

# **Tender Document**

**MR 330/2017**

**Installation of Underground Power Cables at Goodman  
Fielder Cold Storage in Karsanji Street, Vatuwaqa**

**Route: FEA HV Pole C12006 to Proposed Pad Mount**

**Route Length = 20metres**

# Trenching, Ducting, Reinstating and Cable Laying Works for Underground Power Cables

## Notes:

1. Safety Plan to be included in tender bid and it will be part of the evaluation.
2. Cable Jointer Certificate to be included in tender bid.
3. Tender validity should be six (6) months from date of submission.

## HSE REQUIREMENTS

The following documents are to be submitted with the Tender:

- 1) **Contractor HSE Specification** – it contains 10 clauses which contains the overall HSE requirements and the contractor needs to agree to this.
- 2) **Contractor HSE Plan** (Document HSE41C04) - The contractor shall fill in each part of the Plan.
- 3) The Contractor will list down all the plants and equipment to be used in the **Plant & Equipment Register** as well as chemicals in the Chemical register.
- 4) The **JSA & Risk Assessment** form will require the contractor to identify hazards which may not have been adequately addressed in FEA's existing procedures and outline proposed controls.

## FIRST SCHEDULE

### A. SPECIAL CONDITIONS OF THE CONTRACT

1. The works comprise of the trenching, installation of ducts and cable (including reinstatement of footpaths, sealed roads and grass verge) as per drawings and specifications provided during the tender briefing and site visits.
2. Location of Works: Works shall be carried out in the Vatuwaqa Area (Karsanji Street) as per route drawings provided during the tender briefing and site visits.

#### Notes:

- i. All materials to be installed shall be provided by FEA.
  - ii. Contractor shall provide all the necessary tools, equipment and manpower with adequate Personal Protective Equipment (PPE) for the works.
  - iii. Route comprises sealed roads, footpaths, and grass verge.
  - iv. Sub-seal comprises soapstone and existing utility services.
3. The contract sum for the works shall be quoted in lump sum \$ \_\_\_\_\_ **VIP** and shall be payable at the completion of the whole route (approximately 20m) as follows:

Phase	Description	Percentage Payment
1	Completion of whole route of Trenching and Installation of Ducts	30%
2	Completion of whole route of Cable Pulling and upon positive cable test results	20%
3	Completion of HV & LV Earthing as per FEA Standard & Requirement	10%
4	Completion of Site Reinstatement (Footpaths, Grass Verge and Road Crossings, etc.)	30%
5	Retention	10% to be released 6 months after the final completion of the project pending zero defects

4. Project Execution Timeframe:
  - a) Date of Commencement: **Next day within issuing of FEA Purchase Order**
  - b) Date of Final Completion of Works: Whole Route (20m) in **3 calendar days**

5. For the purpose of supervising the contract on behalf of the Authority, references in the General Conditions to the Authority shall include the Construction Coordinator Central or his designated officer. The Project Manager shall be the Construction Coordinator Central, the Project Engineers and supervisors shall be any persons designated by the Construction Coordinator Central.
6. Insurance
  - a) Contractor's Risk
  - b) Public Liability
  - c) Worker's Compensation
  - d) Or any additions as deemed necessary by FEA
7. Defects Liability Period: 6 months
8. Liquidated damages of up to 10% applied at 1% per day shall be applicable on the project, any stage, or part thereof.
9. Retention Fund (refer section E)
  - a) Limit of Retention Fund: 10% of contract sum
  - b) Nature of Retention Fund: Cash
  - c) Release of Retention Fund: Subject to no pending defects, and as per FEA Finance Policy

## **SECOND SCHEDULE**

### **B. Specification for Construction Power Cable Installation**

#### **1.0) General**

This specification covers the installation of Underground Power Cables as per drawings and specifications provided during the site and under conditions of Contract attached herein.

#### **2.0) Scope of Work**

Work Involved in this contract is broadly classified into three phases:

- i. Trenching ducting and laying bedding sand
- ii. Laying of power cable with cable cover and Hep Tape
- iii. Backfilling of trench including re-instatement

##### **2.1) Phase One – Trenching, Ducting and Laying Bedding Sand**

The first phase comprises of the following works:

- Excavation and installation of ducts across roads, grass verge and driveways
- Trench excavation for power cable
- Laying bedding sand

Note – all ducting works is to be completed BEFORE excavation of grass verge. This is to ensure that trenches are kept open for a minimum duration. No use of heavy machinery such as diggers shall be permitted for excavations.

##### **2.2) Phase Two – Installation of Power Cable, Cable Cover and Hep Tape**

The second phase will involve the installation of power cables. This involves manually pulling the cable along the trench using rollers and through ducts.

FEA will not allow mechanized pulling of cables to prevent unnecessary strain on the cables.

FEA will test each cable after installation to ensure cables are in good condition. While cables are stored on site, it will be the Contractor's responsibility to ensure safekeeping of FEA assets.

This phase also involves coiling of cables in the jobsite boundaries.

All the work of phase two must be as per the specifications given in the drawings and it shall conform to all aspects of the standards outlined in the project documents.

Installation of Cable Location Markers at locations decided by the Project Engineer shall also be undertaken by the contractor.

Joint pits for power cable will be at locations marked on the project drawings, however this may change slightly during cable installation. The trench shall be 1m wide to 3m long in the jointing locations.

This work shall be carried out under direct supervision of FEA's designated officers, and is to be done during normal working hours and afterhours, as per the needs of the project. Work which will be carried outside normal working time will require obtaining FEA's approval and may be approved based on FEA's operations and availability of supervisors.

This phase shall be deemed complete once the cable has been tested healthy by FEA Technicians. In the event that the cable fails to pass the test, the Contractor shall be required to pay all costs associated with the location and repair of the damage/fault or replacement if necessary.

### **2.3) Phase Three – Backfilling of Trenches & Re-Instatement**

This phase of the contract involves the backfilling of trenches.

Various works for this phase will be:

- i. Apply suitable layer of sand bedding (to be supervised by FEA).
- ii. Backfill sand on top of the cable to height as per the drawing.

All materials (cable, sand, concrete and slab) are to be transported from FEA's Kinoya Depot to work site by the contractor.

The contractor is responsible for clearing the site of all unused excavated soil. The Contractor shall deliver all left over materials to FEA's Kinoya Depot including un-utilized fine sand.

All the works of phase three must be as per the specifications, and it shall conform with all aspects of the standards outlined in the "Standard Overhead Line Design and Construction Manual", guideline set up by FEA.

The contractor shall make good any ground that is excavated. Grass verge shall be neatly backfilled up to the ground level with no spill of excess backfill material to verges.

Concrete disturbed across driveways, bus-stops, footpaths, etc shall be backfilled to 150mm from top, where concrete mix will need to be poured and levelled to match with existing surface. (Concrete mix and all associated materials will be provided by FEA).

Driveway crossing will need to be ducted. FEA will supply 150mm dia PVC HD pipes which will be laid across driveways. One duct will be used for each single core power cables. Spare ducts provided by FEA at strategic places which will

also be laid in trenches. This trench will also be backfilled and reinstated with suitable backfill material to level with road surface.

Trenching on sealed roads will require road seal cutter before digging to ensure nearby road surface does not get damaged. This portion will also require ducting as in driveways crossing.

Cabling across bridges is in the Contractor's scope. FEA will provide to the contractor suitable means to lay cables across bridge.

FEA will obtain FRA, WAF, TFL and other stakeholders approval prior to giving the go ahead to the Contractor for trenching works.

The Contractor shall submit a Traffic Management Plan (to suit each road condition) to FEA which will submit to FRA for approval. Any changes to the TMP by FRA will need to be incorporated by the Contractor.

## C. CONTRACTOR REQUIREMENTS

1. **Tender Bid** – Contractor shall submit a firm lump sum bid.
2. **Site Visit** – Contractor shall participate in a site visit which is compulsory. Bids from tenderers who do not participate in the site visit shall be disqualified, at FEA's sole discretion.
3. **Standards** – All construction work shall be in compliance with FEA Standards and Guidelines.
4. **HSE Compliance** – The tender bid shall include all requirements from the FEA HSE Contractor Safety Management System. These will be evaluated by the FEA's HSE Unit. Tender bids with incomplete, unacceptable, or without the HSE requirements will not be considered for award.
5. **Safety Record** – Tender bid shall include a brief report on Safety performance over the last two years. The report shall include all incidents and accidents.
6. **Sub-contracting** – Subcontracting **shall not be permitted**, except where this is specifically presented in the tender bid, and only upon approval by FEA. Subcontractors shall be required to fulfil all requirements as if they were the contractor.
7. **Scope of works** - Work involved in this contract is broadly classified into three phases.
  - i. Trenching, ducting and laying bedding sand
  - ii. Laying of power cable with cable cover and Hep tape
  - iii. Backfilling of trench
  - iv. Site Restoration
8. **Contact** - Contractor shall have a valid postal address, Office phone/fax/e-mail contact. The Principal shall be available by mobile phone at any time.
9. **Work Program** - Contractor shall submit a work programme before starting of project. This shall be part of the contract. Work shall commence at least within seven (7) days after receiving an official FEA Local Purchase Order.
10. **Training** – Contractor shall ensure his employees have attended FEA Safety Manual Training at least once in the past 6 months, and records of this shall be submitted with the tender bid. In the event that the training has not been carried out, the Contractor shall ensure these training are carried **PRIOR** to induction for new project.
11. **Ground condition** – Contractors are to note that sub-soil comprises soapstone and could contain other services like Telecom Fiji Ltd, Water & Sewerage, etc. It will be the Contractors



responsibility to liaise with relevant authorities to ensure damages to these services are avoided.

- 12. Invoicing** – Contractor shall submit details of work completed to allow prompt approval of invoice. The Contractor is to submit a progress report showing percentage completion of the project and obtain Project Engineers vetting of the same.
- 13. Safety Induction** - A Safety induction must be conducted before start of power line construction work.
- 14. Instruction to Commence Work** - Contractor shall NOT commence work on site unless an “Instruction to Commence Work” has been received from the Project Manager.
- 15. Signboards** - One signboard (6’X 4’) must be erected at the start of the works and one at the end of the works clearly stating :

<p style="text-align: center;"><b>DANGER</b></p> <p><b>PROJECT: POWERLINE CONSTRUCTION – [Description of project]</b></p> <p><b>CONTRACTOR: .....</b></p> <p><b>POWER LINE CONSTRUCTION WORK.</b></p> <p><b>Driver please reduces speed.</b></p> <p><b>Pedestrians please use other footpath/side of road</b></p> <p><b>THANKS</b></p>
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This sign board shall not be hand written. Fonts should be appropriate size and utilise the full area of the signboard. Fonts shall be in black on a yellow-orange background. All signage shall be to FEA and FRA specifications and satisfaction.

- 16. Accident Reporting** – All accidents and incidents shall be reported immediately to FEA using approved forms available in the FEA Safety Plan Template, or equivalent.
- 17. Project Updates** - Contractor shall meet with FEA Project Manager, Project Engineer and Project Supervisor on a weekly basis to discuss project progress and bottlenecks. These meetings shall be minuted for records, and circulated to the appropriate stakeholders.
- 18. Tidiness** – The Contractor shall maintain the worksite in a neat and tidy condition.

- 19. Transportation of material** – The Contractor shall transport all materials from Kinoya Depot to work site except valve marker post which shall be picked directly from suppliers.
- 20. Security** - Contractor shall be responsible for the safekeeping of all materials at work site, and will be required to pay for damage and/or loss.
- 21. Damage to property** – The Contractor shall ensure that there is no damage to roadways, footpaths, drains, water-courses, properties and other services. The Contractor shall make good to the satisfaction to the owner any damage caused by the contractor.
- 22. Portable signboards** - Portable signboards must be placed at 50m intervals.
- 23. Traffic and Pedestrian Control** – The Contractor shall ensure that there is minimum disruption to the flow of traffic and pedestrian. FEA & FRA procedures on Traffic Control and Pedestrian Control shall be diligently exercised.
- 24. Worksite protection** - Bollards/cone must be placed at 10m intervals.
- 25. Barricades** - Open trench/pole-hole is to be barricaded on a full time basis by the Contractor.
- 26. Jobsite Safety Assessment** - Contractor to carry out Jobsite Safety Assessment daily, and as and when required, and submit these to FEA on a weekly basis.
- 27. Credit of surplus material** – The contractor shall transport and credit all unused materials to Kinoya Stores.
- 28. Defects Rectification** – The contractor shall rectify all defects within seven (7) days as per contract.
- 29. Project completion** – The contractor shall complete work on time as per contract.
- 30. Project progress** – If the Contractor fails to proceed with the works with reasonable diligence or suspends the works or refuses to comply with the reasonable direction from FEA by reason pf which the works are materially affected and any such default continues for a period of seven (7) days after the issue of written notice, FEA may itself call any other person to complete the works at the Contractor’s risk and expense.
- 31. Safe Work Procedure Training** - Contractor must have completed Distribution Safe Work Procedure training.

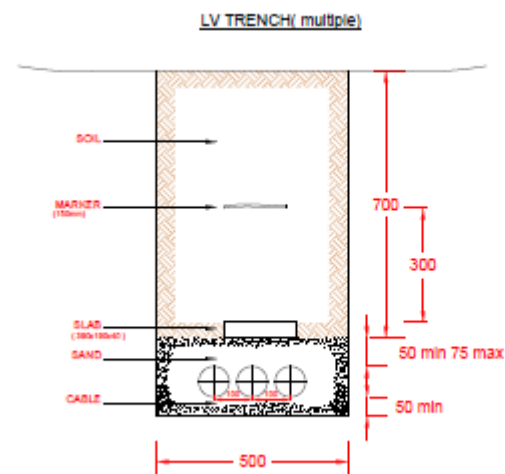
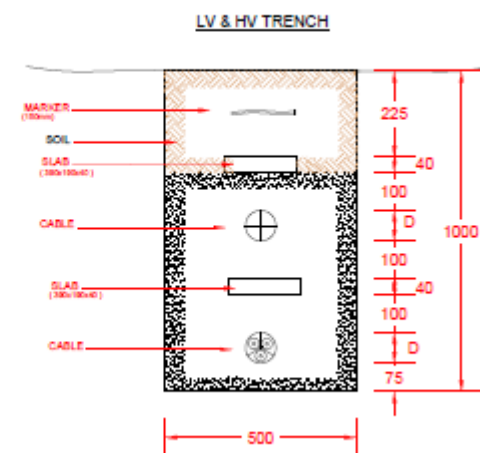
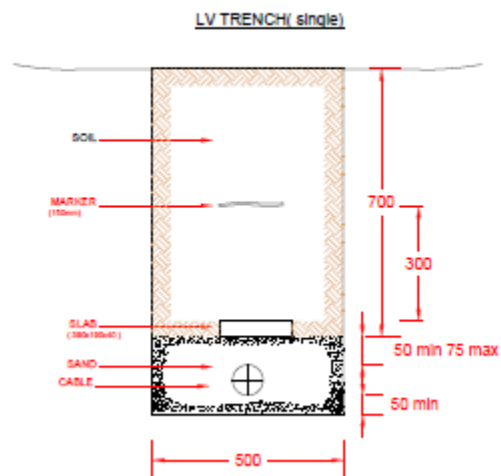
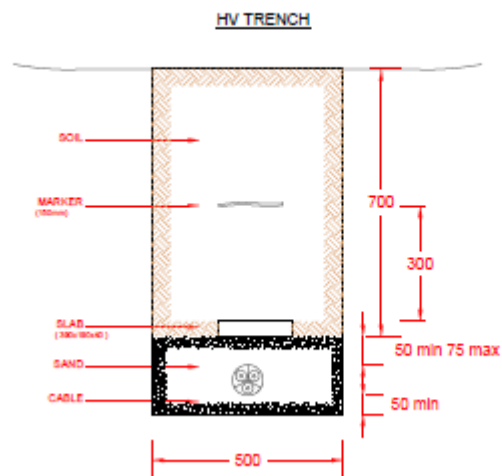
## D. FEA REQUIREMENT

- FEA Project Supervisor shall obtain Road/footpath opening permits.
- FEA Project Engineer shall obtain clearance from Municipal Council, Fiji Roads Authority, Telecom Fiji Ltd, Water Supply Department, and Sewerage Department.
- FEA's HSE Unit shall vet Safety Plan submitted by Contractor and approve after queries clarified by Contractor.
- FEA Project Engineer shall ensure that any FEA underground mains on the jobsite is clearly located, marked and identified to the Contractor.
- FEA Project Engineer shall submit to the Project Manager all necessary approval documentation from Municipal Council, Telecom Fiji Ltd, Water Supply Department and Sewerage Department. Upon receipt of these approvals, and the approved Safety Plan, the Project Manager shall issue an "Instruction to Commence Work" to the Contractor.
- FEA Project Supervisor and Project Engineer shall carry out regular site inspections to ensure compliance with HSE requirements, and submit Safety Visit Reports of the visit.
- FEA Project Supervisor and Project Engineer shall issue Non-Conformance Report if required, and follow up for verification of implementation of Action Items arising out of the Non-Conformance Report.

## E. Payment Schedule

Payments would be made as per the following payment schedule:

Phase	Description	Percentage Payment
1	Completion of whole route of Trenching and Installation of Ducts	30%
2	Completion of whole route of Cable Pulling and upon positive cable test results	20%
3	Completion of HV & LV Earthing as per FEA Standard & Requirement	10%
4	Completion of Site Reinstatement (Footpaths, Grass Verge and Road Crossings, etc.)	30%
5	Retention	10% to be released 6 months after the final completion of the project pending zero defects



#### NOTES

- 1. SLABS**  
APPROVED SLABS MANUFACTURED SPECIFICALLY FOR PROTECTION OF ELECTRICAL CABLES  
WITHSTAND 5000 PSI  
NOT LESS THAN 150mm WIDE  
OVERLAP CABLE 40mm EACH SIDE

- 2. CABLE**  
EMBEDDED IN NOT LESS THAN 50mm SAND OR STONE FREE TOP SOIL  
COVERED BY NOT LESS THAN 50mm SAND OR STONE FREE TOP SOIL

#### 3. MINIMUM DEPTH OF LAYING CABLES

UNDER ROADWAYS	600
UNDER CONTINUOUS PAVED AREA	300
OTHER LOCATIONS	450
HV CABLE	750

- 4. ALL DIMENSION IN mm**

## **Submission of Tender**

**Two (2) hard copies** of the tender bids in sealed envelope shall be deposited in the tender box located at the Supply Chain Office at the FEA Head Office, 2 Marlow Street, Suva, Fiji.

**Courier charges for delivery of Tender Document must be paid by the bidders.**

This tender closes at **4:00 p.m. (16.00hrs Fiji time) on Wednesday 29<sup>th</sup> November, 2017**

Each tender shall be sealed in an envelope with:

The envelope bearing only the following marking:

**MR 330/2017**

**Installation of Underground Power Cables at Goodman Fielder Cold Storage in  
Karsanji Street, Vatuwaqa –Scheme: G31-17**

The Secretary, Tender Committee  
Fiji Electricity Authority  
Supply Chain Office  
Private Mail Bag, Suva

**It must also indicate the name and address of the tenderer on the reverse of the envelope.**

**All late tenders, unmarked Envelopes and envelopes without bidder's name and address on the reverse on the envelope will be returned to the Tenderers unopened. (Bids via e-mail or fax will not be considered).**

**The bidders must ensure that their bid is inclusive of all Taxes payable under Fiji Income Tax Act and must have the most current Tax Compliance Certificate.**

For further information or clarification please contact our Supply Chain Office on phone **(+679) 3224360 or (+679) 9991587.**

**Bidders are requested to submit a:**

- **Valid Tax Compliance Certificate**
- **FNPF Compliance Certificate**