

### *Sec. 5.01* **General**

When the location survey necessitates the gathering of a large amount of information, or where the construction centerline is likely to be situated in a location different from the survey centerline, Photogrammetric surveys offer many advantages. Once the photography has been secured and controlled, visible features and terrain information can be collected rapidly and safely, at modest expense.

### *Sec. 5.02* **Pre-Photography Control**

On surveys where Photogrammetry is to be used, a map or aerial image will be marked by the Photogrammetry Section suggesting the general location for the placement of aerial targets. This marked map or aerial image, along with other pertinent data needed for securing the survey, should generally be sent at approximately the same time as the survey authorization. However, it is not uncommon for the map or image to be sent in advance of the official authorization to insure the photography is obtained during leaf-off conditions.

On projects where no centerline or traverse will be established, permanent control monuments will serve as control for securing all topography, property data, elevations, etc. which cannot be secured by Photogrammetry. Care should be taken in the placement of the control monuments to facilitate securing items such as edges of pavement, property lines, etc. This field data shall be secured in accordance with **Chapter 4** of the Survey Manual.

On projects where survey centerlines and/or traverse lines are established on the ground, aerial targets are to be placed along the lines at approximately one thousand foot (**1000 ft**) intervals, depending on the scale of the photography. When placing a target on a centerline or traverse station a hole should be cut in the center of the target, and the target placed over the station as level with the ground as possible. It is important that care be given so that targets are not placed in heavy woods or in shaded areas if at all possible. Where the centerline or traverse runs for long intervals in woods, targets with leg extensions should be used to increase the possibility that the targets can be seen on the photography. It is important that the targets be placed in open areas if possible. It is permissible to move a target **fifty to one hundred feet (50-100 ft)**<sup>◊</sup> along the centerline or traverse to a station that is in an open or minimally obscured area.

If a connection exceeds one thousand feet (**1000 ft**) in length, targets should be placed at intervals of approximately seven hundred fifty to one thousand feet (**750-1000 ft**) along the connection, depending on the scale of the photography and the configuration of the connection on the photography.

As soon as practical after mainlines, connections and traverses have been targeted, a list of all the stations targeted, along with the alignment and control information should be submitted to the State Survey Program Manager and the State Photogrammetrist or their representatives, in accordance with **Section 4.17** of this manual.

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<sup>◊</sup> April 2014