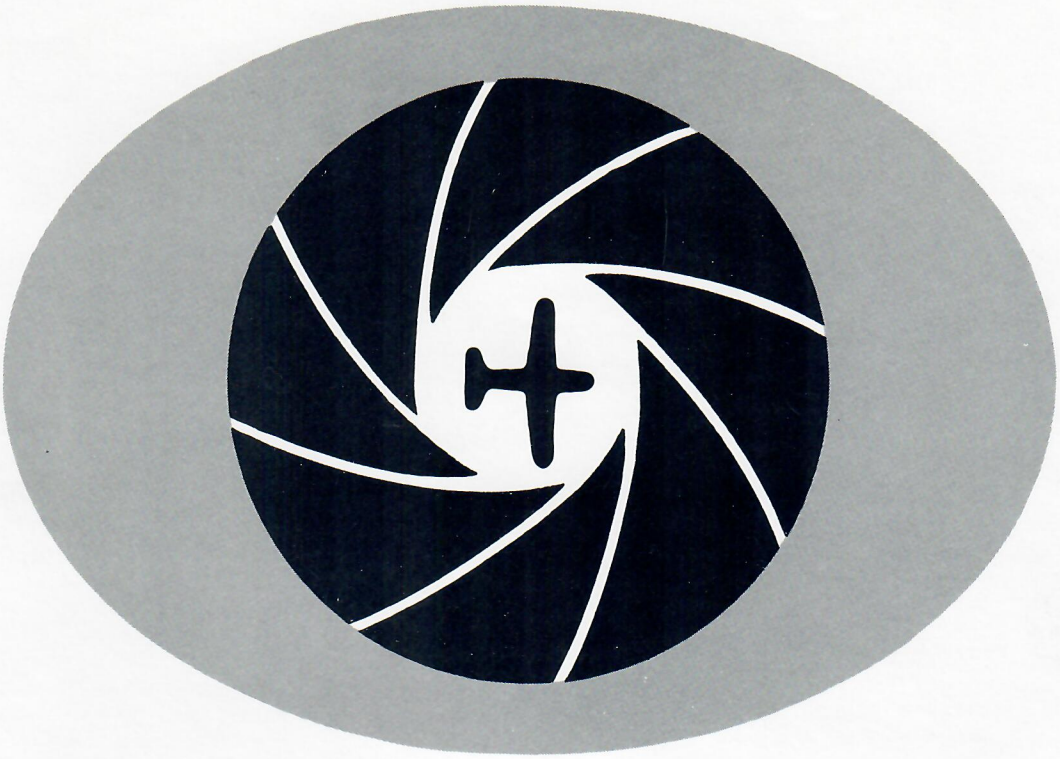
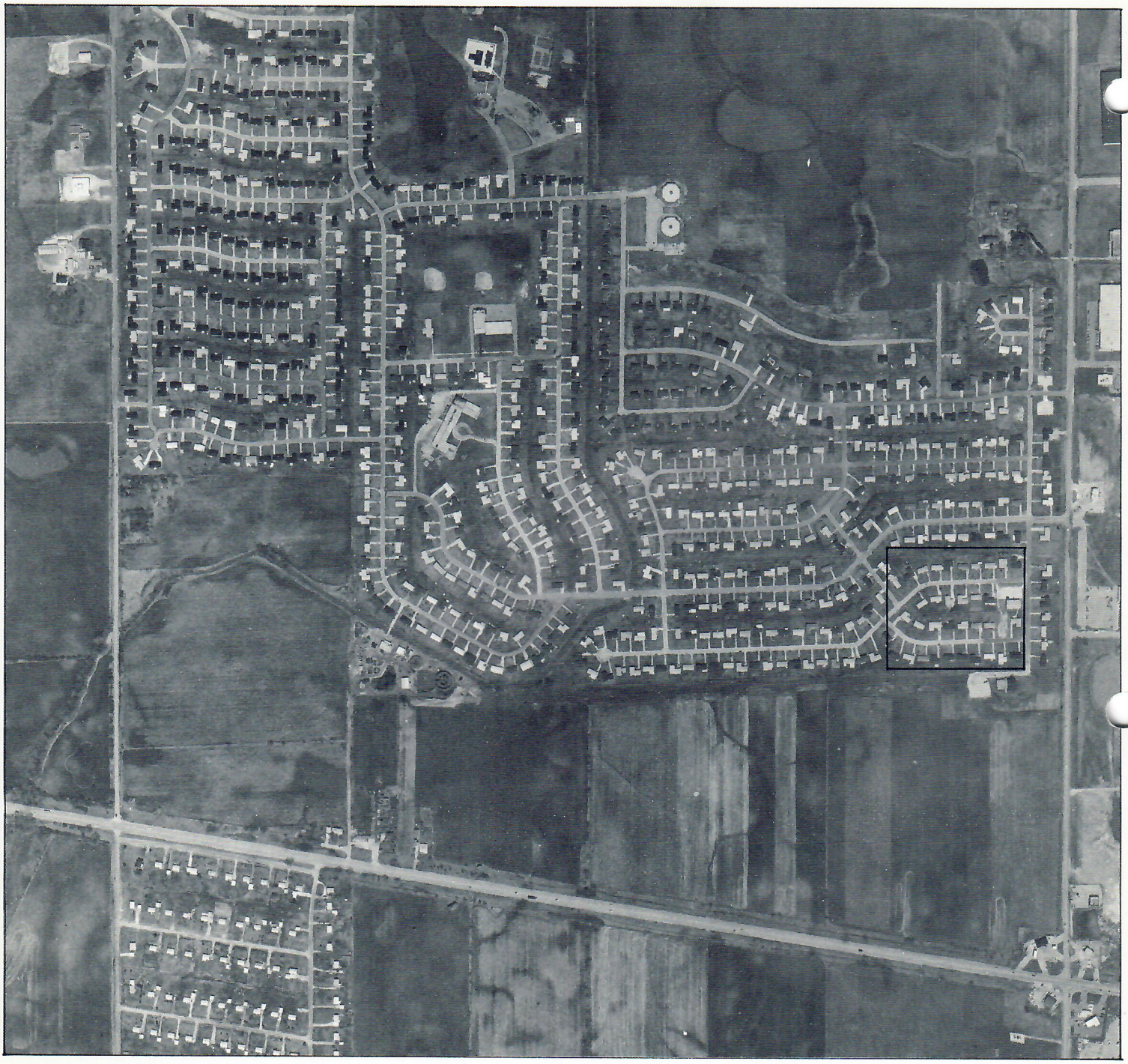


AERIAL PHOTOGRAPHY

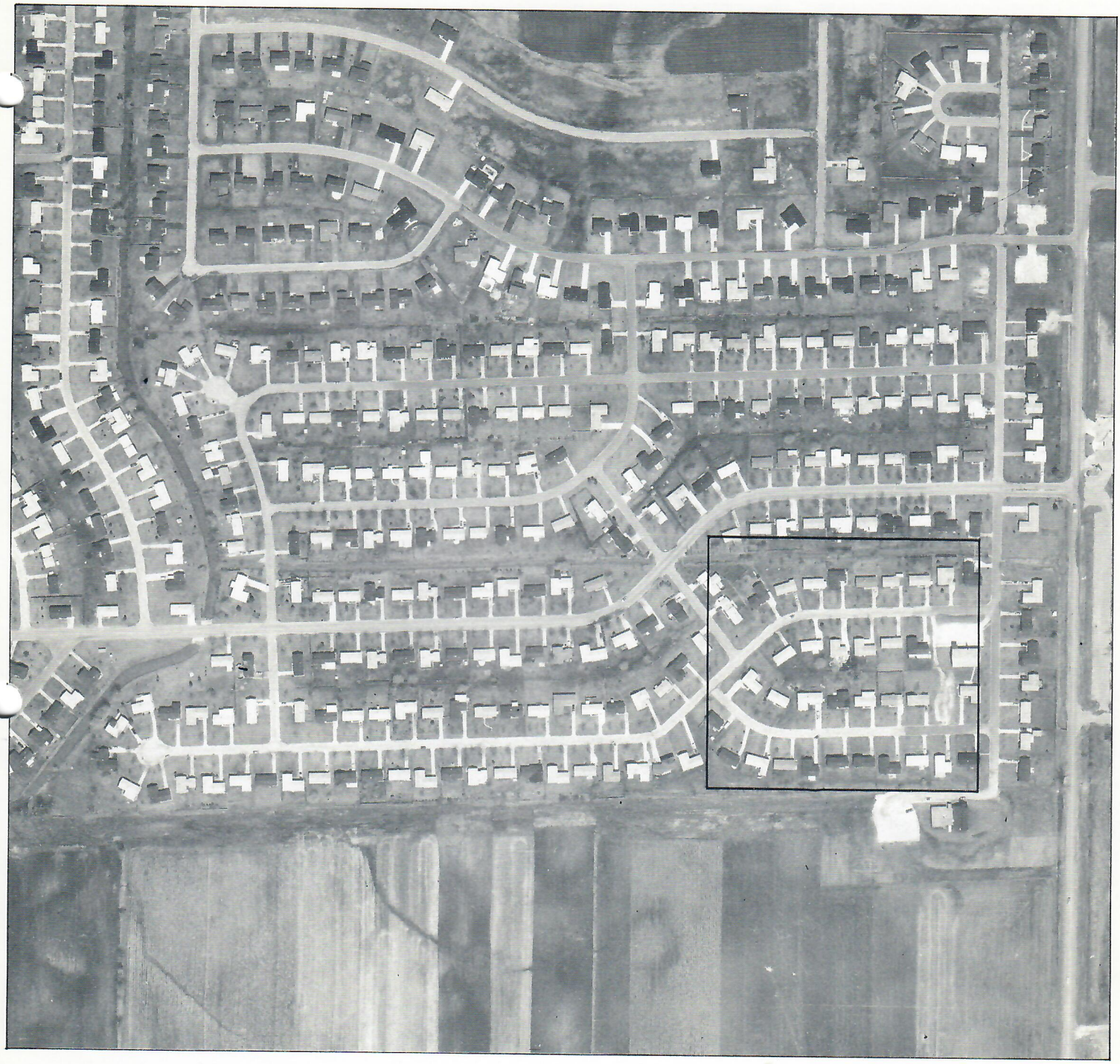
THE SIDWELL COMPANY®

LEADERS IN AERIAL PHOTOGRAPHY, TAX MAPPING AND TOPOGRAPHIC MAPPING FOR OVER 50 YEARS



SCALE OF PHOTOGRAPHY: 1″ = 800′

Useful for site planning, land-use studies, preliminary route planning, pipeline and utility inventory and drainage studies.

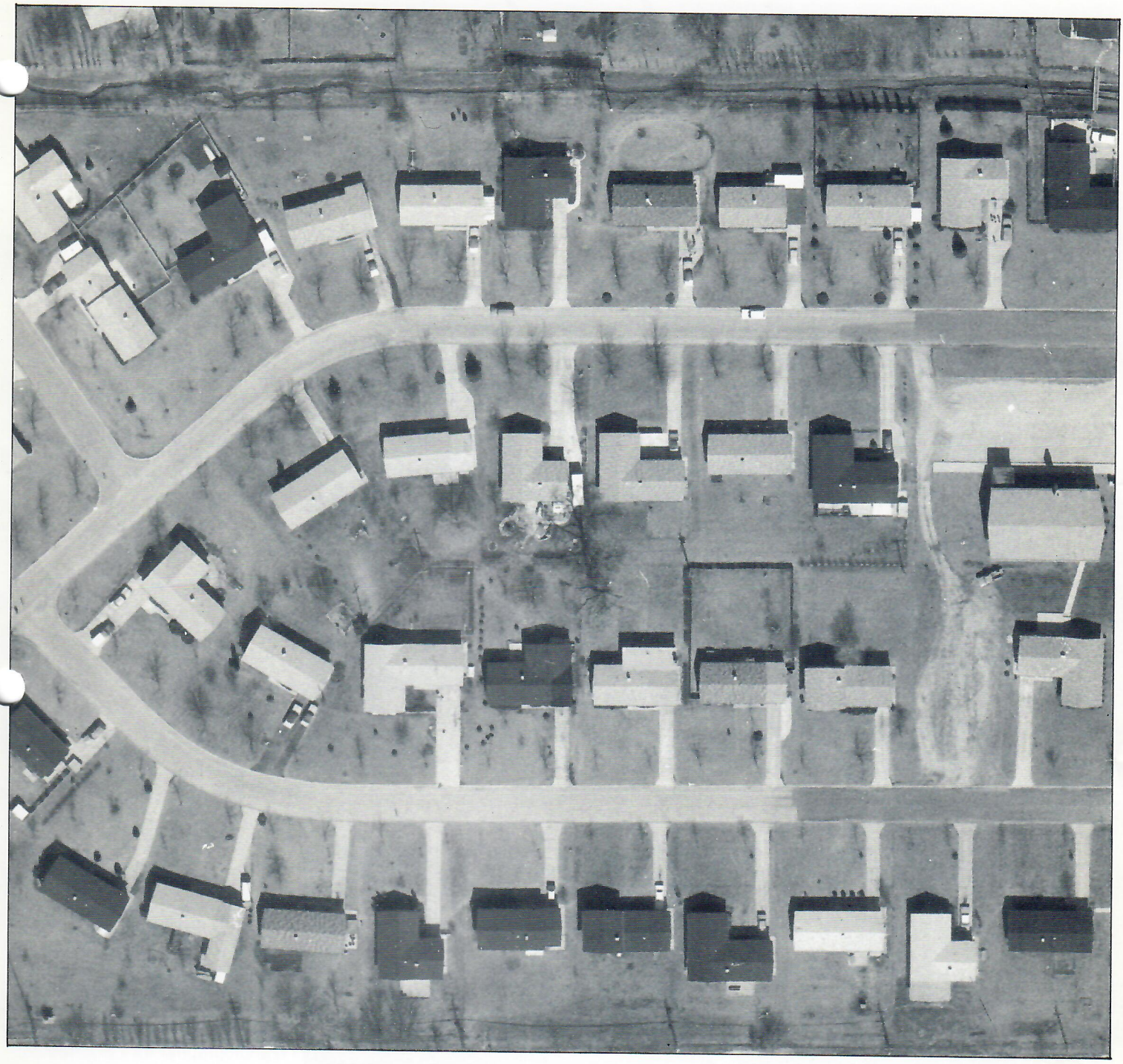


SCALE OF PHOTOGRAPHY: 1″ = 400′

Recommended for rural property map base, flood insurance study maps, soil mapping base, area planning and mosaics.

SCALE OF PHOTOGRAPHY: 1″ = 200′

A good scale of photography for planning and zoning base maps, topographic mapping containing 4′ or 5′ contours and city mosaics.



SCALE OF PHOTOGRAPHY: 1″ = 100′

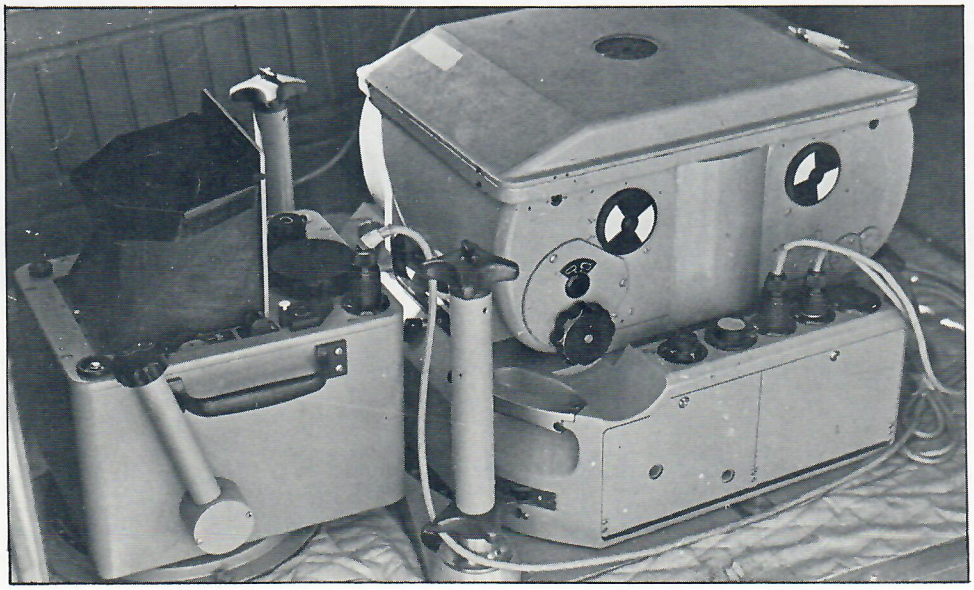
Detailed photography for alignment sheets, topographic mapping containing 1′ or 2′ contours, urban property map base, subdivision planning and property inventories.

AERIAL PHOTOGRAPHY

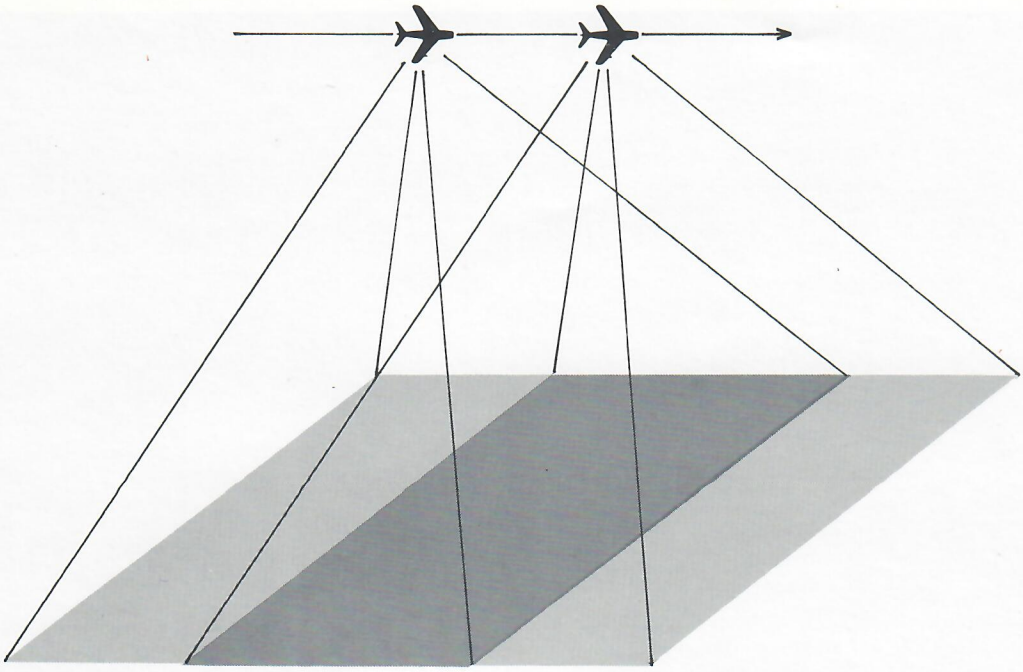
Aerial photography is the first critical step to accurate mapping. Taking aerial photography involves more than merely flying over an area and "taking pictures." Detailed flight maps are drawn showing each flight line necessary to cover the project. Sidwell pilots then fly down each of these lines while maintaining a predetermined, constant altitude, heading and speed. The effects of wind and turbulance must be controlled to maintain level flight and minimize photographic errors which can be produced by the tip and tilt of the aircraft.

Weather plays an important role in aerial photography. High winds, haze and cloud cover can produce poor image quality and unacceptable photography. In addition, tree and snow cover can obscure ground features making mapping and interpretation difficult if not impossible.

Specially equipped aircraft are used for Sidwell photo missions. They provide a stable photographic platform and combine mobility with economy of operation.



All Sidwell mapping projects begin with precision aerial photography. Therefore, to guarantee the quality of the aerial film, we utilize the best precision cameras available. A choice of focal lengths assures the right photography for any requirement.



OVERLAP

To obtain "stereo coverage," aerial photography must be taken with each photograph overlapping the preceding one by a specific amount, usually 60%. This is called forward overlap.

This overlap area between two successive photos in the same flight line is called the "model area" or "stereo model" since this area can be viewed in three dimensions.

This area also represents the useable portion of the photographs for drawing topographic or other maps in a stereo plotting instrument.

The overlap between photos of two or more adjacent, parallel flight lines is called sidelap.

COVERAGE

NEGATIVE SCALE	AREA COVERED BY 9″ x 9″ NEGATIVE ACRES	SQUARE MILES	FLIGHT ALTITUDE: 6″ FOCAL LENGTH
1″ = 800′	1190.1	1.86	4,800′
1″ = 400′	297.5	0.46	2,400′
1″ = 200′	74.4	0.12	1,200′
1″ = 100′	18.6	0.03	600′

GLOSSARY

Cameras:	Normal Angle—Camera with a 12″ focal length lens and lens angle of 45°. Wide Angle—Camera with 6″ focal length lens and a lens angle of 90°. Super Wide Angle—Camera with a 3½″ focal length lens and a 120° lens angle.
Contact Print:	A 9″ x 9″ paper print made directly from the original aerial negative.
Crab:	The angle formed between the actual direction of flight and the flight line.
Deciduous:	Those trees and shrubs which shed their leaves in the fall.
Enlargement:	A blowup of the original negative printed on photographic film, mylar, paper or other material.
Five-time Enlargement:	A five-diameter or five-time enlargement is the recommended maximum and would result in one inch on the negative becoming five inches on the final print.
Fiducial Marks:	Index marks in the camera which are imaged on every negative.
Flight Altitude:	The flying height above the ground expressed in feet.
Flight Line:	A line drawn on a map representing the intended path of the aircraft.
Mosaic:	An assembly of rectified aerial photographs trimmed and matched so as to produce a continuous photographic image.
Negative:	Developed film showing reversed light and dark tones. Usually 9″ x 9″ size for aerial negatives.
Orthophoto:	A photograph on mylar or paper that has been corrected for distortions due to tip, tilt and relief.
Overlap:	The amount one photograph covers the same area covered by another. Usually referred to as forward overlap between two successive photos in the same flight line and sidelap between two photos in adjacent flight lines.
Photogrammetry:	The science of obtaining reliable measurements by means of photography.
Photo Index:	An assembly of untrimmed aerial photographs matched together to show the location of each photo within the flight.
Photo Scale:	The size relationship between a distance on the ground and the same distance measured on a photograph. Commonly expressed in feet/inch, e.g., 1″=100′ or one inch on the photo equals 100 feet on the ground. Can also be expressed as a representative fraction, 1:1200, or 1″ on the photo equals 1200″ (100′) on the ground.
Rectification:	The process of removing photographic distortions caused by tip and tilt to produce a "corrected" photo image.
Stereo Coverage:	Photography flown with sufficient forward overlap (usually 60%) so that two successive photos can be viewed in 3-D with a hand viewer or in a stereo plotter.
Stereo Model:	The overlap area (usually 60%) between two successive aerial photos which can be viewed in 3-D.
Tilt:	The photographic distortion resulting from the airplane's deviation from level flight in a wing-up, wing-down manner.
Tip:	The photographic distortion resulting from the airplane's deviation from level flight in a nose-down, nose-up manner.

FOR FURTHER INFORMATION CONTACT:

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