

Government of Rajasthan
Rajasthan Urban Sector Development Program

BIDDING DOCUMENT

For

Procurement

of

Design and Construction of Work of Providing Sewer Network with house sewer connections, Trenchless Sewer, Design and construction of Sewage Treatment Plant, Sewage pumping station, Power Generation Unit at STP & allied works and Operation & maintenance services of the entire system for 10 years in Kota City (Part Area)

(Following single stage two envelope bidding procedure)

Part 1– Technical Bid –Volume 2

Issued on: January, 2017

Invitation for Bids No.: RUSDP/Program Loan/05

Package No.: RUSDP/ Program/ KOT/ 01

Employer: Local Self Government Department, GoR
Represented by Rajasthan Urban Infrastructure Development Project (RUIDP)

Country: India

18 SEWER LAYING BY TRENCH-LESS METHOD

All works for Trench less method i.e. by Pipe Ramming /Manual pipe jacking/ Micro tunneling/ Horizontal Directional Drilling(HDD) shall be carried out as per specifications in this section mentioned below and for details and specifications not included in this section shall be carried out as per “Standard contract clauses for Trench less Contracts” and “Standard Guidelines for Trenchless contracts”, 2008.

The Contractor will be responsible for selecting the technology that is best suited for carrying out the trenchless work for the scope of trenchless sewer work under this contract for the diameters and depths as specified. The Contractor shall take care of the required method while pricing for the bid. There will not be any separate payment for different technologies.

18.1 DESIGN & SUBMITTALS

18.1.1 Design

The Contractor shall be responsible for the design of the pipes used for the trenchless method including all joints, for the design of the thrust and reception pits including support and thrust wall and for the design of the jacking system in general. His design will be reviewed by the Employer’s Representative but this will not relieve him of his responsibility for the adequacy of the design.

18.1.2 Level and Alignment Accuracy

The pipes shall be installed in place, true to line and level. There shall be provision to prevent the relative movement between pipe Segments at the joints by the use of steel collar plates with a rubber ring or other approved methods during jacking operation. A packing piece of compressible material such as Particle Board shall be provided at each joint and shall be securely hold before the pipes are lowered into the jacking pit. Details of proposals shall be submitted to the Engineer for approval.

18.1.3 Limits on Ground Settlement and Upheaval

The trenchless technology method adopted by the Contractor shall be such that the initial surface settlement measured directly above the front face of the shield or boring equipment during the tunneling / boring operations does not exceed 15 mm and the maximum surface settlement after the tail voids are grouted shall not exceed 25 mm. The upheaval should also be restricted to a maximum of 25 mm.

However, for the sections of pipeline crossing below water courses, roads and railway track the Contractor shall be required to incorporate in his tunneling method measures to arrest the expected settlements so as to safeguard the integrity of the road/ rail surface and collapse of canal/lined water coarse bed. The Contractor shall ensure that the traffic flow along the roads / railway is not affected in any was as a consequence of his work.

or damage. The Contractor shall repair at his risk and cost any damage and restore structures, railway lines and roads/pavements to the satisfaction of the Engineer.

18.18.10 Setting out

The Contractor shall be deemed to have thoroughly examined the sites, the location of the buried services, availability of space for setting up ancillary facilities at Jacking / Receiving Pits, access to sites etc. and adjusted the pipeline alignment as deemed necessary and obtained approval of the final pipeline alignment from the Engineer before commencement of the setting out. He shall set out and mark on the ground the proposed pipeline route and the locations of the jacking and receiving shafts and obtain approval of the Engineer. The Contractor shall be solely responsible for the accuracy of the setting out and any expenses or delays arising from errors made in the setting out shall be borne by the Contractor. Cost of any consequential work or abortive work carried out by the Contractor to rectify the errors shall be entirely borne by the Contractor.

18.18.11 Site Layout

The working space at the sites is often restricted and hence the site layout has to be planned carefully in advance to set-up the equipment and accessories.

18.19 TRENCHLESS TECHNOLOGIES FOR SEWER PIPE LAYING

For trenchless technology suitable guidelines/ codes from Indian society of Trenchless Technology shall be followed. The bidder has to decide after field investigation and as per the guidelines provided by Indian society of Trenchless Technology (IsTT) for selection of trenchless technology that is best suitable for a particular section. The codes from IsTT are below mentioned:

- Code of practice for Horizontal Directional Drilling Suiting Indian Condition
- Code of practice for Micro Tunneling and Pipe Jacking Suiting Indian Condition
- Code of practice for Glass Reinforced Pipe Technique Suiting Indian Condition
- Code of practice for pipe Bursting Suiting Indian Condition
- Code of practice for cured in place pipe Technique Suiting Indian Condition
- Trenchless Technology Selection Guidelines
- Standard Operating Procedure for Application of Trenchless Technology
- Manual of site Investigation for Trenchless Projects
- Trenchless technology Risk Mitigation Manual

Besides, standard procedures as indicated in CPHEEO Manual on Treatment and Sewerage and sewage treatment issued by the Ministry of urban Development and CPWD / PWD are to be strictly followed.