


## Reconnaissance and Project Surveying

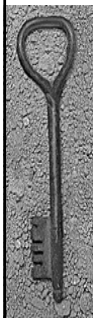
Tuesday, February 26, 2013

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## What is Surveying?

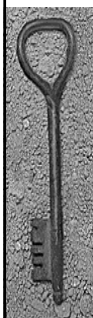


**Surveying is a pro-active action for collecting information/data for either enabling a decision making process or for executing an activity in a Project**



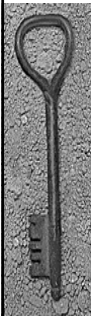
## **A Route/ Project Survey Consists of Following Sequence of Surveys**

- ◆ **Reconnaissance Survey or “REKI”**
- ◆ **Preliminary Surveys**
- ◆ **Detailed Engineering Survey or Location Survey**
- ◆ **Construction Survey**



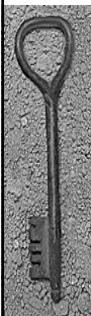
## **Reconnaissance Survey**

- ◆ **Carried out during Project Conceptual Stage**
- ◆ **The details are required for Feasibility Report**
- ◆ **A technically feasible shortest & cost-effective route is identified**
- ◆ **Various important features and information about the route that may affect the Project anyway are listed**
- ◆ **All the available maps of the territory should be collected and studied**



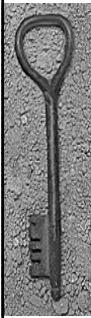
## Desk-Top Study

- ◆ Extensive use of existing maps
- ◆ Few alternatives are chalked outs
- ◆ Comparative merits/demerits are listed
- ◆ GIS Packages are extremely helpful
- ◆ Extensive Use of Satellite Imagery now-a-days



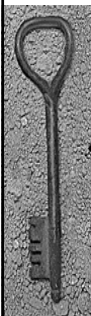
## Preliminary Surveys

- ◆ The survey in which more precise information is required for the choice of best location for the project and to estimate the exact quantities and costs of project is known as Preliminary Survey.
- ◆ Preliminary Surveys are done along all the possible routes.



## **Detail Engineering Survey or Project Survey or Location Survey**

- ◆ This activity is taken up during approval stage, when approval is considered almost certain
- ◆ Prior to this, route was on maps and paper. This is the first field activity taken up for Pipeline Projects



## **Detailed Route Survey**

- ◆ In this activity, route is progressively staked on ground preferably from one obligatory point and demarcated with control points and related reference points.
- ◆ Exact distances between control points, deflection/included angles, elevations etc. are accurately measured and recorded by theodolite / total stations
- ◆ The levels are taken at every 50/10/5 M distance of the staked route