



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 23-18

November 15, 2023
Rev. March 12, 2024

TO: All Design, Operations, and District Personnel, and Consultants

FROM: /s/ Eric N. Banschbach
Eric N. Banschbach
Manager, Land and Aerial Survey Office
Highway Engineering Division

SUBJECT: Survey Requirements

REVISES: *Indiana Design Manual Chapter 26*

EFFECTIVE: Design Survey on or after November 15, 2023

The memo has been revised to clarify that surveys should be submitted in the current version of ORD, as listed on the INDOT [CAD Support webpage](#) – CAD Links – [Current Versions](#). Surveys should not be submitted in a version newer than that shown. [Chapter 26](#) has been revised accordingly.

INDOT has adopted Bentley's OpenRoads Designer (ORD) as its standard design and survey software. The minimum survey file deliverables have been revised to coincide with the integration of ORD. The Indiana Geospatial Coordinate System (InGCS) for individual counties has replaced the use of a local ground coordinate system. All survey items must be electronic and submitted to ProjectWise under the appropriate Des. number.

IDM [Chapter 26](#) has been revised to reflect these changes. The chapter has been reorganized for clarity. A summary of revisions is included on the next page.

For questions related to this design memo, please contact the Land and Aerial Survey Office, Eric Banschbach, at ebanschbach@indot.in.gov.

Old IDM Section	New IDM Section	Notes
26-1.0 Guidelines and Procedures	26-1.0 – Software	Reorganized section to include guidance for INDOT’s current software requirements, use of previous software, and requirements for surveys developed for a design consultant’s CADD system. OpenRoads Designer is the current software.
26-1.01 – InRoads Format	(Deleted)	Current software information moved to 26-1.0. File naming convention information moved to 26-2.02
26-1.01(01) – Minimum File Requirements	(Deleted)	File requirements moved to 26-2.03 – Ground Survey File Requirements.
26-1.01(02) – Additional Geo-Coordination Files	(Deleted)	Additional geo-coordination files are no longer required. Geo-coordination is inherent in creating the 2D and 3D seed files and noted as such in the Ground Survey File Requirements section.
26-1.01(03) – Aerial-Survey File Requirements	(Deleted)	Aerial survey requirements moved to 26-2.04 – Aerial/LiDAR Survey File Requirements
26-1.02 – Other Formats	(Deleted)	Use of other software moved to 26-1.0 - Software
26-2.0 – Other Survey Information	26-2.0 – Survey Deliverables	Reorganized section to include guidance for submitting survey data, file naming conventions, ground survey file requirements, aerial/LiDAR survey files requirements, and additional survey information.
(None)	26-2.01 – Submitting Survey Data	All documents will be in electronic format. Surveys should be submitted to ProjectWise under the lead Des. number instead of to ERMS
(None)	26-2.02 – File Naming Convention	Information previously in 26-1.01. File naming convention is unchanged from previous guidance.
(None)	26-2.03 – Ground Survey File Requirements	Information previously in 26-1.01(01). Revised Plans Production Guide references to reflect new INDOTWise ORD Plans Production Guide sections. Deleted the following <ul style="list-style-type: none"> • Survey Alignment.alg. Alignments and associated descriptions and stationing are in the Survey Alignment DGN • Existing Terrain.dtm. Terrains are included Survey Fieldbook DGN • Annotation Surface.dtm. The workflow for annotation is now associated with the Survey Fieldbook DGN

Old IDM Section	New IDM Section	Notes
(None)	26-2.04 – Aerial/LiDAR Survey File Requirements	Information previously in 26-1.01(03). Added LiDAR and point cloud submission requirements.
(None)	26-2.05 – Additional Survey Information	<p>Information previously in 26-2.0 – Other Survey Information. Revised to reflect electronic deliverable requirements. Moved LCRS plat requirements to a dedicated section, 26-3.0.</p> <p>Added the following</p> <ul style="list-style-type: none"> • Digital Photographs • Related section corner references obtained from the County Surveyors Offices added to Recorded Plat requirements <p>Deleted the following</p> <ul style="list-style-type: none"> • Survey Envelope Contents and Figure 26-2A Survey Envelope Label • Miscellaneous Envelope and Figures 26-2B Miscellaneous Envelope and 26-2C Section Corner Reference Cards • Electronic Data Submittal and Figure 26-2E. Submittal information now in 26-2.01.
(None)	26-3.0 – Location Control Route Survey Plat, Figure 26-3A LCRS Plat Example	<p>Information previously in 26-2.0, item 6. Grouped and reordered information for clarity. Figure 26-2D renumbered to 26-3A.</p> <p>Added the following</p> <ul style="list-style-type: none"> • Monument Location. INDOT now requires use of InGCS (Indiana Geospatial Coordinate System) for individual counties instead of an assumed ground coordinate system. • All monuments and the point number shown on the LCRS plat are required to be shown in both InGCS and State Plane Coordinates (SPC). • Bearings. INDOT now requires the basis of bearings to be on InGCS grid bearings. InGCS coordinates are required for survey alignment data, topography, PLSS corners, and basis for all distances shown on the LCRS plat. <p>Deleted information related to translating SPC to local ground coordinates.</p>