EOI.No.4/CGM(E)/TC/T3/GIS Survey/2016-17 dt:30.12.2016

Hyderabad Metro Water Supply and Sewerage Board, Hyderabad

Large scale mapping of water supply network and Geo-tagging of its assets by using DGPS survey

DGPS survey

The Hyderabad Metro Water Supply and Sewerage Board, invites Expression of Interest (EOI) from the reputed consulting firms for the purpose of "**Preparing a highly reliable & accurate GIS map of water supply pipeline with precise geo-tagging of all its valves, joints, connections etc by using DGPS technology and to develop an effective web based monitoring system by integrating the daily operational supply system"** in the peripheral areas of Serilingampally, Patancheru, Ramachandrapuram, Alwal, Malkajgiri, Uppal, Rajendranagar, Kapra, Kukatpally, L.B.Nagar and Qutbullahpur.

The scope of the work

1. Preparation of field input (Hard copy) in large scale from the input base map provided by the HMWSSB. This should be done at the premises of HMWSSB due to restriction of input data.

2. Conduct of field survey to map the pipeline alignment of nearly 2700 Kms length with precise positioning of valves, junctions, connections etc (approximately 15 Nos per Kilometer) preferably by using a duel frequency DGPS and collecting 10-15 parameters at each DGPS point.

3. Capturing digital photograph with best possible views and tagging with its DGPS position in Web environment.

4. Minimum of Two persons shall be deployed by the agency for each Municipal Circle during survey period.

5. Development of GIS database of Water Supply Network by using the field surveyed data and integration of the desired attribute information pertaining to the pipe line and connecting assets.

6. Development of Web based program to view/monitor with basic analysis of daily operational supply areas with timings by utilizing the input base map as reference. Free geo portals like Google etc shall not be used as reference. This part of work shall be executed at the HMWSSB premises only.

7. Operational training support towards updation of any timely change of information for period of six months.

8. The application should be integrated with HMWSSB application module n phased manner.

Time period: 6 months.

Chief General Manager (E),

Transmission Circle, HMWS&SB,

Eligibility:-

1. Agency should be a registered firm or company with all necessary certification having minimum of 5 years of experience in the field GIS based application development, survey and mapping techniques.
2. Agency should have previous experience of urban area survey, GIS mapping and Geo tagging related projects (preferable in Water Supply network assets mapping) for state/Central Govt/PSU/Boards. Documentary proof of work copies/ Experience certification from the concern authorities should be enclosed.
3. Agency should have its office or its subsidiary at Hyderabad as the outcome of the project need to appraised to HMWSSB officials on weekly basis.
4. The Agency should not be blacklisted any time by any State or Central Govt/public sector clients earlier (Affidavit in respect of this should be submitted).
5. Technically eligible agency shall demonstrate their methodology, approach, timelines and similar work experience details to the Board Officials.

Tentative Attribute to be collected

Clear storage reservoir

- Object_ID
- Geometry
- capacity
- Sump Capacity
- LWL
- MWL
- Ground Level
- Size

Master balancing reservoir

- Object_ID
- Geometry
- capacity
- Name
- Internal Diameter
- External Diameter
- LWL
- MWL
- Invert Level of In Level
- Invert Level of Out Level
- Number of Inlets
- Number of Outlets
- Method

Pump House

- Object_ID
- Geometry
- Number of Motors
- HP
- RPM
- Voltage
- Make
- Insulation Class
- Discharge capacity
- Head
- Name
- Type

Pump Station

- Object_ID
- Geometry
- Status
- Type
- Pumping Facility Name
- Site Reference Number
- Date Commissioned
- Water Supply Zone
- Circle code
- Division code
- Sub-Division code
- Section code
- Hydraulic Zone

Raw water main

- Object_ID
- Geometry
- Diameter
- Material
- Method
- Type

Reservoir

- Object_ID
- Geometry
- Type
- Source Name
- Site Reference Number
- Capacity
- Date Commissioned
- Water Supply Zone
- Inside Diameter
- Outside Diameter
- LWL
- MWL
- Inlet capacity
- Outlet Capacity
- Number of Inlets

Number of Outlets

Sluice valve

Object_ID
Geometry
Status
Operational Status
Type
Direction Of closing
Valve reference number
Manufacturer
Date Installation
Depth
Actual Size
Circle code
Division code
Sub-Division code
Section code
Hydraulic Zone number
Enabled?
Ancillary Role

Sources

Object_ID
Geometry
Storage capacity
Design Drawing Capacity
Source Id
Number of Outlets
Year Commissioned
River
Impoundment Name
Catchment Area
MWL
MDDL
Spillway Level
Distance from City
Type of System
Location of WTP

Treatment Capacity
Nominal Source yield
Material Type
Mode of Conveyance
Diameter of Main
Length of Main

Storage

Object_ID
Geometry
Type
Diameter
Capacity
WML
LWL
Size Of
Free Board
Ground level
Top Of Bottom Slab
Invert Level of Inlet
Invert Level of Outlet
Depth

Sump

Object_ID
Geometry
Sump Size
Depth
MWL
Sill
Number of Inlets
Number of Outlets

Supply pipe

Object_ID
Geometry
Status
Type
Manufacturer
Running Length

Year of Installation
Date Laid
Depth of cover
Water Supply Zone
date abandoned
Material
Circle code
Division code
Sub-Division code
Section code
Hydraulic Zone number
Diameter
Enabled?

Trunk Main Pipeline

Object_ID
Geometry
Status
Type
Manufacturer
Running Length
Year of Installation
Date Laid
Depth of cover
Water Supply Zone
date abandoned
Relining Date
material
Diameter
Enabled?

Valve

Geometry
Status
Type
Operational Status
Direction Of closing
Valve reference number
Size

Date Installation
Water Supply Zone
Depth
Enabled?
Ancillary Role
Division code
Sub-Division code
Section code

Water Network Net Junction

Object_ID
Geometry
Enabled?
Hydraulic Zone number
Type
Enabled?

Water Treatment Plant

Object_ID
Geometry
WTP Name
Number of filter beds
Number of Inlets
Raw water MWL
Number of Pre-setting Tank
Number of Alum Solution Tank
Capacity
Media
Type

CONSUMER INFORMATION

CAN
Geometry
Water supply Pipe id
Valve _ID
Pipe Size
Division code
Sub-Division code
Section code