

## **24 X 7 Water Supply Scheme, Refurbishment of existing network & Smart Water Meter**

### **1. Name of the Project:**

Work for 24 x 7 Water Supply System under Smart City Mission in 07 (Seven) T.P. Schemes area of East and South East Zone of Surat Municipal Corporation including Refurbishment of existing network in part area of TP Scheme No. 53 (Magob-Dumbhal), TP Scheme No. 64 (Magob-Dumbhal), TP Scheme No. 19 (Parvat-Magob) including all work of Mechanical, Electrical, SCADA, Household connections, consumer water meter fittings and work including Management of 24x7 Water Supply in SMART CITY for a period of 10 years.

**Vision:** To upgrade existing network and make it liable for uninterrupted 24 x 7 water supply along with smart water meter component to reduce wastage of water.

**Background:** In order to provide uninterrupted water supply to the citizen and to generate awareness regarding conservation of water as an essential resource Surat has moved from conventional water supply system to 24 x 7 water supply system aided with smart water measuring devices called "Smart water Meters". Surat had initiated 24 x 7 water supply system in developing area of New North Zone in around 20 Sq. Km. with an estimated population of about 4,00,000 with fitments of 15000 conventional meters in November 2013 in order to check and regulate the consumption at user end.

To regulate water consumption Surat Municipal Corporation had introduced Industrial and Residential meters in February 2008. Initially these meters were EEC/MID/OIML approved, AMR compatible, Domestic/Wolatman type, magnetically coupled, Multijet, Class-B type conforming to ISO- 4064 with IP-68 protection type mechanical water meter installed at consumer connection. Till date Surat has installed 35500 such conventional water meters in entire city.

The main feature which makes this project "SMART" is the introduction of inbuilt RF unit AMR technology with wireless system which would notify user regarding Consumption of unit while generation of bill at backend.(This system has been implemented in industrial connection of Pandesara GIDC). Apart from metering the pipeline used for house connection has been changed to MDPE connection technology rather than conventional GI/PVC.

### **2. Sector:** Hydraulic Department

### 3. Cost and financing:

(Water Supply Scheme Refurbishment of existing network Smart Water Meters)

▪ SCP Cost	: Rs. 96.00 Cr
▪ DPR Cost	: Rs. 90.50 Cr
▪ Tender Estimated Cost	: Rs. 90.50 cr.
▪ Tender Sanctioned Cost	: Rs. 144.50 Cr
▪ Convergence/PPP/SMC Costing-	: ---

(24x7 water supply scheme under smart city area- **21L Ltr ESR** at Anjana in Limbayat area)

▪ SCP Cost	: Rs. 96.00 Cr
▪ DPR Cost	: Rs. 07.06 Cr
▪ Tender Estimated Cost	: Rs. 07.06 cr.
▪ Tender Sanctioned Cost	: Rs. 02.28 Cr
▪ Convergence/PPP/SMC Costing-	: ---

(24x7 water supply scheme under smart city area- **69L Ltr UGSR** at Anjana in Limbayat area)

▪ SCP Cost	: Rs. 96.00 Cr
▪ DPR Cost	: Rs. 07.06 Cr
▪ Tender Estimated Cost	: Rs. 07.06 Cr.
▪ Tender Sanctioned Cost	: Rs. 02.71 Cr
▪ Convergence/PPP/SMC Costing-	: ---

### 4. Current status of the project implementation:

Construction of 7 ESR and 3 UGSR work in progress

### 5. Likely completion date of project:-After work order given to Agency

Part-1 contract is divided in two phases.

Phase-1: Design and construction phase - 2 years  
Phase-2: Operation and Maintenance system - 10 years.  
Total period = 2 + 10 = 12 years

Part-2 contract is divided in two phases.

Phase-1: Design and construction phase - 1 year  
Phase-2: Operation and Maintenance system - 11 years.  
Total period = 1 + 11 = 12 years

## 6. Impact/ Envisaged Impact of the project:

Water being the essential requirement of Citizen for varied Industrial/ commercial/ domestic purpose is all time in high demand. Looking forward to maintain the demand and supply ratio 24 x 7 water supply schemes shall also eliminate the need of unnecessary storage of water which is also cause of water borne disease. Introduction of this system in smart city area is intended to serve 8.84 Sq.Km area of city. Provided with Smart water meter, this system shall ensure minimum wastage of water as every drop of water shall be accounted. Replacing conventional GI/PVC connection by MDPE connection shall ensure prevention of leakage and rusting which inturn reduce loss of water due to leakage resulting in smart solution for water loss due to leakage.

Introduction of inbuilt RF unit AMR technology with wireless system would notify user regarding Consumption of unit while generation of bill at backend.(This system has been implemented in industrial connection of Pandesara GIDC). Surat will be getting around 27000 smart water meters (industrial/commercial/domestic) under this project.

## 7. Brief Description (Technical Details):-

3 nos of Water Distribution Station (approx. 48 lacs lit., 51 lacs lit. and 61 lacs lit.)

7 nos of Elevated Storage Reservoir (approx. 15 lacs lit. 2 nos, 21 lacs lit. 4 nos and 24 lacs lit. 1 no)

3 nos of Rising Main line of @ 4980 rmt. (K9 class DICL pipes dia 400 to 600 mm)

Distribution network line of @ 57940 rmt. (K9 class DICL pipes dia 150 to 700 mm)

Mechanical, Electrical, Instrumentation works and Scada system and Consumer Water meter with house hold connections

(1) Part-1 i.e. 5.86 sq.km. area covers TPS No. TP-7, TP-8, TP-33, TP-34 and TP-64(P) where infrastructure facilities required for 24 x 7 water supply is not available. So, infrastructure facilities such as WDS, ESR, Rising Main, Distribution Network, Mechanical / Electrical / Instrumentation works, SCADA system and House Service Water Meter connection is to be executed in this contract. Till takeover by the contractor, SMC will supply intermittent water supply to the project area through its existing water distribution station and pipeline network.

(2) Part-2 i.e. 2.83 sq.km. area covers TP-19, TP-64(P) and TP-53(P) where infrastructure facilities i.e. WDS, ESR, Distribution Network is already available for 24 x 7 Water Supply. However, Refurbishment is required such as valves, FCV, SCADA system and House Service Meter Connection is to be provided.

**Site Plan (Layout) & line diagram of plantESR (Anjana)**



**WDS (Vahan depot Limbayat)**

