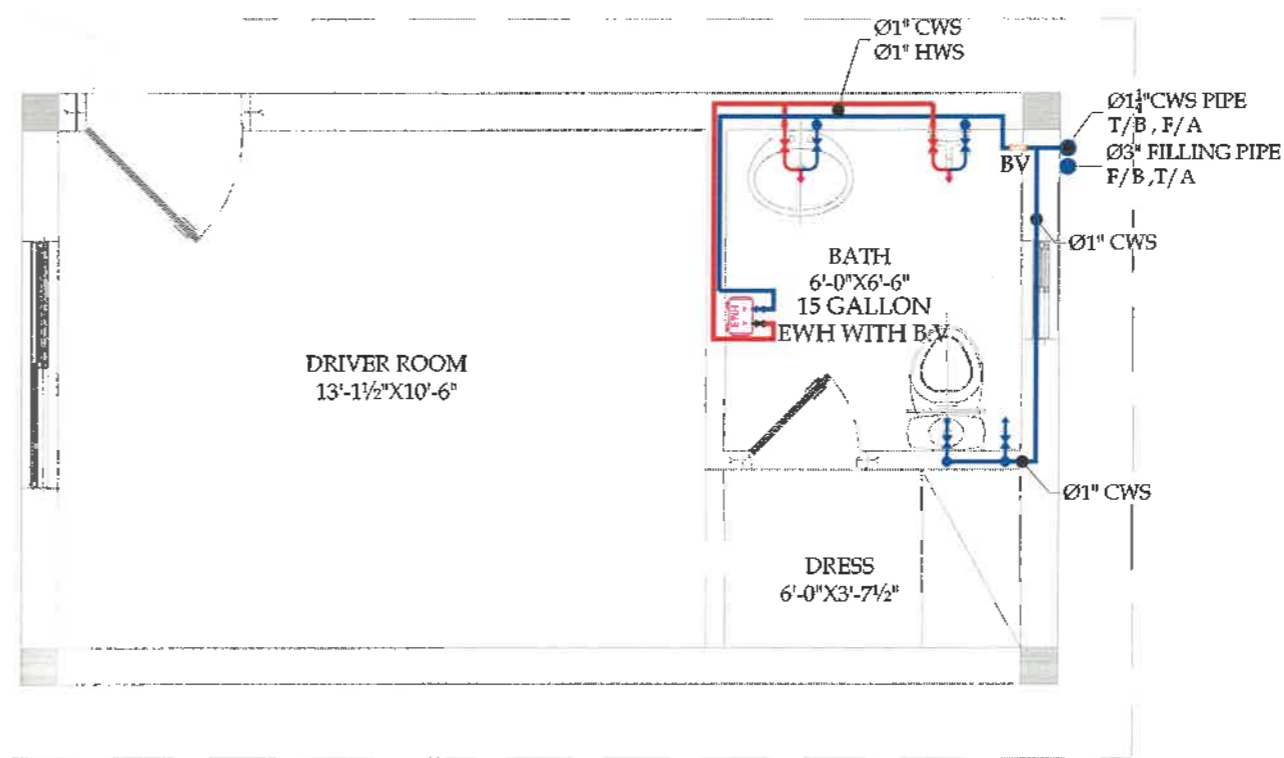
CONSULTANT:
ASIAN CONSULTING ENGINEERS (PVT) LTD
C-3, HELLW BLOCK GREEN FORT & LANCHE, KARACHI
TELEPHONE: +92 42 354505144 +92 32 142 71901
FAX: +92 42 35450518 WWW.ASIANCON.COM



KEY PLAN



3 ROOF FLOOR LAYOUT
Scale: 3/8" = 1' - 0"



2 FIRST FLOOR LAYOUT
Scale: 3/8" = 1' - 0"

SNGPL
TITLE
GROUND, FIRST & ROOF FLOOR WATER SUPPLY SYSTEM LAYOUT

NO.	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED
01	15-01-2008	PRELIMINARY DESIGN	ASL	ETAL	KASIB

DRAWING NO: SNGPL-ISL-DR-PL-03
SHEET 00
REV 00

PROJECT:
REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD



CONSULTANT:
ASIAN CONSULTING ENGINEERS (PVT.) LTD.
D-3, HUBBUB BLOCC, GREEN FORT-8 LAHORE, PAKISTAN
TELEPHONE: +92 42 3540091-46 +92 32 142-71101
FAX: +92 42 3540091-15 WEB: www.asiance.com

SNGPL-ISL-DR-PL-03

GENERAL REQUIREMENTS

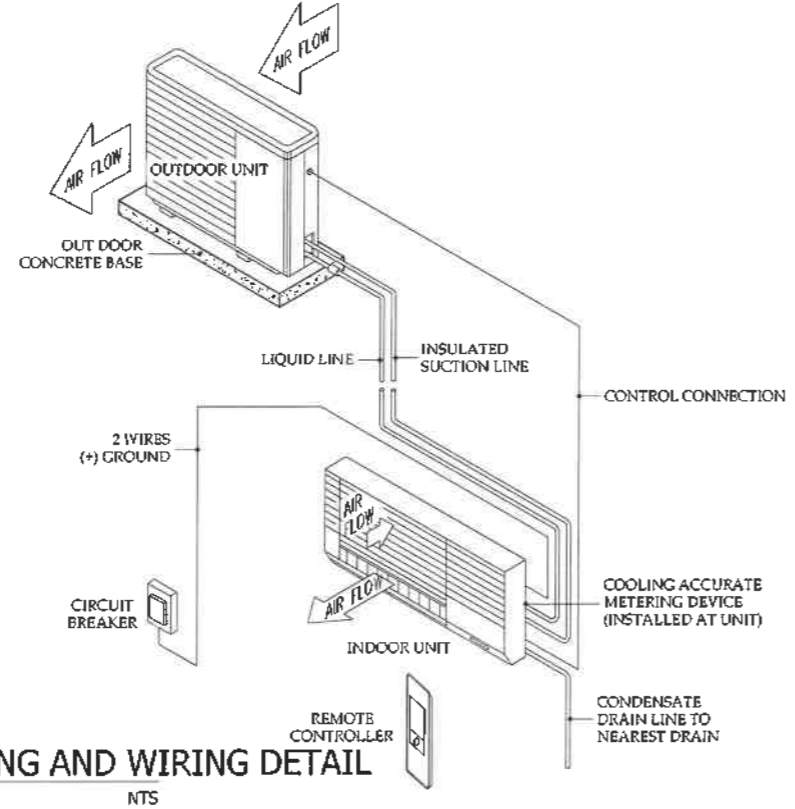
- HVAC SYSTEM SHALL COMPLY WITH ASHRAE 170, ASHRAE 90.1, SMACNA, NFPA, AND LOCAL AUTHORITY REGULATIONS.
- MAINTAIN TEMPERATURE, HUMIDITY, PRESSURE DIFFERENTIAL, AND AIR CHANGE RATES AS PER SPACE CLASSIFICATION.
- CRITICAL AREAS SUCH AS OT, ICU, NIVIL, BALATHAN ROOMS, AND LABS SHALL BE SERVED BY 100% FRESH AIR AHUS WITH HEPA FILTRATION AND UV-A STERILIZERS.
- ISOLATION ROOMS TO BE MAINTAINED UNDER NEGATIVE PRESSURE WITH DEDICATED HEPA-FILTERED EXHAUST SYSTEMS.
- OPERATING THEATERS AND STERILE ZONES TO BE MAINTAINED UNDER POSITIVE PRESSURE WITH FILTERED AND CONDITIONED AIR SUPPLY.
- INLETS, DIRT, UTILITY ROOMS AND SILEO AREAS TO BE CONTINUOUSLY EXHAUSTED TO MAINTAIN NEGATIVE PRESSURE.
- ALL AHUS, EXHAUST FANS, AND MECHANICAL EQUIPMENT TO BE INSTALLED WITH VIBRATION ISOLATORS AND SOUND ATTENUATION AS NEEDED.
- DUCTWORK SHALL BE FABRICATED AND INSTALLED AS PER SMACNA STANDARDS, WITH LEAK TESTING BEFORE INSULATION.
- USE ANTIMICROBIAL INTERNAL LINING FOR DUCTS SERVING CRITICAL CARE AREAS.
- PROVIDE VIDS, ACCESS PANELS, FIRE DAMPERS, AND SMOKE DAMPERS AT ALL PENETRATED WALL AND FLOOR PENETRATIONS.
- DUCTS TO BE PROPERLY SUPPORTED AND ACCESSIBLE FOR MAINTENANCE AND CLEANING.
- FRESH AIR UNITS TO BE PROVIDED FOR ALL OCCUPIED AREAS, SIZED AS PER ASHRAE 62.1 MINIMUM OUTDOOR AIR RATES.
- AIR INTAKES TO BE LOCATED AWAY FROM EXHAUST DISCHARGE ZONES AND MINIMUM 10 FT ABOVE GROUND LEVEL.
- RETURN AND EXHAUST AIR DUCTS TO BE REPARATED; NO AIR RECIRCULATION IN CRITICAL AREAS.
- USE PRESSURE DIFFERENTIAL MONITORING DEVICES FOR OTS, ICUS, AND ISOLATION ROOMS WITH DISPLAY AT NURSE STATION.
- ALL MECHANICAL ROOMS, ELECTRICAL ROOMS, AND PUMP ROOMS SHALL HAVE ADEQUATE VENTILATION.
- CONTROLS (THERMOSTATS, HUMIDISTATS) TO BE ACCESSIBLE AND INTEGRATED WITH THE HOSPITAL BMS.
- PROVIDE PROPER ACCESS TO ALL FILTERS, COILS, AND DAMPERS FOR CLEANING AND REPLACEMENT.
- CONDENSATE DRAIN LINES MUST INCLUDE TRAPS, AIR BREAKS, AND ACCESS FOR CLEANING.
- PROVIDE INDIVIDUAL ZONE CONTROLS FOR THERMAL COMFORT IN PATIENT AND ADMIN AREAS.
- USE OF FLEXIBLE DUCTS LIMITED TO SHORT TERMINAL CONNECTIONS ONLY.
- ALL HVAC EQUIPMENT TO BE CLEARLY LABELED AND TAGGED AS PER DRAWING SCHEDULE.
- EXHAUST SYSTEMS FOR LABS AND PHARMACY PREP AREAS SHALL BE SEPARATE AND NOT RECIRCULATING.
- ENSURE COMPLIANCE WITH INFECTION CONTROL MEASURES IN ALL HVAC DESIGN ASPECTS.
- WALL-MOUNTED EXHAUST FANS SHALL BE INSTALLED IN TOILETS, JANITOR ROOMS, PANTRIES, AND SMALL SERVICE ROOMS.
- EXHAUST FANS MUST DISCHARGE DIRECTLY OUTDOORS WITH PROPER CAPTIVES, BIRDSCREENS, AND BACKDRAFT DAMPERS.
- TOILETS AND KITCHENS TO BE VENTILATED USING DUCTED OR WALL-MOUNTED EXHAUST FANS DISCHARGING DIRECTLY OUTDOORS.
- EXHAUST AIR DUCTS FROM TOILETS AND KITCHENS MUST NOT BE COMBINED; EACH SHALL HAVE ITS OWN DISCHARGE POINT.
- ALL EXHAUST OUTLETS TO BE FITTED WITH BIRD SCREENS AND BACKDRAFT DAMPERS.
- ADEQUATE CLEARANCE BETWEEN SLEEPY AND EXHAUST OPENINGS MUST BE MAINTAINED TO PREVENT SHORT-CIRCUITING OF AIR.
- CEILING DIFFUSERS OR WALL GRILLES TO BE PROVIDED FOR UNIFORM AIR DISTRIBUTION IN LARGER ROOMS.
- MECHANICAL ROOM OR CLOSET (IF ANY) HOUSING INDOOR HVAC UNITS MUST BE VENTILATED AND ACCESSIBLE.
- THERMOSTATS SHALL BE INSTALLED IN LIVING AREAS OR MASTER BEDROOMS FOR EASY ACCESS.

- ALL HVAC EQUIPMENT TO BE INSTALLED WITH VIBRATION PADS OR ISOLATORS TO MINIMIZE NOISE TRANSMISSION TO OCCUPIED SPACES.
- REFRIGERANT PIPING ROUTES MUST AVOID CROSSING WET AREAS (TOILETS, KITCHENS) UNLESS PROPERLY SLEEVED AND WATERPROOFED.
- USE FIRE-RATED SLEEVES AND SEALANTS WHERE HVAC PIPING OR DUCTWORK PENETRATES FIRE-RATED WALLS OR FLOORS.
- ALL PENETRATIONS TO BE SEALED TO MAINTAIN ACUSTIC AND FIRE-RESISTANCE INTEGRITY.
- LABEL AND NUMBER ALL HVAC UNITS, DRAIN LINES, AND REFRIGERANT LINES FOR EASE OF MAINTENANCE AND IDENTIFICATION.
- ENSURE THAT THE SYSTEM DESIGN MEETS LOCAL ENERGY EFFICIENCY AND SUSTAINABILITY REQUIREMENTS.
- BALCONIES OR UTILITY AREAS MUST BE STRUCTURALLY CAPABLE OF BEARING THE WEIGHT OF UNITS AND ALL CONTROLS.
- AVOID ROUTING REFRIGERANT PIPES OR DUCTS THROUGH TENANT OR PRIVATE NEIGHBORING UNITS.
- CENTRAL VENTILATION SHAFTS (IF USED) MUST BE FIRE-RATED AND PROVIDED WITH INSULATION AND CLEANING ACCESS.
- EACH APARTMENT SHALL BE AIR-CONDITIONED USING INDIVIDUAL HIGH-WALL SPLIT-TYPE AC UNITS.
- SPLIT AC UNITS TO BE PROVIDED IN LIVING ROOM, BEDROOMS, AND OTHER MAIN OCCUPIED AREAS AS PER HVAC LAYOUT.
- OUTDOOR CONDENSING UNITS SHALL BE WALL-MOUNTED, FLOOR-MOUNTED, OR INSTALLED ON BALCONIES OR DESIGNATED SERVICE DECKS WITH ADEQUATE CLEARANCE FOR MAINTENANCE AND VENTILATION.
- MINIMUM CLEARANCE FROM WALL AND BETWEEN OUTDOOR UNITS TO BE AS PER MANUFACTURER'S SPECIFICATIONS.
- ALL INDOOR UNITS SHALL BE PROPERLY POSITIONED TO AVOID DIRECT AIRFLOW ONTO BEDS, SEATING, OR DINING AREAS.
- REFRIGERANT PIPING SHALL BE ROUTED THROUGH CONCEALED CHASIS OR CEILING SPACES WHEREVER POSSIBLE.
- MAXIMUM ALLOWABLE REFRIGERANT PIPE LENGTH AND ELEVATION DIFFERENCE TO BE AS PER MANUFACTURER'S RECOMMENDATION.
- REFRIGERANT PIPING SHALL BE INSULATED WITH CLOSED-CELL ELASTOMERIC INSULATION OF MINIMUM 15MM THICKNESS (15MM IF CUTTER EXPOSED).
- ALL CONDENSATE DRAIN PIPES FROM INDOOR UNITS SHALL BE INDEPENDENTLY ROUTED TO NEAREST FLOOR TRAP WITH PROPER SLOPE AND AIR BREAK.
- CONDENSATE DRAINS SHALL BE INSULATED AND ACCESSIBLE FOR MAINTENANCE WHERE POSSIBLE.
- DRAIN TRAPS MUST BE PROVIDED AT VERTICAL DROPS TO PREVENT BACKFLOW AND ODOR ISSUES.
- WALL OPENINGS FOR PIPING AND DRAINAGE SHALL BE SLEEVED, SEALED, AND FIRE-STOPPED AS REQUIRED.
- ELECTRICAL POWER SUPPLY TO INDOOR AND OUTDOOR UNITS SHALL BE PROVIDED WITH INDEPENDENT CIRCUIT BREAKERS IN APARTMENT OR
- PROVIDE INTERCONNECTING CONTROL CABLE BETWEEN INDOOR AND OUTDOOR UNIT AS PER MANUFACTURER'S REQUIREMENT.
- PROPER AIRFLOW CLEARANCE AROUND INDOOR UNITS TO BE MAINTAINED FOR EFFECTIVE COOLING AND FILTER ACCESS.
- ENSURE WALL THICKNESS AND LOCATION ALLOW FOR PROPER DRAINAGE AND PIPING ROUTE WITHOUT DISTURBING FINISHES.
- PROVIDE CABLE TRAYS OR PIPE SLEEVES WHERE MULTIPLE SERVICES PASS THROUGH CLASH OR WALL.
- CONDENSING UNIT LOCATIONS SHALL AVOID DISCHARGE ONTO WALKWAYS, WINDOWS, OR ADJACENT BALCONIES.
- COORDINATE PIPING LAYOUT WITH PLUMBING AND ELECTRICAL TO AVOID CONFLICTS IN SHAFTS AND SERVICE AREAS.
- PROVIDE ACCESS PANEL OR REMOVABLE CEILING IN FALSE CEILING AREAS WHERE PIPING OR FUNCTION ARE LOCATED.
- WALL SLEEVES FOR PIPE PASSAGES SHALL BE PVC OR CL SEALED WITH PU FOAM OR APPROVED FIRE SEALANT.
- INSTALLATION SHALL FOLLOW MANUFACTURER'S GUIDELINES AND LOCAL HVAC INSTALLATION STANDARDS.
- PROVIDE EARTHING FOR ALL OUTDOOR AND INDOOR UNITS AS PER ELECTRICAL SAFETY CODE.
- TEST ALL UNITS AFTER INSTALLATION FOR REFRIGERANT LEAKS, DRAINAGE, AND PERFORMANCE BEFORE HANDOVER.
- ALL UNITS MUST BE EASILY ACCESSIBLE FOR MAINTENANCE, AVOID PLACING INDOOR UNITS ABOVE WARDROBES OR TIGHT ALCOVES.

LEGEND AND ABBREVIATIONS

SYMBOL	ABRV.	DESCRIPTION
	AC	AIR CONDITIONING
	AD	ADJUSTABLE DIFFUSER
	AFF	ABOVE FINISHED FLOOR
	AHU	AIR HANDLING UNIT
	BMS	BUILDING MANAGEMENT SYSTEM
	BPF	BACK PRESSURE FACTOR
	BTU/h	BRITISH THERMAL UNIT PER HOUR
	CAV	CONSTANT AIR VOLUME
	CCU	CEILING CONCEALED UNIT
	CDP	CONDENSATE DRAIN PIPE
	CFM	CUBIC FEET PER MINUTE
	CH	CHILLER
	CHW	CHILLED WATER
	CHWR	CHILLED WATER RETURN
	CHWS	CHILLED WATER SUPPLY
	CRAC	COMPUTER ROOM AIR CONDITION
	CTU	CEILING CASSETTE TYPE INDOOR UNIT
	DB	DRY BULB TEMPERATURE
	DDL	DROP DOWN LINE
	DP	DIFFERENTIAL PRESSURE
	EAD	EXHAUST AIR DUCT
	ECD	EXHAUST CEILING DIFFUSER
	EER	ENERGY EFFICIENCY RATIO
	EF	EXHAUST FAN
	ERU	ENERGY RECOVERY UNIT
	ESP	EXTERNAL STATIC PRESSURE
	FA	FRESH AIR
	FAD	FRESH AIR DUCT
	FC	FLOW CONTROL
	FCD	FRESH AIR CEILING DIFFUSER
	FCU	FAN COIL UNIT
	FD	FIRE DAMPER
	FFD	FLOOR DIFFUSER
	FFL	FINISHED FLOOR LEVEL
	FTU	FLOOR STANDING TYPE INDOOR UNIT
	GPM	GALLONS PER MINUTE
	HRU	HEAT RECOVERY UNIT
	HTG	HEATING
	HWR	HOT WATER RETURN
	HWS	HOT WATER SUPPLY
	JDS	JET DIFFUSER (SWIVEL TYPE)
	LCU	LOW WALL CASSETTE UNIT
	LD	LINEAR DIFFUSER
	MAU	MAKE-UP AIR UNIT
	ODU	OUTDOOR UNIT
	Ø	DIAMETER

OSA	OUTSIDE AIR
PVC	POLYVINYL CHLORIDE
RA	RETURN AIR
RAD	RETURN AIR DUCT
RAHU	RETURN AIR HANDLING UNIT
RCO	RETURN CEILING DIFFUSER
RL	REFRIGERANT LINE
RH	RELATIVE HUMIDITY
RUL	RISE UP LINE
RZZ	REFRIGERANT RZ
R32	REFRIGERANT R32
R410A	REFRIGERANT R410A
RW	RETURN WATER TEMPERATURE
RCP-S	REFRIGERANT COPPER PIPE - SUCTION
RCP-L	REFRIGERANT COPPER PIPE - LIQUID
RCP-D	REFRIGERANT COPPER PIPE - DISCHARGE
RCP-S/L	REFRIGERANT COPPER PIPE - SUCTION / LIQUID
SA	SUPPLY AIR
SAD	SUPPLY AIR DUCT
SCD	SUPPLY CEILING DIFFUSER
SD	SWIRL DIFFUSER / SMOKE DETECTOR
SF	SUPPLY FAN
SFD	SMOKE AND FIRE DAMPER
SP	STATIC PRESSURE
SSD	SLOT SUPPLY DIFFUSER
SU	SPLIT UNIT
SWD	SIDE WALL DIFFUSER
SWG	SHEET WORKING GAUGE
TFA	TREATED FRESH AIR
TH	THERMOSTAT
TR	TON OF REFRIGERATION
VAV	VARIABLE AIR VOLUME
VCD	VOLUME CONTROL DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VRF/VEV	VARIABLE REFRIGERANT FLOW / VOLUME
WB	WET BULB TEMPERATURE
WTU	WALL MOUNTED TYPE INDOOR UNIT
RT	REFRIGERATION TON
G/F	GROUND FLOOR
F/F	FIRST FLOOR
S/F	SECOND FLOOR
R/F	ROOF
T/B	TO BELOW
T/A	TO ABOVE
F/B	FROM BELOW
T/B	TO BELOW



SPLIT UNIT TYPICAL PIPING AND WIRING DETAIL

SNGPL-ISL-DR-AC-01

SNGPL
LEGEND AND NOTES
HVAC

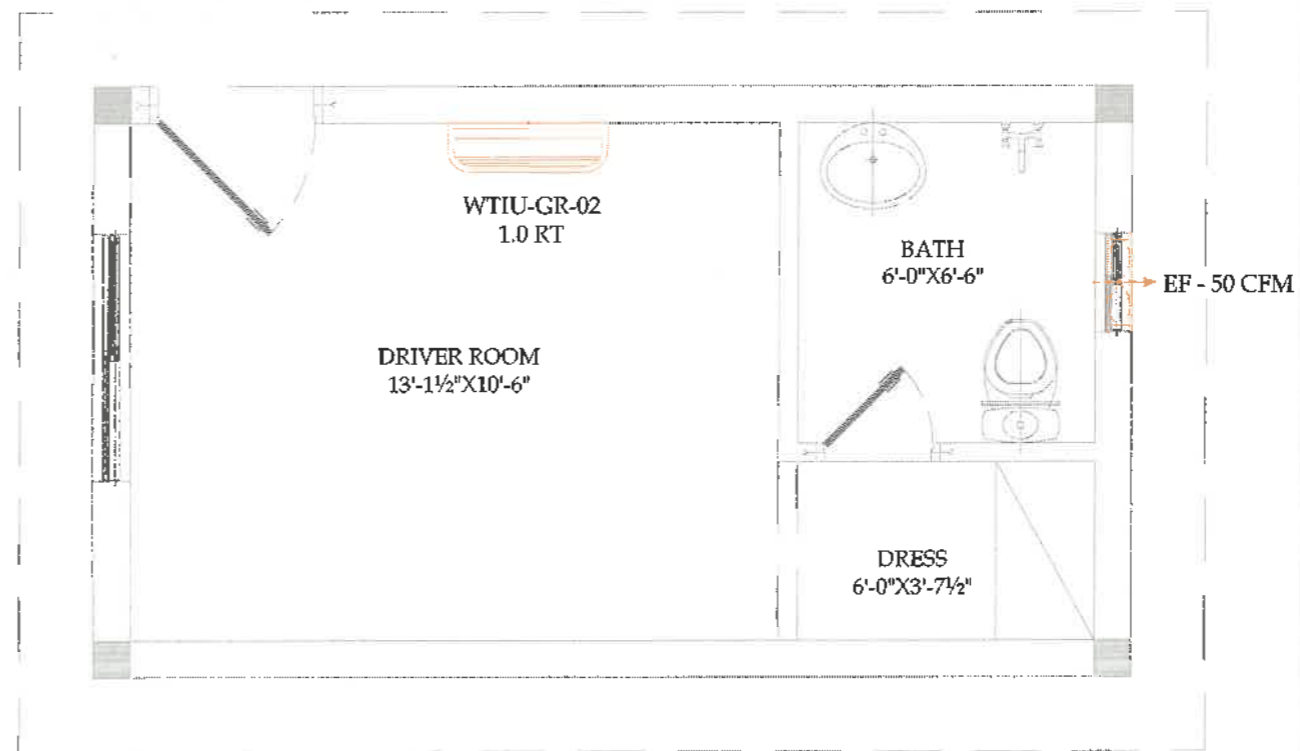
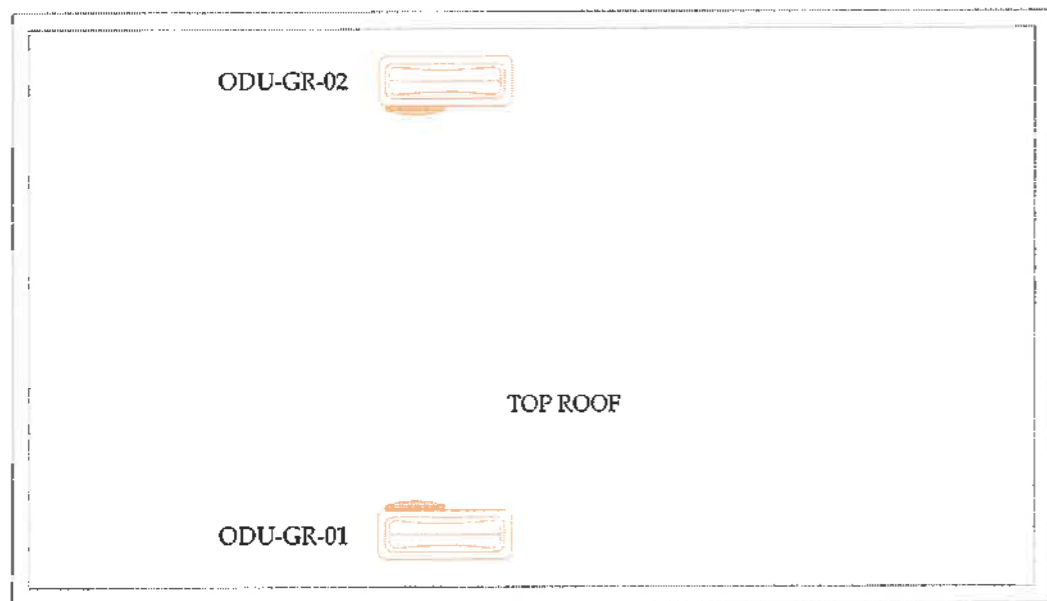
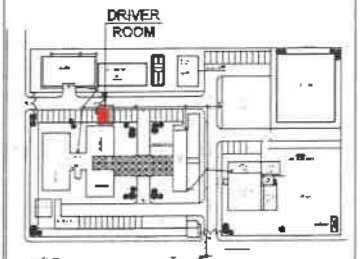
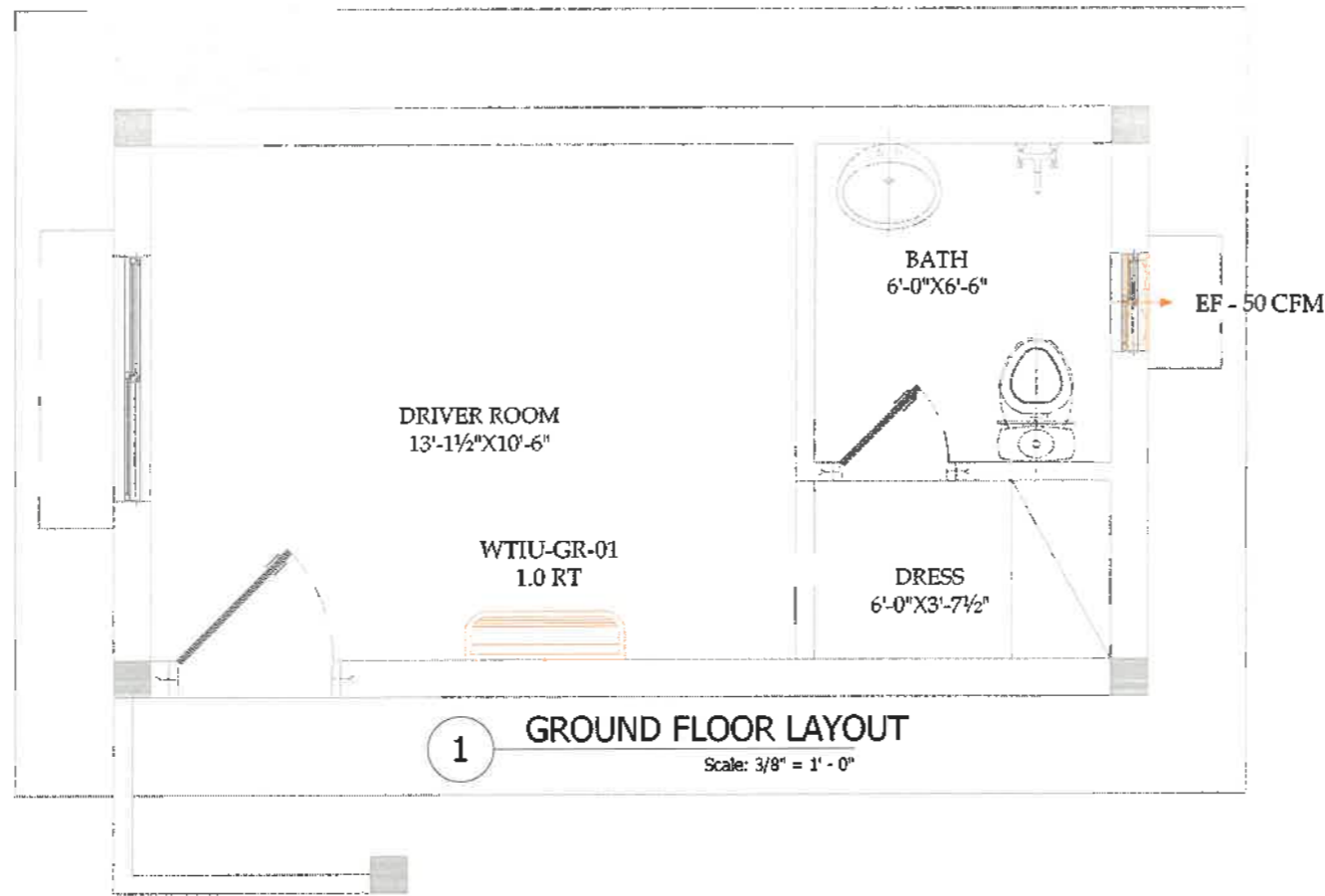
DATE	15-01-2024	DESCRIPTION	PRELIMINARY DESIGN	DESIGNED BY	CHKD BY	APPROVED BY
------	------------	-------------	--------------------	-------------	---------	-------------

DRAWING NO: SNGPL-ISL-DR-AC-01 SHEET 00 REV 00

PROJECT: REGIONAL DISTRIBUTION OFFICE I-9 ISLAMABAD

CLIENT: 

CONSULTANT:  ASIAN CONSULTING ENGINEERS 177 (LTD)
 C-3 MIDLAND BLOCK, OFFICE FOR 11, LAHORE, PAKISTAN
 TEL: +92 42 35420914-6 FAX: +92 42 35420918 WWW.ACEENGINEERS.COM



3 ROOF FLOOR LAYOUT
Scale: 3/8" = 1' - 0"

SNGPL
TITLE
**GROUND, FIRST & ROOF FLOOR
HVAC SYSTEM LAYOUT**

NO.	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED
01	15-01-2020	PRELIMINARY DESIGN			
02					

DRAWING NO:
SNGPL-ISL-DR-AC-02 SHEET 00 REV 00

PROJECT:
**REGIONAL DISTRIBUTION
OFFICE I-9 ISLAMABAD**



CONSULTANT:
ASIAN CONSULTING ENGINEERS PVT. LTD.
C-3 HILTON BLOCK, GREEN FORT-3, LAHORE, PAKISTAN
TELEPHONE: +92 42 3560914-5 | 32 321 42 11101
FAX: +92 42 3560916 | WEB: www.asian.com