2024 Virtual Workshop
16 Sessions

A Virtual Workshop series featuring Carlson Software training for surveying, surface modeling, construction takeoff and civil design.

The 2024 Virtual Workshops bring together practical Carlson Software demonstrations for surveyors, civil engineers and construction professionals. Explore workflows for Field-to-Finish, GIS and point cloud processing, least squares adjustment, surface modeling, quantity takeoff, roadway design and hydrology. Learn how to automate drafting, check survey and design data, and produce more consistent project deliverables with Carlson tools.

Key Topics:

- Carlson setup, project organization, Civil 3D and LandXML imports, deed entry and lot layout
- Carlson GIS data imports, imagery, feature attributes and field collection
- Carlson Point Cloud and Photo Capture workflows for drone imagery, LiDAR filtering and feature extraction
- Carlson Field-to-Finish code tables, automated linework, symbols and annotations
- Carlson Survey SNET least squares adjustment, residuals, blunder detection and accuracy checks

- Carlson surface modeling, breaklines, 3D polylines, pad grading and cut/fill analysis
- Carlson Takeoff, CADnet and Geotech workflows for PDF data, subgrades, topsoil and material quantities
- Carlson Civil, Hydrology and Precision 3D Hydro workflows for RoadNet, culverts, drainage and utility networks

Sessions In This Series:

- 1-1: Overview of Carlson Software, presented by Jennifer DiBona
- 1-2: Overview of Carlson Survey and GIS, presenter by Doug Aaberg
- 1-3: Overview of Carlson Point Cloud and Carlson Photo Capture, presented by Doug Aaberg
- 1-4: Overview of Carlson Civil and Hydrology, presented by Mark Long
- 2-1: Overview of Carlson Precision 3D Topo and Hydrology, presented by Bruce Carlson
- 2-2: Continuation of Overview of Carlson Precision 3D Topo and Hydrology, presented by Bruce Carlson
- 2-3: Overview of Carlson Takeoff Suite modules, presented by Jennifer DiBona
- 2-4: Continuation of Overview of Carlson Takeoff Suite modules, presented by Jennifer DiBona
- 3-1: Advanced Carlson Survey and Field to Finish, presented by Doug Aaberg
- 3-2: Continuation of Advanced Carlson Survey and Field to Finish, presented by Doug Aaberg
- 3-3: Adjusting YOUR Datasets with SurvNet, presented by Donnie Stallings
- 3-4: Continuation of Adjusting YOUR Datasets with SurvNet, presented by Donnie Stallings
- 4-1: Surface Modeling in Carlson Software, presented by Jennifer DiBona

- 4-2: Continuation of Surface Modeling, presented by Jennifer DiBona
- 4-3: Advanced Design with Carlson Civil and Hydrology, presented by Mark Long
- 4-4: Continuation of Advanced Design with Carlson Civil and Hydrology, presented by Mark Long

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These sessions were presented by Jennifer DiBona, Doug Aaberg, Mark Long, Bruce Carlson, or Donnie Stallings**Overview of Carlson Software, presented by Jennifer DiBona**

This session kicked off the 2024 Virtual Workshops hosted by That CAD Girl, providing an introductory overview of Carlson Software and its CAD environments. The training covered setup, configuration, data management, and practical demonstrations of key Carlson tools for survey, civil, and land development workflows.**Overview of Carlson Survey and GIS, presenter by Doug Aaberg**

This virtual workshop, led by Doug Aaberg of Carlson Software, provided a detailed walkthrough of the Carlson GIS module, demonstrating how to import, manage, and utilize public GIS data within Carlson Survey and Civil. The session also covered

creating GIS feature files, collecting field attributes, and integrating imagery and LIDAR data to enhance survey projects.**Overview of Carlson Point Cloud and Carlson Photo Capture, presented by Doug Aaberg**

This Carlson Software virtual workshop focused on using Carlson Point Cloud and Photo Capture tools to process drone and LiDAR data for surveying and mapping. Doug demonstrated workflows for creating, cleaning, classifying, and extracting data from point clouds to produce accurate surfaces, contours, and CAD deliverables.**Overview of Carlson Civil and Hydrology, presented by Mark Long**

This Carlson Software virtual workshop, led by Mark Long, provided an in-depth overview of civil design and hydrology

workflows using Carlson Civil and Hydrology modules. The session covered surface modeling, roadway design, storm drainage, and sanitary sewer network creation, highlighting practical tools and new features in the 2025 release.**Overview of Carlson Precision 3D Topo and Hydrology, presented by Bruce Carlson**

This session from the 2024 Virtual Workshops features Bruce Carlson demonstrating advanced hydrology workflows using Carlson Precision 3D and IntelliCAD. The presentation covers terrain modeling, watershed analysis, culvert design, and dynamic CAD integration for civil engineering and land development professionals.**Continuation of Overview of Carlson Precision 3D Topo and Hydrology, presented by Bruce Carlson**

This virtual workshop demonstrates Carlson Software’s Precision 3D Hydrology and RoadNet tools, showing how to design, analyze, and visualize stormwater systems within a CAD-integrated environment. The session covers intelligent TIN creation, watershed modeling, gutter spread analysis, and report generation for KYTC-compliant submittals.**Overview of Carlson Takeoff Suite modules, presented by Jennifer DiBona**

This training session provides an in-depth walkthrough of Carlson Civil Suite’s RoadNet, Hydrology, and CADnet modules, demonstrating practical workflows for road design, storm sewer layout, and converting PDF plans into CAD data. The instructor showcases real-world examples, emphasizing dynamic design updates, data management, and interoperability with Civil 3D and

LandXML standards.**Continuation of Overview of Carlson Takeoff Suite modules, presented by Jennifer DiBona**

This advanced Carlson Software workshop covered 2D-to-3D conversion tools, drawing cleanup, and CADnet functions for converting and merging raster and vector PDFs. Attendees learned practical workflows for elevating contours, creating 3D polylines, digitizing plans, and integrating geotechnical data into construction modeling.**Advanced Carlson Survey and Field to Finish, presented by Doug Aaberg**

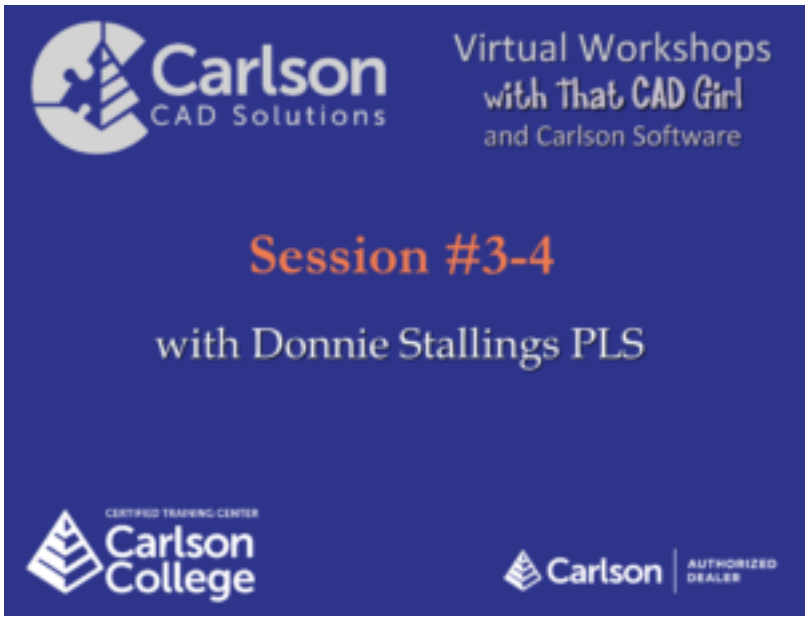
This training session provides an in-depth walkthrough of Carlson Civil Suite’s RoadNet, Hydrology, and CADnet modules, demonstrating practical workflows for road design, storm sewer

layout, and converting PDF plans into CAD data. The instructor showcases real-world examples, emphasizing dynamic design updates, data management, and interoperability with Civil 3D and LandXML standards.**Continuation of Advanced Carlson Survey and Field to Finish, presented by Doug Aaberg**

This advanced Carlson Software workshop, led by Doug Aaberg, explored powerful Field to Finish tools and workflows for surveyors, including annotation automation, tree and pipe features, and special coding techniques. The session offered practical demonstrations and Q&A to help users streamline drafting, labeling, and data collection processes.**Adjusting YOUR Datasets with SurvNet, presented by Donnie Stallings**

This virtual Carlson Survey workshop, led by Donnie Stallings and hosted by That CAD Girl, introduced surveyors to the principles of least-squares adjustment and the use of Carlson Survey's SNET module. The session covered theory, workflow setup, and practical examples combining total-station and GPS data.**Continuation of Adjusting YOUR Datasets with SurvNet, presented by Donnie Stallings**

This session from That CAD Girl's 2024 Virtual Workshop series features Donnie's in-depth training on Carlson's Least Squares Adjustment tools for survey data analysis. The workshop covers interpreting reports, identifying blunders, understanding statistical tests, and applying best practices for boundary and DOT survey adjustments.**Surface Modeling in Carlson Software, presented by Jennifer DiBona**



This session from *That CAD Girl's 2024 Virtual Workshop Series* introduces participants to surface modeling and grading workflows in Carlson Software. The training covers building existing ground surfaces, using breaklines, creating 3D polylines, merging surfaces, and integrating GIS imagery for visualization.**Continuation of Surface Modeling, presented by Jennifer DiBona**

This virtual workshop continues the 2024 series on Carlson Software, focusing on surface modeling, pad grading, and 3D polyline workflows. Participants learn practical grading techniques, daylight line creation, and surface triangulation for real-world site design projects.**Advanced Design with Carlson Civil and Hydrology, presented by Mark Long**

In this advanced Carlson Software virtual workshop, Mark Long demonstrates time-saving techniques for civil and hydrology design using Carlson Civil and Hydrology modules. The session focuses on efficient subdivision layout, road network design, templates, super elevation, and grading transitions to enhance productivity and precision in engineering workflows.**Continuation of Advanced Design with Carlson Civil and Hydrology, presented by Mark Long**

This advanced Carlson Software virtual workshop, led by Mark Long, demonstrates integrated civil and hydrology design workflows using Carlson Hydrology, Sewer Network, and Precision 3D Hydro. Participants learn how to model surfaces, design storm and sanitary systems, and visualize drainage networks in 3D for

more efficient, accurate eng

Fast Track to Carlson Civil Suite-CADnet
6 Sessions

A series of virtual classrooms introducing Carlson Civil Suite and CADnet workflows for survey drafting, surface modeling, subdivision and road design and PDF

data preparation.

Fast Track to Carlson Civil Suite & CADnet connects software setup and GIS data with practical survey drafting and civil design workflows. Learn to manage Carlson point files, process deeds, automate Field-to-Finish and create surfaces, lot layouts and grading models. The sessions also demonstrate Carlson centerlines, profiles and RoadNet design, introduce storm network drafting and show how CADnet handles raster and vector PDFs for drawing preparation.

Key Topics:

- Carlson configuration, drawing setup, object linking, project folders and saved settings
- Carlson GIS shapefile imports, attribute queries, labels, imagery and Google Earth exports
- Carlson point import and display, deed processing, legal descriptions and survey annotation
- Carlson Field-to-Finish codes, layers, symbols, breaklines and non-surface points
- Carlson surface boundaries, triangulation, contours, 3D inspection and cut/fill comparisons
- Carlson lot and deed files, area labels, line and curve tables and LotNet subdivision design
- Carlson 2D to 3D polylines, building pads, slope-based points and grading offsets
- Carlson centerlines, profiles and RoadNet templates, intersections, cul-de-sacs and surface outputs
- Carlson Hydrology storm network drafting, structures, pipe settings and profile display
- Carlson CADnet raster and vector PDF imports, scaling, image merging and linework conversion

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ve been AI-generated and may contain errors.

*These sessions were presented by Jennifer DiBona.*This introductory Fast Track training session guides users through the fundamentals of Carlson Civil Suite 2024 and CADnet, including software setup, configuration, interface navigation, and GIS data handling. Participants learn best practices for managing projects, defaults, and data files while exploring key differences between Carlson versions 2023 and 2024.This session

of the Fast Track Carlson Civil Suite & CADnet training provides a detailed walkthrough of GIS data handling, surface modeling, and field-to-finish workflows in Carlson 2023–2024. Participants learned how to import, label, and export GIS data, overlay imagery, create surfaces, and generate legal descriptions and contours.This session of the Fast Track Carlson Civil Suite & CADnet training focused on advanced survey and drafting workflows in Carlson Survey and Civil, including Field-to-Finish automation, surface modeling, labeling, and subdivision lot management. Participants learned how to streamline

data processing from field collection through surface creation and annotation for professional deliverables.This virtual classroom session introduces MicroSurvey CAD's field-to-finish workflows, focusing on AutoMap configuration, point and linework customization, and data import from FieldGenius and Leica Captivate. Instructor James Johnston demonstrates practical setup, symbol scaling, substitution codes, and project management features for survey and construction professionals.This training session from *That CAD Girl's Fast Trac k Carlson Civil Suite & C ADnet* series covers creating and editing centerlines, profiles, and road networks using Carlson Civil and Survey. It demonstrates manual and automated design workflows, including RoadNet, profile editing, and template building for

roadway design.This training session provides an in-depth walkthrough of Carlson Civil Suite's RoadNet, Hydrology, and CADnet modules, demonstrating practical workflows for road design, storm sewer layout, and converting PDF plans into CAD data. The instructor showcases real-world examples, emphasizing dynamic design updates, data management, and interoperability with Civil 3D and LandXML standards.

Fast Track to Carlson Takeoff

6 sessions

A Virtual Workshop covering Carlson Takeoff workflows for drawing cleanup, plan digitizing, surface modeling and construction quantity estimates.

Fast Track to Carlson Takeoff demonstrates how to turn supplied CAD drawings, PDFs and scanned plans into working drawings for quantity takeoffs and surface models. Learn to organize layers, assign elevations and define materials, subgrades and topsoil adjustments before comparing existing and proposed surfaces. The training also covers Carlson surface inspection, model export for machine control and introductory Geotech and Trench workflows for subsurface and utility quantities.

- Carlson Takeoff, Takeoff Suite and Civil SiteNet menu and workflow comparisons
- Carlson layer targets, material definitions, subgrade depths and TRG settings files
- Carlson existing and design surfaces, cut/fill volumes, topsoil stripping and replacement
- Carlson Surface Inspector, quick profiles, 3D review and LandXML and machine control exports
- Carlson drawing cleanup, Civil 3D imports, external references, blocks, layers and duplicate entities
- Carlson elevation tools for contours, spot elevations, building pads and 2D to 3D polylines
- Carlson CADnet raster and vector PDFs, image alignment, scaling and imported linework cleanup

- Carlson heads-up digitizing of contours, material boundaries, spot elevations and site features
- Carlson Geotech drill holes and strata and Trench networks, bedding templates and quantities

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*These sessions were presented by Jennifer DiBona.*This introductory FastTrack Carlson Takeoff training session explains the structure of the six-part course, the GoToWebinar controls, and the differences among Carlson Takeoff Suite, Construction, Civil, CAD Net, Trench, and GeoTech. Participants learn how to prepare clean working drawings, organize layers, and build surfaces for quantity takeoffs and earthwork modeling.This webinar session from *That CAD Girl's Fast Track Carlson Takeoff* series demonstrates advanced takeoff and modeling workflows in Carlson Takeoff Suite and Carlson Civil. It covers material quantity reporting, topsoil removal and replacement, surface inspection, XML export for machine control, and 2D-to-3D polyline elevation

techniques.This FastTrack Carlson Takeoff training session focuses on creating, cleaning, and preparing a working drawing for takeoffs and surface modeling using Carlson Software. The instructor demonstrates best practices for managing CAD data, cleaning imported files, handling Civil 3D and LandXML data, and preparing accurate 3D models for construction and machine control.This session is the second day of the FastTrack Carlson Takeoff training series led by That CAD Girl. It covers advanced CAD cleanup, elevation management, geotechnical data entry, and coordinate alignment workflows in Carlson

Takeoff.This training session provides an in-depth walkthrough of Carlson Takeoff's Trench and CADNet modules, demonstrating how to input trench networks, create templates, calculate quantities, and import or process PDFs for takeoff and modeling. The instructor also covers practical workflows for converting raster and vector data, merging images, and extracting linework from PDFs for construction

modeling.This recorded training session covers advanced techniques in Carlson Takeoff, focusing on digitizing, scaling, and building accurate 3D surfaces from 2D plans. The instructor demonstrates practical workflows for importing PDFs, setting control points, creating layers, and elevating linework for construction

takeoff and modeling.

Standardizing Layers, Linetypes & Dimensions

A Virtual Webinar Using Carlson Software – Learn to Standardize CAD Drawings

This webinar by That CAD Girl covers how to standardize CAD drawings using the National CAD Standard (NCS) within Carlson Software and AutoCAD. It explains best practices for managing layers, linetypes and dimension styles to ensure consistency across civil and survey projects.

Key Topics:

- National CAD Standard (NCS) layer naming and structure
- Carlson template and layer library management
- Linetype scaling, polyline generation and plotting behavior
- Dimension style creation and scaling for different drawing types

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This session was presented by Jennifer DiBona on 05/07/2024.

Fast Track to Carlson Survey 6 Sessions

A Virtual Classroom covering Carlson Survey workflows for raw data processing, survey drafting, Field-to-Finish, boundary work and surface modeling.

Fast Track to Carlson Survey follows survey data from raw file review and traverse checks through organized points, automated drafting and boundary documentation. Learn to configure Carlson settings and templates, manage CRD files and annotation and use Field-to-Finish to create consistent symbols and linework. The sessions also demonstrate Carlson deed entry and correlation,

lot management and subdivision layout, surface creation with breaklines and profile drafting.

Key Topics:

- Carlson raw data review, setup and rod height corrections, checkpoints and compass rule adjustment
- Carlson combined GNSS and conventional survey data and least squares adjustment concepts
- Carlson configuration, project folders, DWT templates, saved settings and CRD point management
- Carlson annotation scalers, Auto Annotate, line and curve tables and shared drafting standards
- Carlson Field-to-Finish code tables, attribute layers, default codes, descriptions, legends and linework
- Carlson deed entry, closure checks, deed correlation, coordinate translation and legal descriptions
- Carlson lot files, area labels, setbacks and LotNet subdivision layout and editing
- Carlson surface boundaries, non-surface points, breaklines, triangulation, contours and TIN merging
- Carlson centerlines and existing ground, road, sewer and pipe crossing profiles

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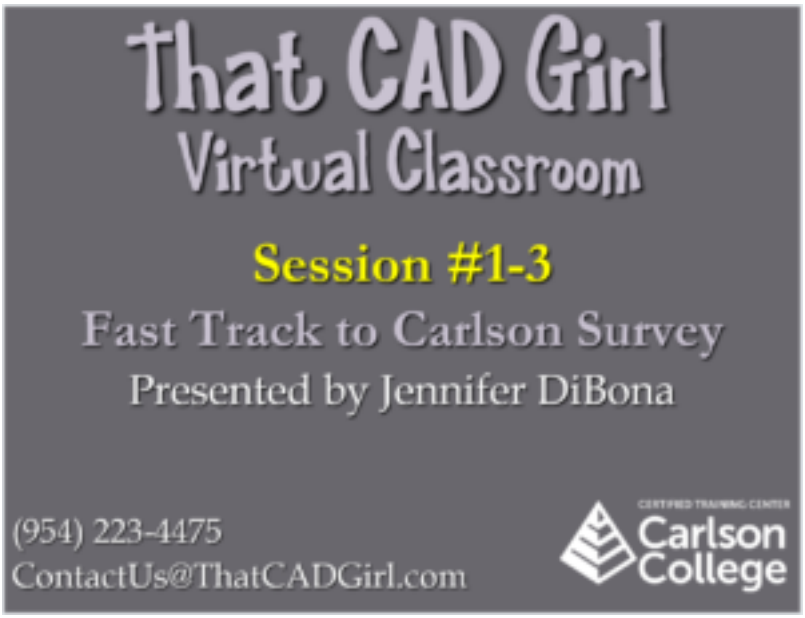
These sessions were presented by Jennifer DiBona.Data workflow, RW5 file handling, and compass-rule and least-squares

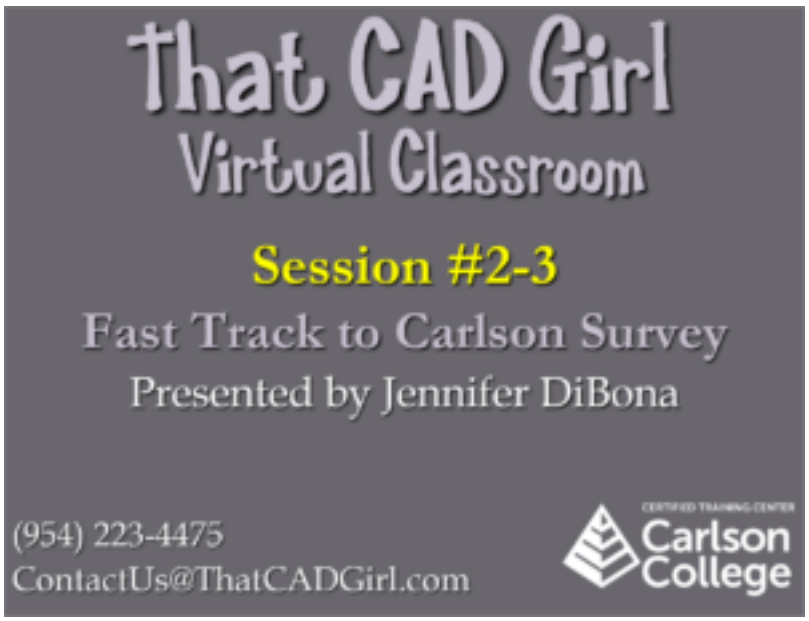
adjustments for field-to-finish survey data. This session from the *Fast Track to Carlson Survey* series provides a detailed walkthrough of configuring Carlson Survey defaults, managing drawings, setting up templates, and handling point data. Participants learn how to optimize their user interface, organize project folders, and prepare templates for efficient field-to-finish workflows.

This Fast Track Carlson Survey training session focused on managing points, annotation settings, and the Field-to-Finish workflow in Carlson Survey. Participants learned how to configure drawing settings, edit coordinate files, and automate linework creation using field

codes.This training session continued the *Fast Track to Carlson Survey* series, focusing on the Field to Finish process within Carlson Survey. Participants learned how to define field codes, manage layers, automate symbol and linework generation, and apply special codes for efficient drafting and surface modeling.This training session from *That CAD Girl's Fast Track to Carlson Survey* series demonstrates advanced Carlson Survey workflows for entering deed descriptions, processing deed files, correlating field and deed data, and automating legal descriptions and lot labeling. The instructor provides live demonstrations of commands, error correction, and annotation



customization to improve survey drafting efficiency. This final Fast Track to Carlson Survey session provided a detailed walkthrough of Carlson Survey's Lot Network, Surface Modeling, and Profile tools. Participants learned how to subdivide land, build and refine surfaces, manage breaklines, and create road and utility profiles using Carlson's survey and civil features.



Using Point Cloud and Public

LIDAR to produce existing terrain

A Virtual Webinar Using Carlson Software – Learn to Create Existing Terrain Models

This webinar, hosted by That CAD Girl and presented by Travis Maxwell, demonstrates how to use Carlson Point Cloud software with publicly available LiDAR data to create accurate existing terrain models. The session covers data acquisition, classification filtering, surface generation and contour refinement techniques for civil and surveying applications.

Key Topics:

- Downloading and managing public LiDAR data (USGS & state s ources)
- Importing LAS/LAZ files into Carlson Point Cloud
- Classifying and filtering ground points
- Creating TIN surfaces and contours
- Managing point density and data reduction

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This session was presented by Travis Maxwell on 07/09/2024.

Tools To Design Stormwater Collection in Steep Terrain

A Virtual Webinar Using Carlson Software – Learn to Design Stormwater Collection

This Carlson Software webinar, led by Travis Maxwell, demonstrates how to use Carlson Hydrology tools to design stormwater collection systems in steep terrain. The session covers practical workflows for modeling swales, culverts and drainage networks efficiently using Storm Network and related Carlson tools.

Key Topics:

- Stormwater design in steep terrain
- Using Carlson Hydrology’s Storm Network for swales and culverts
- Managing drainage areas and slope calculations
- Manning’s equation and flow depth validation
- Stability checks and lining selection for mountain drainage

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This session was presented by Travis Maxwell on 06/27/2024.

Tips & Tricks in Carlson Software

A Virtual Webinar Using Carlson Software – Learn to Improve Productivity Workflows

This Carlson Software webinar, led by Travis, covers advanced troubleshooting and productivity techniques for Carlson and IntelliCAD users. Topics include managing fonts, handling Civil 3D files, using LISP routines and optimizing stormwater design workflows.

Key Topics:

- Managing formatted text and font overrides in IntelliCAD
- Converting and cleaning Civil 3D files for Carlson use
- Using LISP routines for text cleanup
- Low-density stormwater and ditch design techniques
- Productivity and troubleshooting best practices

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This session was presented by Travis Maxwell on 03/29/2024.

Tips & Tricks in Carlson Software

A Virtual Webinar Using Carlson Software – Learn to Improve RoadNet Workflows

This webinar, led by Travis Maxwell, explores advanced tips and tricks in Carlson Software 2025, focusing on RoadNet workflows, Civil 3D file conversion and interface customization. Attendees learn practical methods to streamline grading, surface management and toolbar configuration for more efficient design work.

Key Topics:

- Customizing toolbars and commands in Carlson 2025
- Converting Civil 3D files for use in Carlson
- Managing dense TIN surfaces and reducing file complexity
- RoadNet 2025 features and workflow improvements
- Troubleshooting performance and memory issues

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This session was presented by Travis Maxwell on 09/24/2024.

Tips & Tricks in Carlson Software

A Virtual Webinar Using Carlson Software – Learn to Speed Up Sheet Indexes, Profiles and PDF Linework

This Carlson Software webinar, hosted by That CAD Girl and presented by Travis Maxwell, covered advanced productivity techniques for Carlson CAD users. Topics included automating sheet indexes, importing Civil 3D drawings, creating and fitting profiles and extracting usable data from DOT PDF plans.

Key Topics:

- Automating sheet index creation with block attributes
- Converting and importing Civil 3D drawings into Carlson
- Creating and refining road profiles and centerlines
- Extracting linework and text from DOT PDF plans
- Troubleshooting MLeader background masks and template file behavior

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This session was presented by Travis Maxwell on 08/30/2024.