



CLERMONT COUNTY ENGINEER'S OFFICE

"Improving your commute"

Patrick J. Manger, P.E.-P.S.
Clermont County Engineer

To: Holder of Monument Notebook

This notebook of established monuments is the result of work performed by the staff of the Clermont County Engineer's Office. This work was completed under the direction of Craig A. Risner, P.S. This information will be an aide in reestablishing boundaries for future generations. All holders of this notebook will be established in one of our databases and as such will be included in all updates. Monument densification in Clermont County is considered 90% complete and will be periodically updated to repair, reset and increase the density of the system.

Your use of this information and subsequent communication with our staff will be an important ingredient for our updates. As we all are aware some of the monuments will become either damaged or destroyed. Whenever you discover a damaged or missing monument we request that you drop us a written note in order that we can keep our system current and allow us to reset destroyed monuments.

Sincerely,

Patrick J. Manger, P.E., P.S.
Clermont County Engineer



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INTRODUCTION

General

This manual is published by the Clermont County Engineers Office. It is prepared to allow convenient access to geodetic control monument information within Clermont County to surveying and engineering professionals. This monument network is the control for the Clermont County Geographic Information System (GIS).

Methodology

The horizontal and vertical control surveys were completed using Trimble Navigation 4000SSE and 4000SSI dual frequency receivers in fast static mode. The receivers collected data from the GPS, a constellation of satellites developed by the Department of Defense to aid in determining the precise positioning for defense and national security purposes.

Clermont County Engineer's Office personnel performed all field reconnaissance and selected sites that were suitable for the location of GPS stations along with sufficient spacing to support photogrammetric control requirements.

GPS observations were performed according to the accuracy standards stated in *Geometric Geodetic Accuracy Standards and Specifications for Using Relative Positioning Techniques*, Version 5, of August 1, 1989, published by the Federal Geodetic Control Committee (FGCC).



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Accuracy Standards

This survey met the following accuracy standards, in accordance with the FGCC's specifications for first order GPS surveying: For horizontal surveying, the standards require minimum geometric accuracy of one part per 100,000. As stated above, these specifications are listed in *Geometric Geodetic Accuracy Standards and Specifications for Using Relative Positioning Techniques*, Version 5, of August 1, 1989, published by the Federal Geodetic Control Committee (FGCC).

Azimuths

Azimuths contained in this manual are grid bearings. Accuracy of these bearings is +/- 5 seconds. The convergence angle has been included for conversion from the grid bearing to the geodetic bearing.

Datum Information

All references to NAD 83 shall mean the Ohio State Plane Coordinate System, South Zone, NAD 1983 (1986). This datum is a Lambert Conformal Conic projection of the North American Datum of 1983. The origin of coordinates is at the intersection of West 82°30'00" and North 38°00'00". This origin is given the coordinates $x = 600,000$ meters and $y = 0$ meters.

1 meter = 3937/1200 U.S. Survey feet

All references to NAVD 1988 shall mean the North American Vertical Datum of 1988.

Network Control

Latitude and Longitude were constrained for NGS First Order stations **Craig, Sprague, Wittmer** and **Herring**.



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Elevations were constrained for two NGS first Order benchmarks **A 341, T39**, and one second Order benchmarks **RV 154**.

Station **CAGIS 8056** (first order horizontal & second order vertical) was held in three dimensions.

Recovery Information

Please contact the Clermont County Engineers Office, Surveying Department (513) 732-8857 if damage is noted to these or any other surveying monuments located within Clermont County. Please provide the monument location, agency, station name/number, and a brief explanation (not found, damaged, destroyed, etc.).

Much time and effort has been spent preparing this manual to ensure its accuracy. However, it is realized that errors and inconsistencies may be present in this manual. Please bring any such errors or omissions to the Clermont County Engineer's Office, 2381 Clermont Center Drive, Batavia, Ohio 45103; Telephone (513) 732-8857; Fax (513) 732-8875). Your cooperation is appreciated.

Registration

While this manual provides monument coverage for most of Clermont County, the process is continuing. New monumentation is scheduled as well as maintaining/resetting existing stations. Updates will be mailed on an as needed basis to all parties who complete the registration form.

Owners of this manual that have not previously done so should fill out and return the Registration Form contained in this manual. Updates will be mailed only to those registered in this manner.



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Additional Copies

Additional copies of this manual are available from the Clermont County Engineers Office, 2381 Clermont Center Drive, Batavia, Ohio 45103. A fee will be charged to cover the cost of reproduction.

Registration Form

Date: _____

Name: _____

Firm: _____

Address: _____

Telephone: _____

Fax: _____

Email: _____

Return to: Clermont County Engineer
Attn: Survey Dept.
2381 Clermont Center Drive
Batavia, Ohio 45103



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Additional Notes

Requirements for Ties to County Monuments:

Clermont County Transfer and Conveyance Standards, Section 5, Part K.

- a. All surveys performed in Clermont County for new Subdivision Plats requiring the construction of new public streets, private streets or creation of new easements of access shall be required to tie into a minimum of two (2) County Survey Monuments:
- b. All new survey plats of two acres or more for the fee transfer of land shall be required to tie into a minimum of two (2) County Survey Monuments provided a County survey monument is located within a ½ mile radius of the proposed survey.
- c. All new surveys, which encompass two or more counties, shall be required to tie into a minimum of two (2) County Line Survey Monuments (if the County Line Survey Monuments are available).
- d. Transfers between adjoining property owners. Pursuant to section 711.001 Subsection (B)(1) of the Ohio Revised code will be exempt from ties to County Survey Monuments.

The ½ mile radius limits will be determined by the Clermont County Tax Map Office, located on the First Floor of the Clermont County Administration Building, 101 Main St. Batavia, Ohio.



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If the new survey is required to tie to a County Survey Monument but the monument has been found to be damaged or destroyed please make an appropriate note on the survey plat and contact the County Engineer's Office.

Current list of damaged or destroyed monuments:

BA12A, 28, PI46, UN48, UN48A, 53A, 60, 168, 123A, 128A, 134A, 151A, 155A, 175A, 224, 224A, 225A, 231A, 358A, 401A

Survey monuments named 800 – 824, and survey monuments contained in the additional monument PDF will be accepted as ties to County Survey Monuments but are not considered a part of the First Order Network and are not considered in the ½ mile radius limit.

Acceptable ties to the Clermont County GPS network (NAD83) include:

- a. Distance and bearing reference to two monuments.
- b. State plane coordinates on two points of the survey and Ohio State Plane, South Zone, NAD83 as the basis of bearings.

The County Engineers Office encourages the use of Ohio State Plane Coordinates whenever possible to assist the Clermont County Tax Map Office.