

That CAD Girl

Dewberry's Dave Palumbo presents 'Choosing and Implementing Carlson'

April 7, 2009

Starting his presentation at the Carlson User Conference by saying "Carlson works for us," Dave Palumbo, PE, Technology Manager for Infrastructure Services at Dewberry, noted that Dewberry, an ENR top 50 design firm was an early adopter of technology as a differentiator. The evaluation and implementation of three competing solutions took Dewberry more than two years. "Patience was of the essence," Palumbo said.

[Read the entire post](#)

Originally posted on **Carlson Connection** by Karen Cummings

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Carlson Software Expands Carlson College™

April 7, 2009

[Carlson Software](#) recently expanded their expert level training program, Carlson College™, and started the Carlson College Training Program. This new program will allow individuals and companies to get training direct from Carlson Software or through the members of the Carlson College Training Program. New members of the Training Program include [Harken-Reidar Inc. of Front Royal, Va.](#); [Carlson Desktop Solutions \(CDS\), based in Austin, Texas](#); [That CAD Girl, located near Raleigh, N.C.](#); and, for C&G products only, Larry Phipps of the Land Surveyor's Workshop in Jefferson, N.C. Membership in the Carlson College Training Program is available to any person or organization that makes a commitment to providing quality training on Carlson Software products.

For more information on the Carlson College Training Program or training, please contact Carlson Software at 800-989-5028, email training@carlsonsw.com or visit

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www.carlsonsw.com/training. Members of the Carlson College Training Program are independent entities from Carlson Software.

[Read the entire Press release here.](#)

Originally posted on **Carlson Connection** by Karen Cummings

How Does Carlson Support Their Users? Ask David Farina

April 7, 2009

I'm going to post a LONG email stream between one of my clients, David Farina, Bruce Carlson and Dave Carlson. You can see the new feature that David requested and Bruce and Dave's responses. David received a "development" version of the new features approximately a week after submitting this request.

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I asked him for a statement describing his experience with Carlson:

Recently I found that the Time of Concentration input boxes were inadequate under the hydrology portion of Carlson Civil Suite so I emailed a description of the problem to them. I was very impressed to get a phone call the same day. They discussed the problem with me and had a revised program update to me in under a week. I've been emailing Autodesk for over a year on problems with Civil 3D and never heard a peep. Needless to say I'm very happy with the customer service I have received from Carlson thus far.

Here is the original question from David Farina on March 4, 2009:

Jennifer,

I was going through a mock project to learn the hydrology part of Carlson and noticed a critical deficiency in Time of Concentration input. The review agencies around here want to see the TR-55 method. First, the TR 55 minimum sheet flow needs to be 100' instead of 300'. They recently

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changed it per the TR-55 Web site. Second, I don't think I've ever had a project where you didn't have to split one of these flow types into 2 or more mannings roughness areas.

For example: a flow path that starts on dense grass for 50' then passes over asphalt for 75' and back to grass for 200' would need to be calculated as follows:

Sheet flow 50' Grass -> Sheet flow 50' Asphalt -> Shallow Concentrated flow 25' Paved -> Shallow Concentrated flow 200' UnPaved.

But as you can see the Carlson input only allows for one entry per flow type.

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Time of Concentration (TR-55)

Select Flow Line From Screen

Sheet Flow | Shallow Concentrated Flow | Channel Flow

Manning's n: 0.240

Two-yr 24-hr Rainfall: 3.59 in

Flow Length: 100.00 ft

Land Slope: 2.00 %

Time of Concentration: 0.225 hr
13.473 min

Total Time of Concentration: 0.252 hrs, 15.1 mins

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Time of Concentration (TR-55)

Select Flow Line From Screen

Sheet Flow | **Shallow Concentrated Flow** | Channel Flow

Surface Description

☐ Paved ☒ Unpaved

Flow Length: 225.00 ft

Land Slope: 2.00 %

Time of Concentration: 0.027 hr
1.643 min

Total Time of Concentration: 0.252 hrs, 15.1 mins

Calculate Report Clear Exit Help

Below is the Intellisolve version: Notice the A, B C

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TR-55 Tc Worksheet

	A	B	C
Sheet Flow			
Manning's n-value	0.24	0.011	0.011
Flow length (ft, 300 max.)	50	50	
Two-yr 24-hr rain (in)	3.59	3.59	
Land slope (%)	2	2	
Sheet flow time	7.74	0.66	0.00
Shallow Concentrated Flow			
Flow length (ft)	25	200	
Watercourse slope (%)	2	2	
Surface description	Paved	Unpave	Paved
Shallow conc. flow time	0.14	1.46	0.00
Channel Flow			
X-sectional area (sqft)			
Wetted perimeter (ft)			
Channel slope (%)			
Manning's n-value	0.015	0.015	0.015
Flow length (ft)			
Channel flow time	0.00	0.00	0.00
Sheet flow time = 8.40 min			
Shallow conc. flow time = 1.61 min			
Channel flow time = 0.00 min			
Time of conc., Tc = 10.0 min			
Compute Print... Help Exit			

There is a 5.1 minute difference in TC results which results in a 2 CFS difference in the 100yr example below:

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Runoff Hydrograph - SCS Method

Method: **SCS Triangular**

SubBasin
Area Units
☐ Sq Ft ☐ Sq Miles ☒ Acres

Drainage Area: 1.8498968

Runoff Curve Number: 83.00

Time of Concentration: 0.17 hr

Base Flow: 0.00 cfs

Antecedent Moisture Condition
☐ 1 ☐ 2 ☒ 3

Rainfall
Storm Type: **II - 24hr**

Return Period: **100 Year**

Rainfall Depth: 9.43 in

Time Increment: 0.03 hr

Peak Attenuation Factor: 484

Calculation
Peak Discharge: 18.46 cfs
Time to Peak: 12.07 hr
Volume: 1.29 acre-ft

Runoff Hydrograph - SCS Method

Method: **SCS Triangular**

SubBasin
Area Units
☐ Sq Ft ☐ Sq Miles ☒ Acres

Drainage Area: 1.8498968

Runoff Curve Number: 83.00

Time of Concentration: 0.25 hr

Base Flow: 0.00 cfs

Antecedent Moisture Condition
☐ 1 ☐ 2 ☒ 3

Rainfall
Storm Type: **II - 24hr**

Return Period: **100 Year**

Rainfall Depth: 9.43 in

Time Increment: 0.03 hr

Peak Attenuation Factor: 484

Calculation
Peak Discharge: 16.39 cfs
Time to Peak: 12.10 hr
Volume: 1.31 acre-ft

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If the above example is that different then I am also concerned about how the Time to inlet is calculated in the example below:

The screenshot shows a software interface with a top navigation bar containing buttons: Settings, Design, Analyze, and Analyze by Hydra. Below this is a 'Structure Actions' section with buttons: Add, Edit, and Remove. A tabbed interface below shows 'Structure', 'Drainage' (selected), 'Pipe', and 'Hydraulic Calc'. The 'Drainage' tab contains the following elements:

- 'Current Structure:' field with value 'M1'.
- 'Input Type' dropdown menu set to 'Drainage Data'.
- 'Area Units' section with radio buttons for 'Sq Ft', 'Sq Mile', and 'Acre' (selected).
- 'Draw' button.
- 'Drainage Area' field with value '1.3721', 'Pick' button, and 'Calc' button.
- 'Time to Inlet' field with value '7.1' and unit 'min'.
- 'Curve Number' field with value '83' and 'Select' button.
- 'Pond/Swamp Adjust' field with value '1.0000'.
- 'Known Flow' field with value '0.0000' and unit 'cfs', with a 'Thru Inlet' checkbox.
- 'In Hydrograph' field and 'Select' button.

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Time of Concentration (SCS)

Input values

Select CN from Table

Curve Number: 83

Length of Flow (ft): 412.10

Average Land Slope (%): 3.59

Select Flow Line from Screen

Output values

Time of Concentration: 0.125 hrs, 7.5 mins

Calculate Report Exit Help

Was the SCS method used to get the 7.1 min value?

Notice the 7.5 value in the TC dialog to the right.

This was the value if I SELECT FLOW LINE FROM SCREEN and pick the path that the dialog on the left generates.

Can I generate a report of how the time to inlet was calculated?

Maybe there can be a button next to the Time to inlet to select TR-55

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Maybe Mannings coefficients can also be put into the WATERSHED->DEFINE RUNOFF LAYERS to be used for this calc as the flow path passes through each polyline area the same way Carlson already calculates the composite CN.

Define Runoff Layers - C:\...R17.2\User\Wn_layer.dta

Hydro Method: ☐ Rational Method ☒ SCS Method

Layer	Type of Area	Runoff Curve Number
B-CONC	Paved Lots Roofs & Driveways, Soil Type B	98
B-FP	Paved Lots Roofs & Driveways, Soil Type B	98
P-Border	Open Space-Good (>75% grass), Soil Type B	61

Default Area Type: Default Runoff Curve Number:

Hatch All Hatch Selected Clear Hatch

Add Edit Delete Load SaveAs OK Cancel Help

Will any of this matter if we get HydroCAD and link it to Carlson?

Just food for thought.

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Thank You,

David Farina

Senior Designer

I forwarded David's question onto Bruce Carlson, President of Carlson Software, and Dave Carlson, Director of Programming, and received this response from Bruce:

Folks: Excellent input—this will find its way into the next release for sure. We've spent a lot of time studying Haested and matching numbers there on pipe flows in culverts, for example, covering all conditions—but do need to put to bed Time of Concentration for approved defaults and sub-catchment conditions as they vary within a watershed area. This Intellisolve example is really helpful. Also, I took in input at Jennifer's Statesville, NC presentation Dec. 2007 that mentioned the new 100' default and also mentioned:

Using $Q=CIA$, there are new "rules" being published that

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*using larger pipes or it may be larger drainage areas, there is an added multiplier in the form $Q=CIA*Q1$ where $Q1$ is a table of values. I didn't get the full details, but we need to research this.*

And in storm sewer design, if we are compositing the calc of time to inlet using a "short-form" SCS-style method, based on percentage area of various land uses and associated runoff coefficients, we need to have a Report button that documents the results for full vetting and reporting out by users, and we need to incorporate an additional auto-calculated, long-form TR55 time of concentration there as well that uses sheet flow, channel flow and shallow concentrated flow. One key in all this is to be able to auto-distinguish these flow types from the DTM and land uses and have the forms filled out with default values, which the user can change.

Question I'm curious about. Say you built a gentle 6'wide, 1% slope swale with 6:1 side slopes, hardly noticeable, mowable, between lots in a subdivision. Would the flow in that be treated as shallow concentrated flow or channel flow? When would one condition end and another

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begin, by definition, so we can get real precise on auto-calculating these using layers/land use types and DTM values?

Good stuff, and it will get done.

Bruce Carlson, PE

Pres., Carlson Software

David added the following:

I think when to use channel flow should be determined by the width of the bottom of the channel and hence how deep the channel gets on an 2yr storm 24 storm.

You could have a channel with 1:1 side slopes but if the bottom was 50' wide and the flow path started in the channel then

the first 100' would still be sheet flow in my book. Unless of course a huge amount of water was entering the channel from another basin.

I think the concentrated and channel flow times (being in

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the fraction of a minute range) are so small and have such a small impact on overall time

compared to sheet flow (fraction of an hour) that you could pick an arbitrary number like 5' wide bottom and smaller is channel flow and not upset the model.

Sheet flow probably makes up 80 to 90 % of overall TC if it is over grass.

Anyone disagree?

Thank You

Dave Carlson sent this on March 11, 2009

Hi David,

Here's an update to the Tc by TR-55 routine that allows unlimited number of breakouts. This update is for Carlson 2009 on Acad 2007-09. To install, unzip and copy the arx to

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the Carlson2009LSP folder. Let me know if you need a different version or have more suggestions.

For the Storm Sewer Network routine, I put it on the to-do list to add a Select button next to the Tc to show the components that make up the Tc like the Select button does for CN. Also we will look at adding Manning's n to the Define Runoff Layers for use with Tc calcs.

Thanks for the input.

Dave

Originally posted on **Carlson Connection** by Jennifer Dibona

Poll Question 3/30/2009

April 7, 2009

[polldaddy poll=1493826]

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Originally posted on **Carlson Connection** by Jennifer Dibona

Dewberry Case Study, 'Choosing and Implementing Carlson,' at the Carlson 'Break New Ground' Users Conference, April 5-7

April 7, 2009

MAYSVILLE, Ky., U.S.A. (March 24, 2009) – At the Carlson “Break New Ground” User Conference in Lexington, Ky., April 5 through 7, David Palumbo of Dewberry will be presenting a case study on how the 2000-person professional services firm with more than 40 locations in 18 states recently chose the Carlson Civil Suite for its site-civil engineering needs.

“In April 2007, Dewberry’s site-civil market segment group

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embarked on a strategic initiative to unify and modernize site-civil work flow across two dozen offices that service this segment,” said Palumbo, PE, Technology Manager for Infrastructure Services at Dewberry. “Carlson Civil Suite was selected over two competing solutions as best aligning with Dewberry’s desired work flow and site-civil technical specifications.”

The Carlson Civil Suite includes Carlson Civil, Carlson Survey, Carlson Hydrology, and Carlson GIS. Together, these four products are a comprehensive set of design/drafting tools that automate all facets of the civil engineering project.

Palumbo, whose duties include facilitating technology solution acquisition and implementation for all of Dewberry’s infrastructure services, including site-civil, transportation, and telecommunications, will explain the intensive process Dewberry performed to choose Carlson. Then he will show how Dewberry, an Engineering News-Record “Top 50” design firm, set about to most effectively implement Carlson throughout their extensive company.

“We will have approximately 250 to 300 users of the product

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when we're done," he said, noting that the project started by first defining a comprehensive work flow and site-civil task specification independent of software and automation tools. It was these specifications that became the basis of evaluating vendor solutions.

Palumbo will be joining Robert H. (Rob) Campbell, president and CEO of Juniper Systems, Inc., and Brent Jones, PE, PLS, of ESRI, as a speaker at Carlson's 2nd annual conference designed specifically for surveyors, civil engineers, mining engineers, construction engineers, partner manufacturers, and dealers. Palumbo will be speaking during the Monday evening banquet.

"Working with Dewberry has been a rewarding experience," said Bruce Carlson, president and founder of Carlson Software. "With so many offices, Dewberry had special demands for data sharing and project tracking and also wide-ranging needs for data interoperability across platforms such as AutoCAD, Microstation and ESRI, including compatibility with field data collection and instrumentation," he added. "Our product offerings are focusing on these capabilities. We enjoyed being a part of their competitive product review – that's our

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preferred business environment!”

The goal of Carlson’s user conference is to help users “break new ground” and learn how to optimize the power of Carlson’s versatile software. Learning tracks at this two-and-a-half-day event will cover the same land development aspects as Carlson Software products: data collection, land surveying, civil engineering, mining and construction and machine control.

Carlson is keeping the cost of the two-day event at \$695 right up to registration to help more people harness the power of Carlson Software and get project ready. Sign up now at www.carlsonsw.com/conference. Group discounts are available.

About Carlson Software. Carlson Software, an independent company founded in 1983, develops software solutions to bring the land development professional from concept to completion. The 25-year-old company is well known for its comprehensive civil, surveying, machine control and positioning, plus mining software solutions. Its free technical support and dedication to customer service is unique in the industry. Carlson Software is headquartered in Maysville, Ky., with

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branch offices in Boston, Atlanta, and Queensland, Australia.
About Dewberry

Dewberry is a 2,000-person professional services firm, specializing in engineering and architectural design; program management; planning; GIS; surveying; and environmental services. Established in 1956, the firm has more than 40 locations nationwide, with headquarters in Fairfax, Virginia, near Washington, DC. For more information, visit www.dewberry.com.

Originally posted on **Carlson Connection** by Jim Reinbold

**Large Companies DO Use
Carlson – Dewberry
Presenting Implementation**

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Case Study at Conference

April 7, 2009

Carlson Software put out a press release this week announcing that a representative of Dewberry will be making a presentation at the User Conference about their recent implementation of Carlson Survey and Civil Software.

This is a good supporting argument for my [Myth #7](#) about how large companies DO use Carlson.

[Click here for the press release about Dewberry.](#)

Originally posted on **Carlson Connection** by Jennifer Dibona

BIM this, BIM that... What is BIM?

April 7, 2009

Q: What is BIM? And, exactly how does it relate to the

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civil engineering industry?

A: BIM, by definition, has nothing to do with civil engineering.

BIM stands for “Building Information Modeling”. The term “BIM” originated in the Architectural world and, generally, defines the process of inputting information to and extracting information from a 3D model of a building/facility.

Definition of BIM from the [National BIM Standard](#):

BIM is best thought of as “a digital representation of physical and functional characteristics of a facility...and a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition.”

From the [National Institute of Building Sciences](#):

Building Information Modeling (BIM) refers to the use of the concepts and practices of open and interoperable

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information exchanges, emerging technologies, new business structures and influencing the re-engineering of processes in ways that dramatically reduce multiple forms of waste in the building industry. The National BIM Standard, a key element of the overall industry transformation being supported and coordinated by the buildingSMART alliance™, establishes standard definitions for building information exchanges to support critical business decisions. Implemented in software, the consensus-based standard will form a basis for more accurate and efficient commerce within the capital facilities industry. The National BIM Standard is also intended to help participants in facilities-related processes achieve more reliable outcomes from commercial agreements.

From [Geomatix International](#):

A Building Information Model (BIM) is a digital representation of physical and functional characteristics of a building. Construction and management of buildings involves many stakeholders, so that proper sharing of information over the entire lifecycle of a building is very important. The Open Geospatial Consortium (OGC) is

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developing BIM standards that promote efficient web-based information sharing in the Architectural, Engineering, Construction and building Ownership and Operation (AEC00) markets.

Because Wikipedia is open-source and able to be edited by anyone and everyone, the entry for BIM changes regularly. The entire entry looked like [this](#) as of February 26, 2009. Here is an excerpt:

Building Information Modeling (BIM) is the process of generating and managing building data during its life cycle[1]. Typically it uses three-dimensional, real-time, dynamic building modeling software to increase productivity in building design and construction.[2] The process produces the Building Information Model (also abbreviated BIM), which encompasses building geometry, spatial relationships, geographic information, and quantities and properties of building components.

A lot of confusion is now occurring because Autodesk and their civil resellers are trying to make the connection

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between BIM and Civil or, more specifically, Civil 3D. See examples here:

[BIM for Civil Engineers by Sanjay Asnani, Autodesk](#)

If link doesn't work, find this document [HERE](#).

[What Does BIM Mean for Civil Engineers? by Adam Strafaci, Autodesk](#)

[Civil 3D and BIM... How do they relate? by Melanie Santer, US CAD](#)

However, if you simply Google “**bim building information modeling**” and look at the first two pages of returns, the only entries that attempt to connect BIM and civil engineering belong to Autodesk or one of their civil resellers. All other hits refer to BIM in an architectural/building sense. If there is a specific software program mentioned, it is Autodesk's Revit product. A caveat to this is the civil/structural engineering specialty field of bridge construction which can also be modeled using Revit. Bridge construction is a bit of a hybrid in that it is similar to building design and can also legitimately be

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related to BIM.

Among Autodesk's architectural team and resellers, most, if not all, references to BIM are solely in an architectural/building capacity. See examples here (pages were cached on 2/26/09):

[Brave New BIM](#)

[The World According to BIM – Part 1](#)

[Summit AEC – Autodesk BIM & CAD Software](#)

As you can see from the above links, it is technically incorrect to connect BIM and Civil. However, many in the civil world are witnessing the Autodesk definition of BIM take hold. So, in the event you are ever asked or required to “BIM” a civil project, you are essentially being asked to design and deliver a dynamic, 3d model of the entire project.

It is important to realize that creating a dynamic 3d model for a Civil project (or “BIM”ing a civil project) is not limited to using a particular software program.

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Find a civil engineering design software that allows you to design to specific criteria, is able to show a great visual representation of all the components of your project in 3D view and is able to dynamically reflect changes and you can “BIM” along with the rest of the world.

Designing a project using a dynamic model allows you to design according to specific criteria such as AASHTO (American Association of State Highway and Transportation Officials) standards or by specifying minimum/maximum values for storm or sanitary sewer design. It also is invaluable to detect, before construction, potential conflicts between a proposed network of roads and associated utility networks. As an example, a dynamic 3d model would trigger a warning if, when lowering a roadway, the rule for minimum cover over a pipe on an adjacent roadway has been violated. Also, creating this model allows you to view the model, make changes to vertical alignments and see dynamically updated cut/fill quantities all at once.

To reduce the confusion, it might be time to coin a new term such as “Site Information Modeling” to describe the process in the Civil industry. But, there is still quite a disparity

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between the “Information Modeling” done for a Building compared to that done for a Civil project. In true BIM, the “I” (Information) component is as important as the “M” (Modeling) component because determining usability and functionality of the Building through its lifecycle is one of the goals of BIM. At this time, the process on the Civil side is still much more about the “Model” and not nearly so much about the “Information” going into and coming out of the model. When we are able to incorporate results of traffic flow analyses for a roadway or inspection reports showing sludge build-up and flow capacities in sewer/storm pipes and manholes, we will be truly using the “Information” as it was intended in an “Information Model”.

Originally posted on **Carlson Connection** by Jennifer Dibona

Top Myths About Carlson

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Software

April 7, 2009

I'm asked many of these questions on a fairly regular basis and thought it was time to look into some of them and provide the fullest answer I could. Where possible, I've researched and found the answer myself. In a few cases I had to rely on Carlson representatives to supply the answers.

Myth #1 Autodesk stopped working with Carlson in February 2008.

False. In February 2008 Carlson simply stopped being a reseller of Autodesk products.

In other words, if you want to run Carlson on top of AutoCAD, Map, Land Desktop or Civil 3D, you'll have to buy it from an Autodesk reseller instead of from Carlson. Carlson remains part of Autodesk's Developer Network (ADN) and is listed on Autodesk's partner page. The ADN designation provides tools to developers to help build their products on top of Autodesk products. As a point of comparison, Eagle Point Software is also a development partner of Autodesk.

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Myth #2 Carlson is owned by Autodesk or, (“bonus”-myth) Carlson will be sold to another, larger software company.

False. Carlson Software was started in 1983 by Bruce Carlson and remains a private, family-owned business. No one can absolutely guarantee the future, but I have heard Bruce Carlson speak many times about the value he places on competition in the marketplace and his belief that the consolidation of many other software companies has come at the expense of the end-user of the software.

Selling out? I don't see it. But partnering? Yes. Carlson places a great deal of value on working with any company who wants to work with them. Click on the image below to see the many different programs Carlson imports data from and exports data to.

[illegible]

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Myth #3 Because Carlson Software uses basic AutoCAD entities instead of “intelligent objects”, it does not have 3D or dynamic abilities.

False. Carlson Software uses basic AutoCAD entities so that all drawings produced by their programs can be easily shared with any other DWG- or DXF-compatible program, regardless of version. Carlson has figured out a way to have the dynamic reactions work on basic entities such as lines, polylines and text. One example would be having profiles and storm drain structures automatically adjust their elevation as a centerline alignment is edited and changed along a surface. And, all of this happens without having to fight the dreaded “proxy objects”!

Myth #4 Because Carlson now works on top of Intellicad, it no longer works on top of AutoCAD-based products.

False. Carlson Software has always worked on top of AutoCAD-based products and, if you listen to Bruce Carlson discuss the issue, hopes to always continue doing so.

In April 2008, Carlson began giving their customers an

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IntelliCAD-based “stand-alone” copy of their software with every purchase of Carlson Civil, Survey, Hydrology, GIS, TakeOff and other programs. (IntelliCAD is widely described as an “AutoCAD-clone”. You can read more [HERE](#).). This, again, gives more power and options to Carlson users because it allows the user to choose whether to run Carlson on top of practically any version of AutoCAD, AutoCAD Map, Land Desktop, Civil 3D or on top of IntelliCAD.

Also, with their Sight Survey program (launched in 2008), Carlson created their first program to run on top of MicroStation.

At last year’s 25th Anniversary users’ conference, Bruce Carlson stated that Carlson hopes to have their software working on 4 different platforms within the next few years: IntelliCAD, AutoCAD, Microstation and ESRI.

Myth #5 Carlson doesn’t have CIVIL “BIM”-ability.

First, the premise of the statement is incorrect. BIM (Building Information Modeling), by definition, has no

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relationship to the civil engineering industry. It is architectural in scope and refers to actual buildings and facilities.

However, for several reasons there has been a push to re-define the term BIM to apply to Civil Engineering (in general) and Civil 3D (in particular). When discussing BIM in the context of Civil Engineering, it simply means that a software program has the ability to:

- design to specific criteria
- show a great visual representation of all the components of your project in 3D view and
- dynamically reflect changes to your project.

Can Carlson Software do all that? Absolutely.

Carlson can, and has been able to, produce true 3D models of civil/survey/utility project sites for years. These models can be viewed in 3D and quantities are dynamically updated whenever the model changes.

Because Carlson has strongly served the U.S. mining industry for over 20 years, they long ago developed features for grading, material quantity calculations and surface viewing

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and visualization to meet the demands of this industry. In fact, the civil industry pales in comparison to the mining industry in regard to these demands.

Myth #6 Carlson has only been developing civil software since 2007.

False. To make sure I got this right, I asked the folks at Carlson for help and received the following in response:

Bruce Carlson began developing his software for the mining industry in 1983. By 1984, the program was able to extract profiles and cross-sections, calculate volumes and design road profiles. 3D Surface viewing abilities have been available in Carlson Software since the early 1990's.

Carlson developed the stand-alone Carlson Survey program in 1996 and in 1999 Autodesk contracted to market and sell a version of it called "Autodesk Field Survey". Autodesk did away with Field Survey after a few years and Carlson migrated most users over to Carlson Survey where it has grown to become a favorite of surveyors.

Various civil features were organized as modules in a

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package called SurvCADD that was released in 1989. The civil engineering routines were renamed as Carlson Civil in 2006.

The first Hydrology module for Carlson was released in 1993. It was re-packaged as Carlson Hydrology in 2006.

Carlson Hydrology was the first and, I believe, is still the only H & H software to function entirely within the DWG-environment. If I learn differently after this document is made public, I will post a correction in this space.

Myth #7 Carlson may have found a spot in some surveying firms, but larger firms aren't using it.

False. Again, I requested generic customer data from Carlson and was told that,

Among our 30,000+ users, there are many DOT agencies and also ENR Top 50 firms using Carlson Software. Carlson Software is very experienced in working with large firms, due to their mining background. All 20 of the top 20 U.S.

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coal companies use Carlson Software at some level, most being standardized on the software for mine planning and design.

As far as my personal experience, I've only been working with Carlson Software for a couple of years and companies I work with tend to have fewer than 25 users. I can personally say that I have seen or know of a few large firms who have moved to or are in the process of moving to Carlson.

These do not include the many customers of mine who have recently let their software contracts lapse, purchased one or more seats of Carlson and have told me they plan to purchase and implement Carlson when the economy rebounds.

Myth #8 Carlson Software does not support the full project lifecycle – Concept to Completion.

False. I think Carlson probably has the project lifecycle covered better than any other software firm in existence.

Carlson Software has data collection, survey processing,

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civil design, hydrology, GIS, construction material takeoff and machine control software in their stable.

Myth #9 Carlson Software doesn't have the support system in place to adequately support its users.

False. Carlson provides free technical support directly out of their Maysville, KY and Boston, MA offices. Again, I have heard Bruce Carlson say that keeping tech support free and in-house ensures that their software will remain easy-to-use and that the company will always be responsive to the wishes of their customers.

If a bug or other problem with the software is encountered and logged into Carlson's tech support department, the corrected files will be emailed to you as soon as the programmers develop the fix. Periodically a collection of the updated files will be released to all users as a maintenance patch. These updates are available to all users whether or not they are under a maintenance contract with Carlson.

I received this testimonial from a customer on March 13,

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2009.

“Recently I found that the Time of Concentration input boxes were inadequate under the hydrology portion of Carlson Civil Suite so I emailed a description of the problem to them. I was very impressed to get a phone call the same day. They discussed the problem with me and had a revised program update to me in under a week. I’ve been emailing Autodesk for over a year on problems with Civil 3D and never heard a peep. Needless to say I’m very happy with the customer service I have received from Carlson thus far.”

*David Farina, CCAD Engineering
– Greenville, SC*

Other examples of Carlson’s responsiveness:

Example 1: The ability of the Carlson Civil & Hydrology “Design Bench Pond” command to have multiple interior benches was added to the software after an attendee at a workshop I held in Raleigh, NC in December 2007 requested it.

Example 2: In the LotNet command, the prompts asking users to

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specify minimum and maximum building offset distances for lot layout generated too many tech support calls. In the next release, the prompts were re-worded to make the intent more clear.

Example 3: The LotNet command now allows you to designate “sub-areas” (such as wetlands, stream buffers, poor soils, etc.) to be excluded from your area to be subdivided during the lot layout routine. This request came from a prospect during a demonstration in Raleigh.

Example 4: I understand that Carlson’s tech support team was bombarded by requests to change the default cul-de-sac location from the “Start” of the road to the “End” of the road in the RoadNet command. This was changed in the 2009 release.

Example 5: The ability to draw multiple building pads inside lots during the lot layout routine in LotNet was requested by a firm out of Savannah, GA.

Myth #10 Carlson Software can’t share data with Land Desktop or Civil 3D.

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False. Carlson has many tools in their software to import civil/survey data from and export data to Land Desktop and Civil 3D. It can be said that Carlson Software works with Civil 3D data as well as Land Desktop or any other civil/survey software and also works with Land Desktop data as well as Civil 3D or any other software.

Carlson has LandXML import and export functionality, can directly convert Land Desktop points and contours into Carlson points and contours and also imports a Civil 3D surface as elevated contours.

Regardless of the civil/survey software being used, LandXML is the best mechanism to import/export a surface model because it maintains the TIN lines of the surface.

Myth #11 To be continued.

If anyone thinks of other question(s) they'd like to supply, please email me [HERE](#). I'm open to suggestions and don't mind expanding beyond 10 Myths.

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Originally posted on **Carlson Connection** by Jennifer Dibona

Welcome!

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Thanks for taking the time to visit us at Carlson Connection.

The site is a little bare right now, but keep checking back. We hope to make it an active community with lots of good information and discussion.

If you'd like to be a Contributor to the site, please [email me here](#).

Originally posted on **Carlson Connection** by Jennifer Dibona