Tender No. D2EUD-02: "Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi MRTS Phase – IV".

ADDENDUM No.1					
(SUMMARY SHEET)					
S. No.	**Document**	**Clause Reference**	**In place of**	**Please read as**	**Remarks**
1.	Volume-1 NIT	Para 2 of Clause 1.1.2	1 of 28	1R of 28	End Date of Tender Security Submission Corrected.
2.	Volume-6	Volume-6	Volume-6	Volume-6R	Complete Volume-6 replaced
3.	BOQ File with file name as BOQ_933172 (Excel Format) & Volume-6R (PDF Format)	Item No 43 of Schedule-A	Qty-200 Rate-800	Qty-400 Rate-400	Only the Quantity and Rate of the said item modified.
4.	Pre-Bid clarifications		Pre-Bid Clarifications have been added along with the addendum No-1		

NOTICE INVITING TENDER (NIT)

(e-Tender)

1.1 GENERAL

1.1.1 Name of Work

Delhi Metro Rail Corporation (DMRC) Ltd. invites online open e-tenders from eligible applicants, who fulfill qualification criteria as stipulated in Clause 1.1.3 of NIT, for the work: -

Contract D2EUD-02: "Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase-IV".

The tender documents describing the Scope of Work and Terms and Conditions for the Contract are available on the website https://eprocure.gov.in/eprocure/app.

The brief scope of the work is provided in Clause A1 of ITT (Volume-1) and Employer's Requirement (Volume – 3 & Volume-4).

1.1.2 Key Details:

Approximate cost of work (NIT Value)	**INR 27,76,43,665.56 (27.76 Crores) (Inclusive of all taxes and duties) Twenty Seven Crore and Seventy-Six Lakhs only (Inclusive of all taxes and duties).**
Tender Security	Amount of Tender Security: - **INR 27.76 Lakhs** Validity of Tender Security in case of BG/FDR/TDR: **19.06.2026** Tender Security (in original) as per clause C18 of ITT shall be accepted only upto **05.01.2026** (latest by 15:00 hrs) in the office of **Sr. GM/Contracts** at the address mentioned hereinafter. Tender Security in case of BG/FDR/DD/Banker's Cheque (in original) as per clause C18 of ITT shall be accepted only upto ~~**29.12.2025**~~ **05.01.2026** (latest by 15:00 hrs) in the office of Sr.General Manager/Contracts at the address mentioned hereinafter (GST Registration No. shall also be provided along with the tender security). In case of RTGS/NEFT/IMPS transactions, bidders shall upload the scanned copies of transaction of payment of tender security / EMD including e-receipt (clearly indicating UTR No. and tender reference i.e. **D2EUD-02** must be entered in remarks at the time of online transaction of payment, failing which payment may not be considered) to be uploaded in online bid submission. The detail of bank account of DMRC is mentioned below this table. In case payment to be done by Demand Draft, Pay Order (Banker's Cheque), Fixed Deposit Receipt (FDR), Bank Guarantee Demand Draft / Pay Order (Banker's Cheque) shall be in favour of "Delhi Metro Rail Corporation Ltd." payable at New Delhi from a Scheduled Commercial bank based in India, Fixed Deposit Receipt (FDR) shall be of a Scheduled Commercial bank / Post offices based in India duly pledged/lien in favour of Delhi Metro Rail Corporation Ltd.

Tender D2EUD-02: "Supply, Installation, Testing & Commissioning for Shifting / Modification of 66Kv Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi MRTS Phase – IV".

Reply to Queries

Bidder-1

	Part/Section No.	Clause No.	Page no.	Original Bid Condition	Bidder's Query	Reply to Queries
1	Volume-1 ITT	Clause-C18.1.3	18 & 19	Tender security/ EMD in case of Tenders having NIT value greater than Rs. 10.00 Crores….....	**Acceptance of insurance Bond for EMD** : - We request DMRC to kindly consider Insurance Surety Bonds (as permitted by Ministry of Finance, DoE OM No. F.1/2/2022-PPD dated 02.02.2022) can be accepted as a valid instrument for Earnest Money Deposit (EMD) in place of traditional Bank Guaranteed on Demand Drafts.	Please follow tender Conditions.
2	Volume-1 ITT	Clause-F5.1 Para-3	29 & 30	The required Performance Security for the sum mentioned above may be submitted in any one of the following forms….....	**Acceptance of insurance Bond for Performance Guarantee** : - We request to consider Insurance Surety Bonds for the Performance Guaranteeas well, in accordance with Governement of India Guidelines, to enhance liquidity for bidders and promote wider participation.	Please follow tender Conditions.
3	Volume-6R Preamble	Clause- 1.9	9 of 10	**Payment Schedule :** The price shall include for all costs incurred in procurement/manufacture, testing, inspection, shipping, transportation, off-loading, storing at site/store watch & ward thereof, in Delhi or at such place as approved by the Employer. Payment will be made for the items delivered and stored in a place and manner approved by the Engineer. Stage payment shall be made as under: -.....	**Payment of Pro-Rata Basis :** We request that the payment terms may kindly be clarified and modified to allow pro-rata payments based on the proportionate completion of work/ supply, in order to support smoother cash flow management, particularly for MSMEs.	Please refer & follow Clause 1.9 (Payment Schedule) of Preamble to BOQ (Volume-6).
4	Volume-1 GCC	Clause 11.14	48 of 65	Payment by Cheques and E-Payment : All payment to the contractor will be made by cheque or "E-Payment" as desired by the Employer.	**Payment to MSMEs through TReDS** : As per Governement of India directives for promoting MSMEs, we request DMRC to kindly consider payment through the TReDS platform (Trade Receivables Discounting System) available for MSMEs segment for faster payment realization.	Please follow tender Conditions.
5	Volume-1 ITT	Clause A7	6 &7	Site Visits A7.1The Project Site for this contract is located at NCT of Delhi. A7.2 The Tenderer is advised to visit and examine the Site of Works and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the Tender and entering into a contract for the proposed work. The costs of visiting the Site shall be borne by the Tenderer. It shall be deemed that the Contractor has undertaken a visit to the Site of Works and is aware of the site conditions prior to the submission of the tender documents. A7.3 The Tenderer and any of his personnel will be granted permission by the Employer to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the Tenderer, and his personnel, will release and indemnify the Employer and his personnel from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection.	**Site Survey/ Joint Site Visit** : we request to kindly provide a date for a joint site survey or allow bidders to carry out a visit before bide submission.	Site Visit : Tentative Date : - 29.12.2025, Time: - 11:00 AM Venue : - Rithala Metro Station Bidders may depute authorised representative. Contact person from DMRC for site visit coordination is Mr. Arun Kumar SE/E/UD on M.No.9716553079.

DELHI METRO RAIL CORPORATION LIMITED

(A Joint Venture of Government of India & Government of NCT of Delhi)

MASS RAPID TRANSIT SYSTEM – PHASE IV

CONTRACT: D2EUD-02

Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

TENDER DOCUMENTS

VOLUME – 6

BILL OF QUANTITIES (BOQ) INCLUDING PREAMBLE

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan, Fire Brigade Lane,
Barakhamba Road, New Delhi –110 001

DELHI METRO RAIL CORPORATION LIMITED

(A Joint Venture of Government of India & Government of NCT of Delhi)

MASS RAPID TRANSIT SYSTEM – PHASE IV

CONTRACT: D2EUD-02

Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

TENDER DOCUMENTS

VOLUME – 6

PREAMBLE TO BOQ

PREAMBLE TO BOQ

1. Preamble

The Tenderer should quote the rates considering that this Contract is a re-measurement Contract for **Contract D2EUD-02: Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV.**

1.1. General Requirements

The Tenderer's attention is drawn to the Notice Inviting Tender (NIT), Instructions to Tenderers (ITT), Form of Tenders (FOT), General Conditions of Contracts (GCC), Special Conditions of Contract for Electrical Utility Diversion Works (SCC),Technical Specifications (TS), Tender Drawings (TD) and Condition of Contract on Safety, Health & Environment for Electrical Utility Diversion Works (SHE), which are to be read in conjunction with the Bill of Quantities (BOQ). This Preamble shall serve as a definitive guide to the measurement of quantities and payment.

1.2. The scope of work shall include but not limited to:

Scope of Work for this contract is described in the Technical Specifications (Volume-3), Tender Drawings (Volume-4), SHE (Volume-5) and Bill of Quantities / Pricing Document (Volume-6). The Scope of work shall include Supply, Installation, Laying, Testing, Commissioning for Shifting / Modification of 66kV, Electrical Utilities, but not limited to the followings: -

1. Supply of materials, equipment, components, etc. required for shifting and modification of 66kV Lines, RMUs, Transformers, etc. & other items required for the successful completion of work and keeping them safe & secure until used at site and the installations handed over to the concerned utility owning agency. Supply of spares (as per provisions in BOQ, if any).
2. Providing equipment's, labour & supervisory staff, safety personal with infrastructure, T&P, scaffolding, consumables, testing equipment for shifting and modification of 66kV Lines, RMUs, & Transformers, etc. & other items required for the successful completion of work and keeping them safe & secure until completion of the work and the installations handed over to the concerned utility owning agency.

3. Installation of materials, equipment's, components, etc. & other items required for the successful completion of work for shifting and modification of 66kv Lines, RMUs, Transformers, etc. and keeping them safe & secure until completion of the work and the installations handed over to the concerned utility owning agency, including the following: -

   (i) Digging of open trenches for cable laying and back filling the trenches after completion of work and digging required for other purposes for completion of the work.

   (ii) Laying High Density Poly Ethylene (HDPE) pipe in open trenches for the purposes of cable laying.

   (iii) Laying High Density Poly Ethylene (HDPE) pipe through a process of HDD trenchless method and preparation of parabolic graph of the HDPE pipe during the process of HDD trenchless method.

   (iv) Laying of cables in open trenches/HDPE pipes.

   (v) Making Cable joints and terminations.

   (vi) Providing insurance coverage to the work, plants & equipment, workmen and third party, etc. as per contract provisions.

   (vii) Supply and installation of earthing system as per site requirements.

   (viii) Supply, fabrication and fixing of mild steel / galvanised steel material like channel, angles, flats, cross arm, clamps, hardware, nut-bolts etc. as required.

   (ix) De-mobilization, clearing of all temporary works after completion of work.

   (x) Removal of extra soil, malba, debris, etc. to the nearby designated place.

4. Engaging the required manpower, supervisors along with machinery, tools & plants, consumables, etc. for installation of materials, equipment's, components, etc. & other items required for the successful completion of work.

5. Testing & commissioning of the installations of 66kV Lines, RMUs, & Transformers, etc. & other items required for the successful completion of work including arrangement of testing equipments.

6. Handing over of the installations of 66kV Lines, RMUs, Transformers, etc. & other items required for the successful completion of work including submission of "Handing Over Documents" and "As Built Drawings", etc.

7. Dismantling the existing overhead utilities including associated structures, conductors, hardware fittings, etc. rendered useless after successfully

commissioning of the modified system and storing it properly for further disposal of the material as per instruction of the Engineer In-charge.

8. Detailed survey & check survey of the infringing utility including checking of route alignment, optimization of cable laying route and preparation of drawings, etc.
9. Preparation & submission of general arrangement drawings, route plan, as built drawings, test reports, inspection reports, documents, bill of material, etc.
10. Providing barricades for protection of work, deployment of traffic marshals, watch & ward for safe custody of material & work site and traffic diversion, etc. as required.
11. Restoration of the space / land excavated for the work and other concerned purposes to the original position within stipulated time span.
12. Any other items required for completion of the work in all respect at site under this Contract shall be carried out by the contractor in accordance with the Contract provisions. Work to be executed as per standard SOP of TPDDL/DMRC
13. The lattice tower & poles, etc. hindering the construction of Metro corridor are also required to be dismantled, stored & relocated to suitable locations as per directions of the Engineer.
14. The contractor shall be fully responsible for barricading the trenches / pits / extra soil, malba, debris, etc., putting up / displaying sign boards with florescent paint / tape, traffic cones, caution tapes etc. as per directions of the Engineer. Further, the contractor is required to take precautions as per traffic rules, pay penalty for violating the rules if imposed by any department/authority, the police authority for safety of the public work. The penalty so paid will not be refunded to contractor.
15. **Defect Liability Period (DLP):** The Defect Liability Period of a section shall start from the date of taking over of relevant section or part of work by utility owning agency / Employer and shall continue till 12 months from the date of taking over of the relevant section or part of the work, as specified in Special Conditions of the contract (SCC). During the Defects Liability Period the Contractor shall provide competent & skilled personnel and maintain adequate stock of spares free of cost so as to promptly fulfil his obligations during the Defects Liability Period as laid down in GCC and as per Tender Requirements.
16. **Guarantee / Warranty certificate from OEM for the material procured by contractor**: The Guarantee / Warranty certificate (from the original equipment manufacturer (OEM)) for the material procured by contractor shall be issued in the name of TPDDL after issuance of MDCC. Validity period of

the Guarantee / Warranty shall be as specified in the Technical Specifications of the material for TPDDL under Section -2 of Technical Specification.

17. The contractor shall be required to have close interface and liaisoning with various agencies viz, TPDDL, PWD, DDA, MCD, DSIIDC, BSNL, MTNL, UHBVNL, HVPNL, DTL, BBMB, PGCIL, Gas & Oil Utility Companies, Irrigation & Flood Control, DJB, Traffic Dept., other DMRC civil contractors, etc. The contractor shall liaison for road cutting permission, traffic diversion permission as required. Any fee deposited to any agency by the contractor shall be reimbursed by the DMRC on submission of documentary proof of actual charges / fee etc. if any. Any penalty arising due to violation of statutory provisions / requirements / rules by the contractor shall have to be paid by the contractor only.
18. Obtaining the clearance of Electrical Inspector to Govt. (EIG) and other clearances as required and submission of the same to the office of Engineer In-charge. Any fee deposited by the contractor to EIG / statuary body, shall be reimbursed by the DMRC to the contractor on submission of documentary proof of actual charges / fee etc. if any.
19. Ensuring proper safety & security of installation during and after execution of work at site till Handing Over of the modified system to the concerned utility owning agency.
20. The Contractor may be asked to carry out the work anywhere in Delhi NCR for Delhi Metro projects.
21. The Contractor has to provide all the required insurance policies as per SCC or before start of work execution at site, whichever is earlier.
22. The Contractor has to provide indemnity Bond (Indenture for stage payment) on stamp paper as per Schedule-8 of SCC for release of running account Bill.

1.3. Contract Prices

(i) The tenderer is required to note the provisions of clause 26 of SCC and other relevant provisions of tender documents pertaining to Tender Price provided in GCC & SCC while quoting his prices.

(ii) The tenderer shall take note of the actual site conditions and the relevant provisions specified in tender documents (comprising of all volumes) pertaining to Contract Price and hence quote his bid accordingly.

(iii) The Tenderer shall make himself completely acquainted with all conditions, obligations, specifications, drawings, etc. of the Tender Documents before quoting his prices. Contractor shall have no right to claim any price revision on the basis of ignorance of the Tender Documents or local conditions, or to make any claims as regards the integrity of the unit prices of the Bills of Quantities.

(iv) The Tenderer shall fill percentage (%) ABOVE / BELOW / AT PAR (in both Figures and Words) as provided in the Main Summary Sheet of the BOQ. The Tenderer may note that the item wise Price to be paid shall be derived after applying percentage (%) quoted ABOVE / BELOW / AT PARby the tenderer in the Main Summary Sheet of BOQ.

(v) The prices quoted against a part / schedule / item of Bill of Quantities (BOQ) shall be considered as full and the only price for all work/s performed against that part/schedule/item.

1.4. Quantities

(i) The Quantities in this schedule are provisional for the purpose of this contract, all quantities given in the Bills of Quantities are the estimated quantities of the Works and are intended in the first instance to provide a common basis for Tendering and Tender Evaluation. When a contract is entered into, the function of priced Bills of Quantities is to provide for the valuation of the work executed.

(ii) The contractor will be paid for the actual quantity of work executed at site at the rates quoted in the tender. No additional claim other than the BOQ shall be entertained for any change in route plan (GAD) of metro corridor, difficulties in access to the site of works, crossing of drains, ponds, railway tracks, culverts, telephone ducts, electric cables, rocky area, seepage of water from any sources etc.

(iii) No alteration of any rate or price shall be allowed on account of any difference between the quantities in this BOQ and the actual quantities measured at site. Payment for all the items in Bill of Quantities shall be made as per actual executed quantities at site.

(iv) The owner reserves the right to increase or decrease any of the quantities or to totally omit any item of work and any claims by the contractor in these accounts will not be entertained.

(v) The Tenderers shall make himself completely acquainted with all conditions, obligations, specifications, drawings, etc. of the Tender Documents before giving his prices. Contractor shall have no right to claim any price revision on the basis of ignorance of the Tender Documents or local conditions, or to make any claims as regards the integrity of the unit prices of the Bills of Quantities.

1.5. Units and Currency

(i) All sizes and quantities entered in the Bills of Quantities are in metric units unless specified otherwise.

(ii) The Tenderer may note that Currency for this contract shall be Indian Rupee (INR) only. For Further Details, Refer Clause C 16 of ITT, Volume-1.

(iii) The tenderer may note that all financial bids/offers shall be evaluated in INR currency only as quoted by the bidders in BOQ i.e. considering % ABOVE / BELOW / AT PAR of the total BOQ amount.

1.6. Rates and Sums to be for Work Complete

(i) Tenderers shall be deemed to have read the Employer's Requirements and other parts of the Tender Documents and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior filling percentage (%) ABOVE / BELOW / AT PAR of estimated tender value. The entered rates derived after filling percentage (%) ABOVE / BELOW / AT PAR of estimated tender value shall be deemed to include for the full scope of the Contract, including overheads and profits and shall bear a proper relationship to the cost of carrying out the work described.

(ii) Notwithstanding any limits that may be implied by the wording of the individual items and/or the explanations in the Preamble, the derived, after filling percentage (%) ABOVE / BELOW / AT PAR of estimated tender value, entered by tenderer in the Bill of Quantities, shall be for the work finished complete in every respect.

(iii) The Tenderer shall be deemed to have taken full account of all requirements, liabilities, obligations and risks, whether expressed or implied, and to have priced the items accordingly. The Items in the Bills of Quantities are the only items against which payment will be made.

(iv) The rates and sums shall therefore include for all incidental and contingent expenses and risks of every kind necessary to supply, install, test and commission (including Integrated Testing and Commissioning) complete, and remedying any defects in the whole of the Works in accordance with the Contract.

1.7. Allowances in rates

Full allowance shall be made in the rates and sums against the various items in the Bills of Quantities for all costs involved in performing the following except to the extent that work is specifically described and paid for in the Bills of Quantities. The list below is not exhaustive and the Tenderers are expected to take all costs involved while quoting the rates that will not be subject to variation on any account.

a) all setting out and survey work;

b) Preparation & submission of general arrangement drawings, route plan, Working / shop drawings, as built drawings, test reports, inspection reports, documents, bill of material, etc.

c) Detailed survey & check survey of the infringing utility including checking of route alignment, optimization of cable laying route and preparation of drawings, etc.

d) temporary access roads and bridges, fencing, watching and security, lighting;

e) reinstatement of the Site;

f) Removal of extra soil, malba, debris etc.

g) Restoration of the space / land excavated for the work and other concerned purposes to the original position within stipulated time span.

h) safety precautions and all measures to prevent erosion and suppress fire and other hazards;

i) interference to the Works by persons, vehicles, and the like being legitimate users of the facilities on or in the vicinity of the Site;

j) the protection and safety of DMRC installations.

k) supplying, maintaining and removing on completion, the Contractors own accommodation, offices, depots, stores, workshops, transport, welfare services and other facilities including telephones and facsimile machines and all charges in connection therewith;

l) the supply, inspection, testing, packaging and transportation of materials and of the Works as specified including the provision and use of equipment and arrangements for the Engineer's Inspectors and others;

m) providing, transporting to the Site, setting to work, operating (including all fuel and consumable stores), maintaining and removing from the Site upon completion all Construction Plant and Contractor's Equipment necessary for the execution of the Works and including the cost of all tests and other requirements in respect of such; plant and equipment;

n) complying with the requirements of the Employer in regard to Safety and Health, Quality Assurance, Environmental, and project implementation plans and making periodical submissions;

o) co-ordination and interference to the Works by the works of Designated Contractors and others employed by DMRC being legitimate users of the facilities on or in the vicinity of the Site;

p) remedying of defects and shrinkage, and works of amendment, reconstruction, replacement of other faults, fair wear and tear excepted, during Defects Liability Periods;

q) Insurance, including all risks in supply, erection, storage, transit, third party, Workmen’s Compensation and others;

r) Submission of warranty certificate for the material procured by contractor.

s) All tools, and equipment required for all tests prior and after delivery, and for testing and commissioning installed systems;

t) Carrying out all modifications to the given drawings, preparing construction detailed drawings and supplying originals, copies, and electronic files in accordance with employer's requirement. Preparation of parabolic graph of cable trenchless during the process of trenchless by HDD.

u) Engaging the required manpower, supervisors along with machinery, T&P, consumables, etc. Installation of materials, equipment's, components, etc. & other items required for the successful completion of work.

v) Testing & commissioning of the installations including arrangement of testing equipment.

w) Handing over of the installations including "Handing Over Documents" and "As Built Drawings", etc. for the installations.

x) The Guarantee / Warranty certificate (from the original equipment manufacturer (OEM)) for the material procured by contractor shall be issued in the name of TPDDL after issuance of MDCC. Validity period of the Guarantee / Warranty shall be as specified in the Technical Specifications of the material for TPDDL under Section -2 of Technical Specification.

y) Various bank guarantees/warranties/undertakings

1.8. Measurement and Payment

(i) This Contract is primarily a re-measure contract with items that are described herein. For the re-measure items the total price paid for a work item will be varied by the quantities actually performed.

(ii) The measurement and payment described is for the purpose of making a valuation of the work acceptable to the Engineer, and Interim Payments to the Contractor, as work proceeds. The works as executed will be measured for assessment of progress for interim payments in accordance with the method adopted in the Specification, the Bills of Quantities and under the items as set forth notwithstanding any custom to the contrary.

(iii) Payment for spares shall be made when all spare parts and associated documentation have been delivered to the Employer and accepted by the Engineer.

(iv) The measurement of "Numbers" and "Sets" shall be by count, using dimensions and contents as described in the specifications.

(v) Notwithstanding anything stated herein the Engineer retains the right to withhold payment on any pay item due for payment when the service to be performed is not performed, or is not carried out to the Engineer's satisfaction.

(vi) The price shall include the cost of documents, drawings, design calculations, test procedures, interface co-ordination documents, manuals

in accordance with the specifications and re-submittals as necessary as required by the specifications until accepted by the Engineer.

(vii) The price shall include the cost of As-Built Drawings in accordance with the specifications.

(viii) The price shall include the cost of guarantee, warranty of material / items in accordance with the specifications.

(ix) The price shall include the cost of guarantees, insurances, warranties required as per contract conditions.

(x) The price shall include the cost of DLP in accordance with the specifications.

1.9. Payment Schedule

The price shall include for all costs incurred in procurement/manufacture, testing, inspection, shipping, transportation, off-loading, storing at site/store watch & ward thereof, in Delhi or at such place as approved by the Employer. Payment will be made for the items delivered and stored in a place and manner approved by the Engineer. Stage payment shall be made as under: -

(i) Supply of Material of Schedule A (Underground Cabling Work) and Schedule B (Overhead Line Work):

S. N.	BOQ Schedule No.	Description	Payment after material being brought to site	Payment after successful erection, testing and commissioning	Payment after issue of completion certificate or handing over
1.	Schedule: A	Part A1 (Supply)	75%	20%	5%
2.	Schedule: B	Part B1 (Supply)	75%	20%	5%

(ii) Erection Work of Schedule A, Schedule B, Schedule C (Miscellaneous Work) and Schedule D (Credit against released material):

S. N.	BOQ Schedule No.	Description	Payment after erection	Payment after successful testing and commissioning	Payment after issue of completion certificate or handing over
1.	Schedule: A	Part A2 (Labour)	75%	20%	5%
2.	Schedule: B	Part B2 (Labour & Service)	75%	20%	5%
2.	Schedule: C	(Miscellaneous work)	75%	20%	5%
3.	Schedule: D	(CREDIT against Released Material)	---	---	100%

ANNEXURE 13A

PROFORMA FOR STATEMENT OF MINOR DEVIATIONS

(Refer Clause C 2.2 and C15.1 of ITT)

The following are the particulars of minor deviations from the requirements of the Tender Document:

Sr. No	Clause	Deviations	Price adjustment for each deviation

Note:

1. The Tenderer shall indicate price adjustment against each deviation in Annexure 13A of BOQ. This price is the price which the tenderer shall reduce from this tender price if deviation(s) is/are accepted by the Employer.

2. Where there is no deviation, the statement should be returned duly signed with an endorsement indicating 'No Deviations'. In case, Performa of deviations is not submitted or submitted as blank, it will be construed that the tenderer has not proposed any deviations from tender documents.

3. If the tenderer proposes deviations in tender documents, and/or any other terms and conditions of the tender, other than in this Annexure, it will have no effect.

Signature of authorized signatory
On behalf of Tenderer

DELHI METRO RAIL CORPORATION LIMITED

(A Joint Venture of Government of India & Government of NCT of Delhi)

MASS RAPID TRANSIT SYSTEM – PHASE IV

CONTRACT: D2EUD-02

Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

TENDER DOCUMENTS

VOLUME – 6

BILL OF QUANTITIES (BOQ)

DELHI METRO RAIL CORPORATION LIMITED
Metro Bhawan, Fire Brigade Lane,
Barakhamba Road, New Delhi – 110001

Summary of Bill of Quantities (BOQ)

Contract Package: D2EUD-02

Name of work: Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

S.No.	Description			Amount (₹)	
1	Schedule: A Underground Cabling Work	Part A1 (Supply)	A	18,28,75,170.00	21,56,74,394.00
		Part A2 (Labour)		3,27,99,224.00	
2	Schedule: B Overhead Line Work	Part B1 (Supply)	B	1,32,10,398.00	1,85,43,392.00
		Part B2 (Erection)		11,56,114.00	
		Part B3 (Foundation Work)		41,76,880.00	
3	Schedule: C (Miscellaneous Work)		C		37,32,456.00
4	Total Amount: (Sch. A + Sch. B + Sch. C) (D=A+B+C)		D		23,79,50,242.00
5	Schedule: D (Credit against released material)		E		26,59,000.00
6	Total Amount: (Sch. A + Sch. B + Sch. C – Sch. D) (F=D–E)		F		23,52,91,242.00
7	Applicable GST @ 18% (G=Fx18%)		G		4,23,52,423.56
8	Total Amount including GST (H=F+G)		H		27,76,43,665.56

Bill of Quantities (BOQ)

Contract D2EUD-02: Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

	Schedule : A (Underground Cabling work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F = D X E**
	PART A1 (SUPPLY)				
1	Supply of 66 kV, 1Cx1000 sq.mm cable having stranded compacted circular Aluminium water blocked Conductor, screened, Tree Retardant XLPE Insulation (cured by dry curing process), extruded semiconducting compound, water swellable tape, Corrugated aluminium sheath, HDPE Outer sheath provided with graphite coating, as per TPDDL specifications.	Mtr.	5000	3,738.00	1,86,90,000.00
2	Supply of 66 kV, 1Cx630 sq.mm cable having stranded compacted circular Aluminium water blocked Conductor, screened, Tree Retardant XLPE Insulation (cured by dry curing process), extruded semiconducting compound, water swellable tape, Corrugated aluminium sheath, HDPE Outer sheath provided with graphite coating, as per TPDDL specifications.	Mtr.	1000	3,461.00	34,61,000.00
3	Supply of 66 kV, 3Cx300 sq.mm cable having stranded compacted circular Aluminium water bloked Conductor, screened, Tree retardant XLPE Insulation (cured by dry curing process), extruded semiconducting compound, water swellable tape,Copper tape, pp fillers with water blocking yarn, sleeve extruded PE inner sheath, Non conducting water blocking tape, G.I round wire armoured bind by rubberized cotton tape and PE outer sheath provided with graphite coating as per TPDDL specifications.	Mtr.	20000	5,606.00	11,21,20,000.00
4	Supply of Heat Shrinkable Straight Through Joint (Shield-break/in-line and including RFID Active Ball Marker) with Shear Head Bolt (Hexagonal Shape) Type Mechanical Connector for 66kV, 1C x 1000 Sqmm or 1C x 630 Sqmm Aluminium core XLPE insulated screened and armoured cables as per TPDDL specifications.	No	12	75,619.00	9,07,428.00
5	Supply of Heat Shrinkable Outdoor Termination with Mechanical Lug and possessing UV & Fire retardant property for 66kV, 1C x 1000 Sqmm or 1C x 630 Sqmm Aluminium core XLPE insulated screened and armoured cables as per TPDDL specifications.	No	30	74,370.00	22,31,100.00
6	Supply of Heat Shrinkable Straight Through Joint (including RFID Active Ball Marker) with Shear Head Bolt (Hexagonal Shape) Type Mechanical Connector for 66kV 3Cx300Sqmm Aluminium core XLPE insulated screened and armoured cables as per TPDDL specifications.	No	100	1,66,171.00	1,66,17,100.00

	Schedule : A (Underground Cabling work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F = D X E**
7	Supply of Heat Shrinkable Outdoor Termination with Mechanical Lug and possessing UV & Fire retardant property for 66kV 3Cx300Sqmm Aluminium core XLPE insulated screened and armoured cables as per TPDDL specifications.	No	12	1,61,257.00	19,35,084.00
8	Supply of 60kV, 10kA Cl-3, Polymer type LA with Surge Counter complete in all respects for 66kV earthed system.	No	30	29,102.00	8,73,060.00
9	Supply of 3-phase Link Box without SVL (i/c Metal Enclosure Box)	No	6	58,639.00	3,51,834.00
10	Supply of 3-phase Link Box with SVL (i/c Metal Enclosure Box)	No	6	63,525.00	3,81,150.00
11	Supply of Single phase Link Box without SVL	No	6	16,168.00	97,008.00
12	Supply of Single phase Link Box with SVL	No	6	19,401.00	1,16,406.00
13	Supply of Bonding cable with copper conductor of size 300 Sqmm	Mtr.	500	2,586.00	12,93,000.00
14	Supply of Rail Pole painted with red oxide & aluminium paint.	Kg	10000	63.00	6,30,000.00
15	Supply of HDPE pipe PE-63 grade, DN-160mm and PN-6 Class	Mtr.	500	736.00	3,68,000.00
16	Supply of HDPE pipe PE-63 grade, DN-200mm and PN-6 Class	Mtr.	16000	1,146.00	1,83,36,000.00
17	Supply of RCC Cable Protection cover as per specification.	No	10000	221.00	22,10,000.00
18	Supply of 48 Fibre OFC Cable	Mtr.	16000	90.00	14,40,000.00
19	Supply of 24 Fibre OFC Cable	Mtr.	500	74.00	37,000.00
20	Supply of HDPE PLB Duct 40 mm dia	Mtr.	15000	52.00	7,80,000.00
	Total of Part A1 (Supply)				**18,28,75,170.00**
	PART A2 (LABOUR)				
21	Excavation of Cable trench, as per approved cross-section drawing, by mechanical means (Hydraulic excavator)/ manual means, including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.				
21(a)	All kinds of soil	Cum	6000	242.00	14,52,000.00
21(b)	Ordinary Rock	Cum	2000	431.00	8,62,000.00
21(c)	Hard rock (blasting prohibited)	Cum	1000	1,039.00	10,39,000.00
22	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	Sqm	1000	90.00	90,000.00

	Schedule : A (Underground Cabling work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F = D X E**
23	Cutting bituminous road and making good the same portion including supply of extra quantities of materials i.e aggregate, moorum screening, red bajri and labour as required.	Cum	300	3,537.00	10,61,100.00
24	Laying old cement cocrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-In-charge.	Sqm	1000	312.00	3,12,000.00
25	Providing and Laying 60 mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per direction of Engineer.	Sqm	500	826.00	4,13,000.00
26	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	Cum	2000	133.00	2,66,000.00
27	Laying of Pipes (HDPE / GI / MS / RCC) exceeding 80 mm dia but not exceeding 300 mm dia, including jointing them / providing sockets etc, by Manual Moling or by excavation upto 1.5 mtr. depth, dressing of sides, ramming of bottoms and then returning the soil as required, in layers not exceeding 20cm in depth, consolidating No deposited layers by ramming, watering, etc and disposing of surplus excavated soil within a lead of 50 m as per directions of Engineer.	Mtr.	4000	350.00	14,00,000.00
28	Crossing of Roads by Trenchless technology and laying of HDPE / Metal Pipes of dia 160 mm including jointing of pipes etc. as required at site.	Mtr.	500	721.00	3,60,500.00
29	Crossing of Roads by Trenchless technology and laying of HDPE / Metal Pipes of dia 200 mm including jointing of pipes etc. as required at site.	Mtr.	12000	901.00	1,08,12,000.00
30	Crossing of Roads by Trenchless technology and laying of dia 40 mm PLB duct including jointing of pipes & drawing of OFC etc. as required at site.	Mtr.	5000	500.00	25,00,000.00
31	Laying of 66kV 1Cx1000 or 1Cx630Sqmm Aluminium Core XLPE cable in the excavated Trench as required, covering the cable with RCC cable cover as per design & refilling the trench with good earth. The trench shall be properly rammed, dressed besides removal of surplus malba from the site of work within 50 metres lead as per directions of Engineer.	Mtr.	3000	254.00	7,62,000.00

	Schedule : A (Underground Cabling work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F = D X E**
32	Laying of 66kV 3Cx300 Sqmm Aluminium Core XLPE cable in the excavated Trench as required, covering the cable with RCC cable cover as per design & refilling the trench with good earth. The trench shall be properly rammed, dressed besides removal of surplus malba from the site of work within 50 metres lead as per directions of Engineer.	Mtr.	6000	298.00	17,88,000.00
33	Laying of 66kV, 1C x 1000, 1C x 630 or 3C x 300 Sqmm cable in existing/ already laid HDPE Pipes.	Mtr.	16000	124.00	19,84,000.00
34	Laying of OFC along with PLB HDPE duct by manual / mechanical means.	Mtr.	12000	27.00	3,24,000.00
35	Construction of pre fabricated RCC joints chamber as per specification and the construction practice of TPDDL	No	30	3,607.00	1,08,210.00
36	Splicing of OFC (48F/24F) including supply of protective enclosure in existing / New Joint Chambers for making Straight/Branch joints and end to end testing of all Fibres after Splicing.	No	30	4,040.00	1,21,200.00
37	Providing and laying Sand cushioning for cable route as per approved drawing.	Cum	3000	659.00	19,77,000.00
38	Supply & Providing PVC tie having following dimensions for fastening of 66kV 1Cx1000 Sqmm Cable Length : 750 mm Width : 9 mm	No	10000	31.00	3,10,000.00
39	Supply and providing Warning tape suitable for 66kV cable of the following size. Thickness of Tape PVC = 300 Micron Width of warning Tape = 150 mm	Mtr.	10000	25.00	2,50,000.00
40	Supplying and fixing of cable Route Marker / Joint Marker as per Approved design and specifications of TPDDL.	No	500	510.00	2,55,000.00
41	Supply, Fabrication & Installation of GI cable ladders tray continuously connected as per specification and as required. Note : necessary anchor fasteners or any other fabricated G.I item of any size as approved is included in this item and shall not be paid seperately.	Kg	1000	114.00	1,14,000.00
42	Mounting of 66 KV aluminium XLPE cable including its jumpering at both ends, good quality of Aluminium socket, ferrules, Jumper Cone, Tyco Clamp, PG Clamp etc shall also be supplied by the Contractor.	No	50	2,536.00	1,26,800.00
43	SITC of HDPE Cleats set, MS Strip and hardware for fixing of cable including painting one coat of red oxide & two coat of black paint.	No	400	400.00	1,60,000.00
44	Painting of Cable with Fire Retardant Paint (Supply of Paint includes) as per TPDDL Specification. This items will be used on the externally exposed cable. (Upto 10 Mtr length from ground Level)	No	50	800.00	40,000.00

	Schedule : A (Underground Cabling work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F = D X E**
45	Installation of Heat Shrinkable Type Straight through Joint Box for 66kV 1Cx1000 or 1Cx630 Sqmm Aluminium Core XLPE cable complete.	No	12	11,918.00	1,43,016.00
46	Installation of Heat Shrinkable Type Outdoor Termination for 66kV 1Cx1000 or 1Cx630 Sqmm Aluminium Core XLPE cable complete.	No	30	9,932.00	2,97,960.00
47	Installation of Heat Shrinkable Type Straight Through Joint for 66kV 3Cx300 Sqmm Aluminium Core XLPE cable complete.	No	100	15,228.00	15,22,800.00
48	Installation of Heat Shrinkable Type Outdoor Termination for 66kV 3Cx300 Sqmm Aluminium Core XLPE cable complete.	No	12	15,228.00	1,82,736.00
49	Erection, Testing & Commissioning of Bonding Kit (Single point/Mid point/Cross Bonding) per circuit of 66kV at a Joint Bay/Termination complete including erection of Link Boxes (with/without SVLs), laying & connecting Bonding Cable, providing & crimping of lugs, fixing of clamps etc. complete. The cost of supplying Link Boxes (with/without SVLs) & Bonding Cable shall be paid seperately. The cost of Earthing is also seperate	No	24	8,331.00	1,99,944.00
50	Erection, testing & Commissioning of LA with Surge Counter complete in all respects for 66kV earthed system.	No	30	5,134.00	1,54,020.00
51	Erection of Rail Pole (Above 8 mtr and upto 13 mtr. long) in brick ballast and ramming the foundation with cement concrete (1:2:4) included excavation, backfilling & disposal of surplus mulba within 50 metres lead as per directions of Engineer.	No	12	3,574.00	42,888.00
52	Supply, Fabrication & fixing of Hot-dip Galvanized Steel Materials like channel, angles, flats, cross arms, clamps, hardware, nut-bolts etc. as per directions of Engineer.	Kg.	5000	72.00	3,60,000.00
53	Supply and Laying of "B"class GI Pipe of 150 mm dia for cable mounting on DP, etc. as per directions of Engineer.	Mtr.	150	1,598.00	2,39,700.00
54	Testing & Commissioning of 66kV U/G Cable Circuit as per ISI/IEC standard. Testing equipments as required shall be supplied/arranged by the contractor at his own cost. (All the tests after laying of cable are to be carried out for commissioning of the circuit)	Cir-cuit	20	15,850.00	3,17,000.00
55	Hiring of Excavator with driver & Fuel for restoration of cable Fault or any specific Usage as per direction of Engineer-in-Charge.	Day	50	9,027.00	4,51,350.00
	Total of Part A2 (Labour)				**3,27,99,224.00**

Bill of Quantities (BOQ)

Contract D2EUD-02: Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

	Schedule: B (Overhead Line Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
	PART B1 (SUPPLY)				
1	Supply of Hot Dipped Galvanised Steel Super Structure for Towers similar to TATA design or DTL design or equivalent design already approved by any Govt. electrical utility agency as required to meet desired electrical clearences at site.				
1 (a)	Galvanised Lattice Structure (MS)	MT	20	1,00,625.00	20,12,500.00
1 (b)	Galvanised Lattice Structure (HT)	MT	20	1,04,075.00	20,81,500.00
2	Supply of Hot Dipped Galvanised Steel Stub for lattice tower.				
2 (a)	Galvanised Lattice Structure (MS)	MT	2	1,00,625.00	2,01,250.00
2 (b)	Galvanised Lattice Structure (HT)	MT	2	1,04,075.00	2,08,150.00
3	Supply of Template for Lattice Tower	MT	2	1,00,625.00	2,01,250.00
4	Supply of Hot Dipped Galvanised Steel Nuts & Bolts with washers of various sizes for lattice towers & Stub.	MT	2	1,04,075.00	2,08,150.00
5	Supply of ACSR Goat Conductor (Aluminium Strands – 30nos/3.71mm; Steel Strands – 7nos/3.71mm)	Mtr.	6,000	340.00	20,40,000.00
6	Supply of Single Tension Hardware Fitting (Compression Type) having Ball & Socket locking arrangement for insulator and suitable for single ACSR Goat Conductor complete in all respects with arcing horn.	No	60	2,395.00	1,43,700.00
7	Supply of Single Tension Hardware Fitting (Bolted Type) having Ball & Socket locking arrangement for insulator and suitable for single ACSR Goat Conductor complete in all respects with arcing horn.	No	6	2,068.00	12,408.00
8	Supply of Double Tension Hardware Fitting (Compression Type) having Ball & Socket locking arrangement for insulator and suitable for single ACSR Goat Conductor complete in all respects with arcing horn.	No	12	4,898.00	58,776.00
9	Supply of Double Tension Hardware Fitting (Bolted Type) having Ball & Socket locking arrangement for insulator and suitable for single ACSR Goat Conductor complete in all respects with arcing horn.	No	6	4,572.00	27,432.00
10	Supply of Suspension Hardware Fitting (with Envelope type suspension clamp) having Ball & Socket locking arrangement for insulator and suitable for single ACSR Goat Conductor complete in all respects with arcing horn.	No	12	1,633.00	19,596.00
11	Supply of Vibration Damper for ACSR Goat conductor complete in all respects.	No	90	879.00	79,110.00
12	Supply of 66kV, 120kN, B&S type Composite Polymeric Insulator	No	78	2,254.00	1,75,812.00

	Schedule: B (Overhead Line Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
13	Supply of 66kV, 90kN, B&S type Composite Polymeric Insulator	No	12	2,144.00	25,728.00
14	Supply of OPGW (48 core)	Mtr.	1,500	145.00	2,17,500.00
15	Supply of OPGW (24 core)	Mtr.	500	132.00	66,000.00
16	Supply of OPGW Tension Assembly	No	4	4,985.00	19,940.00
17	Supply of Downlead Clamp Assembly for OPGW	No	20	338.00	6,760.00
18	Supply of Joint Box for OPGW	No	4	4,920.00	19,680.00
19	Supply of Vibration Damper for OPGW along with all accessories.	No	16	546.00	8,736.00
20	Supply of Earth Bond	No.	8	408.00	3,264.00
21	Supply of Number Plate	No.	8	212.00	1,696.00
22	Supply of Danger Plate	No.	8	171.00	1,368.00
23	Supply of Circuit Plate (1 set = each Cricuit)	Set	16	171.00	2,736.00
24	Supply of Phase Plate (1 set = 3 Plates of RYB Colour)	Set	16	171.00	2,736.00
25	Supply of Thermo mechanically Treated bars of grade Fe-500D or more for RCC foundation works	Kg	40,000	63.00	25,20,000.00
26	Supply Part of M-10 grade cement concrete for PCC. (Ref: DAR/Civil/2023/4.20.1.1)	Cum	80	4,319.00	3,45,520.00
27	Supply Part of M-30 grade cement concrete for RCC Foundation work (Ref: DAR/Civil/2023/5.33.1.2)	Cum	400	4,974.00	19,89,600.00
28	Supply Part of M-35 grade cement concrete for RCC Piling work (Ref: DAR/Civil/2023/5.33.1.3)	Cum	100	5,095.00	5,09,500.00
	Total of Part B1 (Supply)				**1,32,10,398.00**
	PART B2 (Erection/Installation portion of Overhead Line Work)				
29	Check Survey	Km	2	9,681.00	19,362.00
30	Setting of stub-template including re-check survey for the lattice tower. (Template for setting of stub including all accessories shall be provided by Contractor)	No	8	10,988.00	87,904.00
31	Erection of towers with extensions / gantries complete in all respect , tightening and punching of nuts and bolts including tack welding of all nut & bolts upto 1st section of towers/gantry.	MT	80	5,274.00	4,21,920.00
32	Stringing, Testing & Commissioning of ACSR Goat Conductor including hoisting of insulators, fixing of hardware fittings, jumpering etc. and fixing of vibration dampers	Mtr.	6,000	77.00	4,62,000.00
33	Stringing, Testing & Commissioning of OPGW including fixing of hardware fittings, vibration damper, earth bond etc.	Mtr.	1,500	91.00	1,36,500.00
34	Making, Testing & Commissioning of OPGW Joint Box	No	4	5,760.00	23,040.00
35	Fixing of following accessories				
35 (a)	Number Plate	No.	8	71.00	568.00

	Schedule: B (Overhead Line Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
35 (b)	Ciruit Plate (1 set = each Cricuit)	Set	16	43.00	688.00
35 (c)	Danger Plate	No.	8	43.00	344.00
35 (d)	Phase Plate (1 set = 3 Plate of RYB Colour)	Set	16	43.00	688.00
36	Supply & fixing of Galvanised Steel Barbed Wire on Monopole / Tower for making anti-climbing arrangement.	Kg	50	62.00	3,100.00
	Total of Part B2 (Erection/Installation portion of Overhead Line Work)				**11,56,114.00**
	PART B3 (Service Portion for Foundation Work)				
37	Straightening, cutting, bending, tieing, lap/butt welding placing including binding with GI binding wire 18 SWG, in all structural heights and depth, complete as per drawings, specification and directions of Engineer. The scope of work will also include application of one coat of cement slurry inhibitor solution as per manufracture's instruction or as approved by the Engineer-in-charge.	Kg	40,000	19.00	7,60,000.00
38	Manufactured, Mixing, Laying, Transportation by transit mixer & Pouring of Ready Mixed Plain Cement Concrete of M-10 grade (Labour part of BOQ No B1-26) . (Ref: DAR/Civil/2023/4.20.1.1)	Cum	80	2,767.00	2,21,360.00
39	Manufactured, Mixing, Laying, Transportation by transit mixer & Pouring of Ready Mixed Cement Concrete of M-30 grade (Labour part of BOQ No B1-27) . (Ref: DAR/Civil/2023/5.33.1.2)	Cum	400	2,770.00	11,08,000.00
40	Manufactured, Mixing, Laying, Transportation by transit mixer & Pouring of Ready Mixed Cement Concrete of M-35 grade (Labour part of BOQ No B1-28) . (Ref: DAR/Civil/2023/5.33.1.3)	Cum	100	2,771.00	2,77,100.00
41	Boring work for Pile by driven hydraulic Piling Rigs. (length of pile for payment shall be measured up to bottom of pile cap).				
41 (a)	750mm dia piles	Mtr.	50	2,344.00	1,17,200.00
41 (b)	1000mm dia piles	Mtr.	50	3,470.00	1,73,500.00
41 (c)	1200mm dia piles	Mtr.	50	3,855.00	1,92,750.00
41 (d)	1500mm dia piles	Mtr.	50	4,429.00	2,21,450.00
42	Boring work for Pile by DMC or Bailer Chisel Technique. (length of pile for payment shall be measured up to bottom of pile cap).				
42 (a)	600mm dia piles	Mtr.	50	754.00	37,700.00
42 (b)	750mm dia piles	Mtr.	50	1,098.00	54,900.00
43	Extra for providing bulbs, for under reaming of piles as per approved drawing.	No	50	2,001.00	1,00,050.00

	Schedule: B (Overhead Line Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
44	Vertical load testing of Single pile upto 50 tonne Safe capacity in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & directions of Engineer in-charge.				
44 (a)	Initial test (Test Load 2.5 times the Safe capacity)	Per Test	1	44,275.00	44,275.00
44 (b)	Routine test (Test Load 1.5 times the Safe capacity)	Per Test	1	15,870.00	15,870.00
45	Vertical load testing of Single pile above 50 tonne and upto 100 tonne Safe capacity in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & directions of Engineer in-charge.				
45 (a)	Initial test (Test Load 2.5 times the Safe capacity)	Per Test	1	49,450.00	49,450.00
45 (b)	Routine test (Test Load 1.5 times the Safe capacity)	Per Test	1	26,220.00	26,220.00
46	Lateral load testing of single pile in accordance with IS Code of practice IS : 2911 (Part IV) for determining safe allowable lateral load on pile				
46 (a)	Upto 50 tonne capacity pile	Per Test	1	15,870.00	15,870.00
46 (b)	Above 50 tonne and upto 100 tonne capacity pile	Per Test	1	26,565.00	26,565.00
47	Integrity testing of Pile using Low Strain/ Sonic Integrity Test/ Sonic Echo Test method in accordance with IS 14893 including surface preparation of pile top by removing soil, mud, dust & chipping lean concrete lumps etc. and use of computerised equipment and high skill trained personal for conducting the test & submission of results, all complete as per direction of Engineer-in-charge.	Per Test	20	804.00	16,080.00
48	Earth work in excavation in all kinds of soil by mechanical means (Hydraulic excavator) / manual means including getting out and disposal of excavated earth lead upto 50 m, as directed by Engineer-in-charge.	Cum	1,000	156.00	1,56,000.00
49	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating No deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	200	188.00	37,600.00

	Schedule: B (Overhead Line Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
50	Centering and shuttering including strutting, propping etc. and removal of form work and finishing for Foundations, footings, bases for columns as per directions of Engineer-In-charge.	Sqm	500	244.00	1,22,000.00
51	Brick work with common burnt clay modular bricks of class designation 7.5 in foundation and plinth in cement mortar 1:4 (1 cement and 4 coarse sand).	Cum	40	5,301.00	2,12,040.00
52	Plastering	Sqm	100	282.00	28,200.00
53	Supplying, filling, spreading & leveling gravels of size range 5 mm to 20 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in- charge.	Cum	100	1,253.00	1,25,300.00
54	De-watering of pits				
54 (a)	By Manual	Hr.	100	88.00	8,800.00
54 (b)	By Mechanical Pump minimum 5 H.P. Motor	Hr.	100	286.00	28,600.00
	Total of Part B3 (Service Portion for Foundation Work)				**41,76,880.00**

Bill of Quantities (BOQ)

D2EUD-02: Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

	Schedule: C (Miscellaneous Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
1	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories with charcoal/ coke and salt as required as per IS: 3043 with latest revision thereof.	No	100	4,549.00	4,54,900.00
2	Supply and fixing of Earthing GI Strip size 50 X 6 mm including connection / jointing etc. complete in all respect.	Mtr.	500	155.00	77,500.00
3	Supply and fixing of Earthing GI Strip size 25 X 6 mm including connection / jointing etc. complete in all respect.	Mtr.	200	139.00	27,800.00
4	Supply and Laying of Earthing GI wire size of 6 S.W.G including connection / Termination / jointing as required for earthing .	Mtr.	100	37.00	3,700.00
5	Cutting of Stub of Existing Towers as per directions of Engineer In-charge.	Set	10	2,196.00	21,960.00
6	Dismantling of towers & conductors including Hardware Fittings, Insulators & other accessories.				
6 (a)	Tower steel super structure	MT	20	6,086.00	1,21,720.00
6 (b)	Conductor including earthwire, OPGW along with hardware fittings & insulators.	Mtr.	5,000	64.00	3,20,000.00
7	Shifting of wire mesh fencing from old place to new place including dismantling, reinstallation, civil work / Painting, etc with all required accessories and complete in all respects as per direction of Engineer.	Job	2	3,888.00	7,776.00
8	Supply, Fixing & Painting of wire mesh fencing around Monopole / Gantry Structure as per approved design, specifications, site requirements and directions of Engineer.	Sqft	1,000	182.00	1,82,000.00

	Schedule: C (Miscellaneous Work)				
S. No.	**Description of work**	**Unit**	**Quantity**	**Unit Rate (Exclusive of GST)**	**Amount**
A	**B**	**C**	**D**	**E**	**F= D X E**
9	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	Cum	500	119.00	59,500.00
10	Providing 1.0 mtr high temporary barricade and arrangement for traffic diversion such as traffic signals during construction at site for day and night as per requirement and drawings. During construction barricading & arrangement for traffic diversion has to be kept continuously and maintained properly till the completion of all the activities. Local shifting of barricading along with all accessories i/c. indicators, illuminitors, delinators etc. at a particular station/ location may be required during execution and may be required for traffic management. Nothing shall be paid for this local shifting.	RM	1,000	1,570.00	15,70,000.00
11	Providing 2.0 Meter high temporary barricade and arrangement for traffic diversion such as traffic signals during construction at site, for day and night as per site requirements. During construction of foundation / other activities requiring traffic diversion, this arrangement has to be maintained till completion of such activities. Local shifting of barricading along with all associated accessories at a particular location may be required during execution and may require for traffic management. Nothing shall be paid extra for this local shifting.	RM	200	2,476.00	4,95,200.00
12	Dismantling and re-recting the above barricading and other arrangements at new location as per instruction of Engineer.	RM	200	187.00	37,400.00
13	Providing, Fixing & Maintaining Traffic Cones & caution tape etc. as per site requirements.	No	200	1,765.00	3,53,000.00
	Total of Schedule C: Miscellaneous Work				**37,32,456.00**

Bill of Quantities (BOQ)

D2EUD-02: Supply, Installation, Testing & Commissioning for Shifting / Modification of 66kV Electrical Utilities of TPDDL from Rithala to Indian Railway Line Section of Rithala – Kundli Corridor of Delhi Metro Phase – IV

Schedule: D (Credit against released material)

S. No.	Description of work	Unit	Quantity	Unit Rate (Exclusive of GST)	Amount
A	B	C	D	E	F= D X E
1	Release of Steel / Iron scrap	Kg	20,000	33.00	6,60,000.00
2	Release of Al. Conductor (Dog, Wolf, Weisel, Goat etc.)	Kg	8,000	152.00	12,16,000.00
3	Release of HT U/G cables in scrap				
3 (a)	66kV, 3C x 300 sq.mm	Mtr.	1,000	371.00	3,71,000.00
3 (b)	66kV, 1C x 1000 sq.mm	Mtr.	1,000	412.00	4,12,000.00
Total of Schedule D (Credit against released material) :					**26,59,000.00**