

UNLEASH YOUR CREATIVITY.

WHAT'S NEW

20
v19

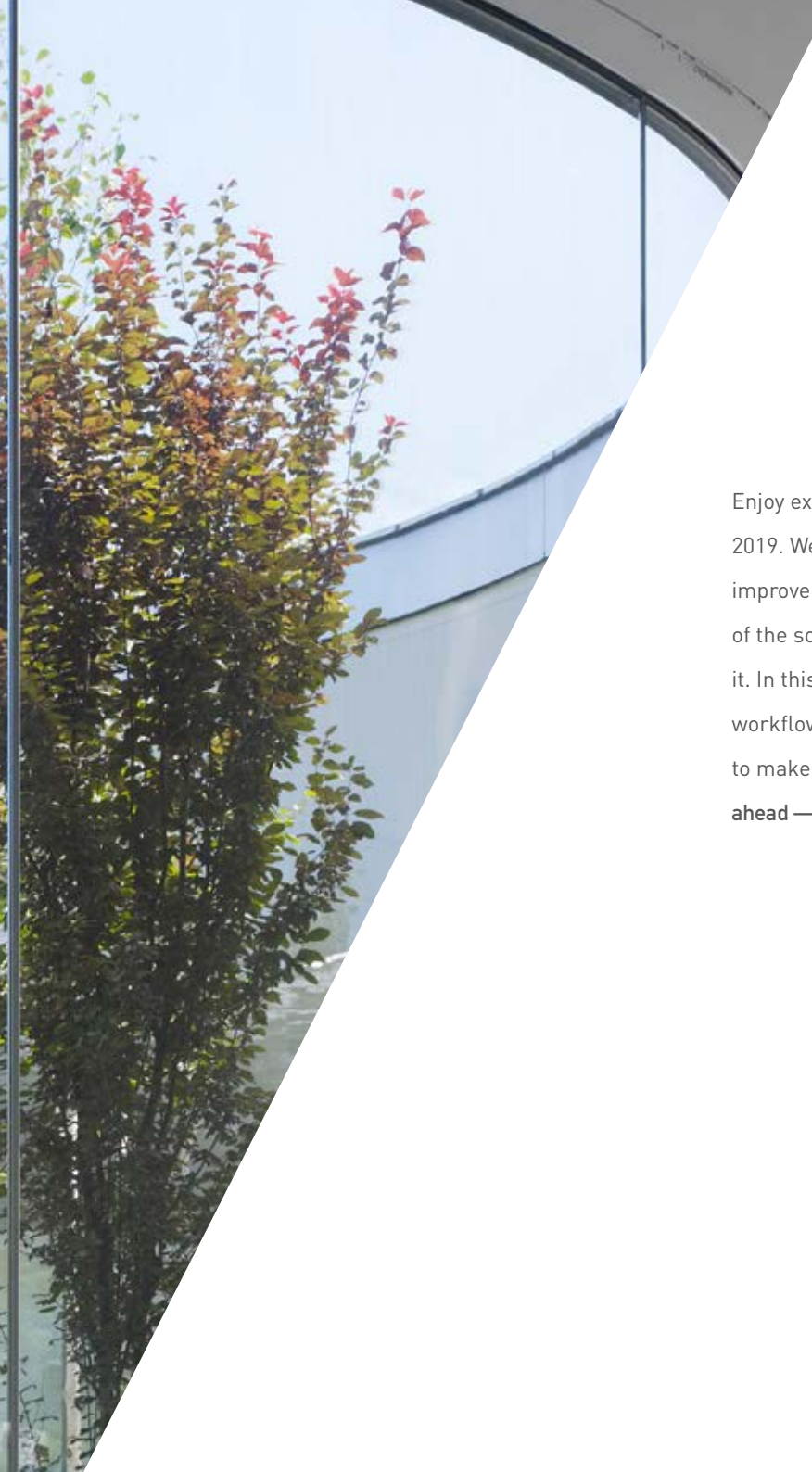


VECTORWORKS
A NEMETSCHEK COMPANY

TRANSFORM THE WORLD.
**DESIGN WITH
VECTORWORKS.**

HIROSHI SENJU MUSEUM
COURTESY OF RYUE NISHIZAWA





Enjoy exceptional quality and performance with Vectorworks 2019. We're excited to share with you a wide array of improvements and new features that focus on both the quality of the software itself and the quality of your experience with it. In this latest version, we considered your most common workflows and regular usage patterns and added capabilities to make your everyday tasks even easier to accomplish. **So go ahead — unleash your creativity. Design with Vectorworks 2019.**

V 2019

PRODUCT KEY

- F FUNDAMENTALS
- A ARCHITECT
- L LANDMARK
- S SPOTLIGHT
- B BRACEWORKS
- V VISION
- D DESIGNER

Shaded circles indicate that the feature is included in that product.

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01 SIMPLIFY YOUR WORKFLOWS

Efficiency and productivity are critical, and you need the right tools to help you achieve your goals, on time and on budget. Enhancements in Vectorworks 2019 help you seamlessly collaborate with others and streamline the creation of presentation drawings and construction documents, letting you work faster and be more productive than ever before.

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SER 1.1

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SER 1.1

SER 1.3

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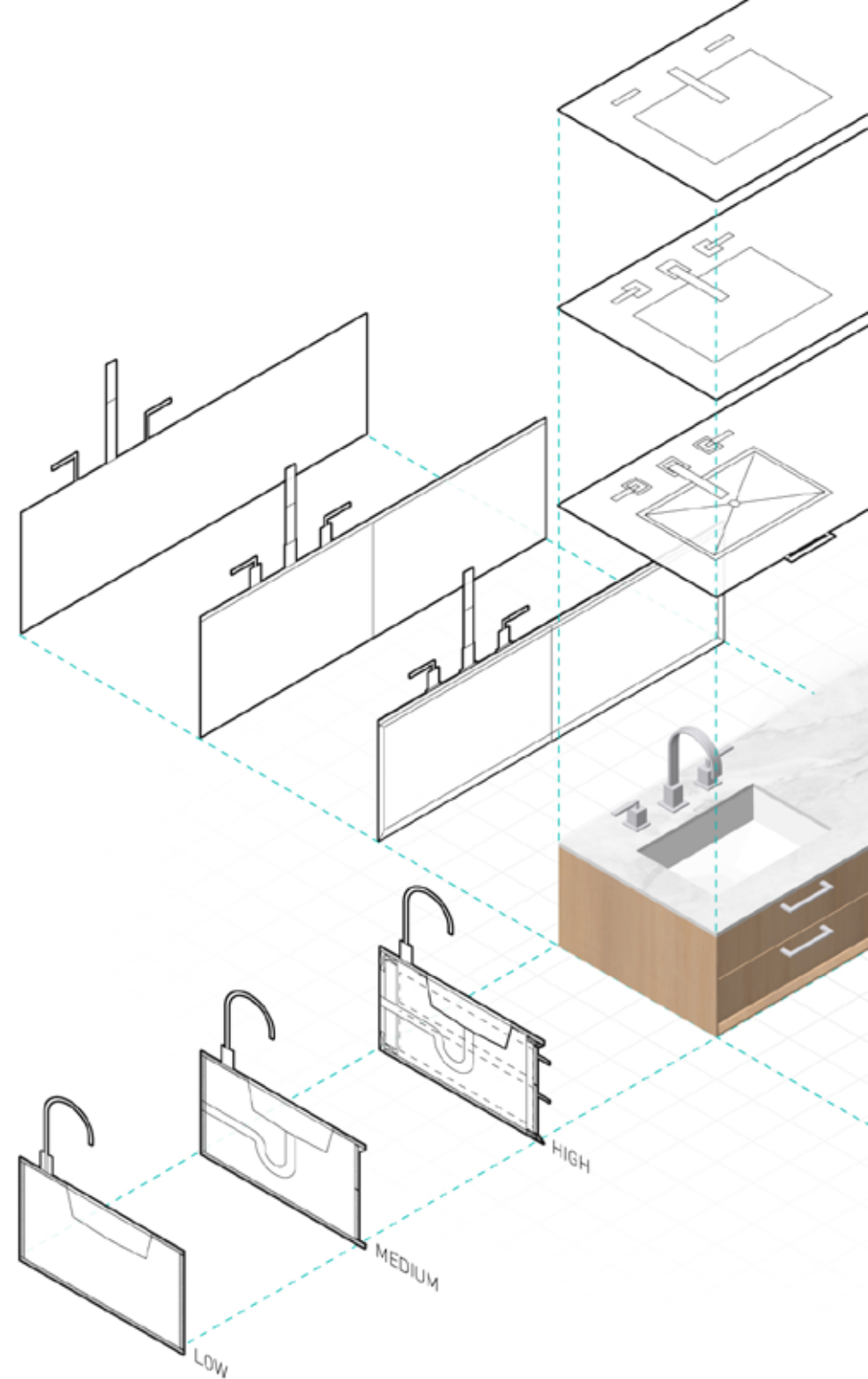
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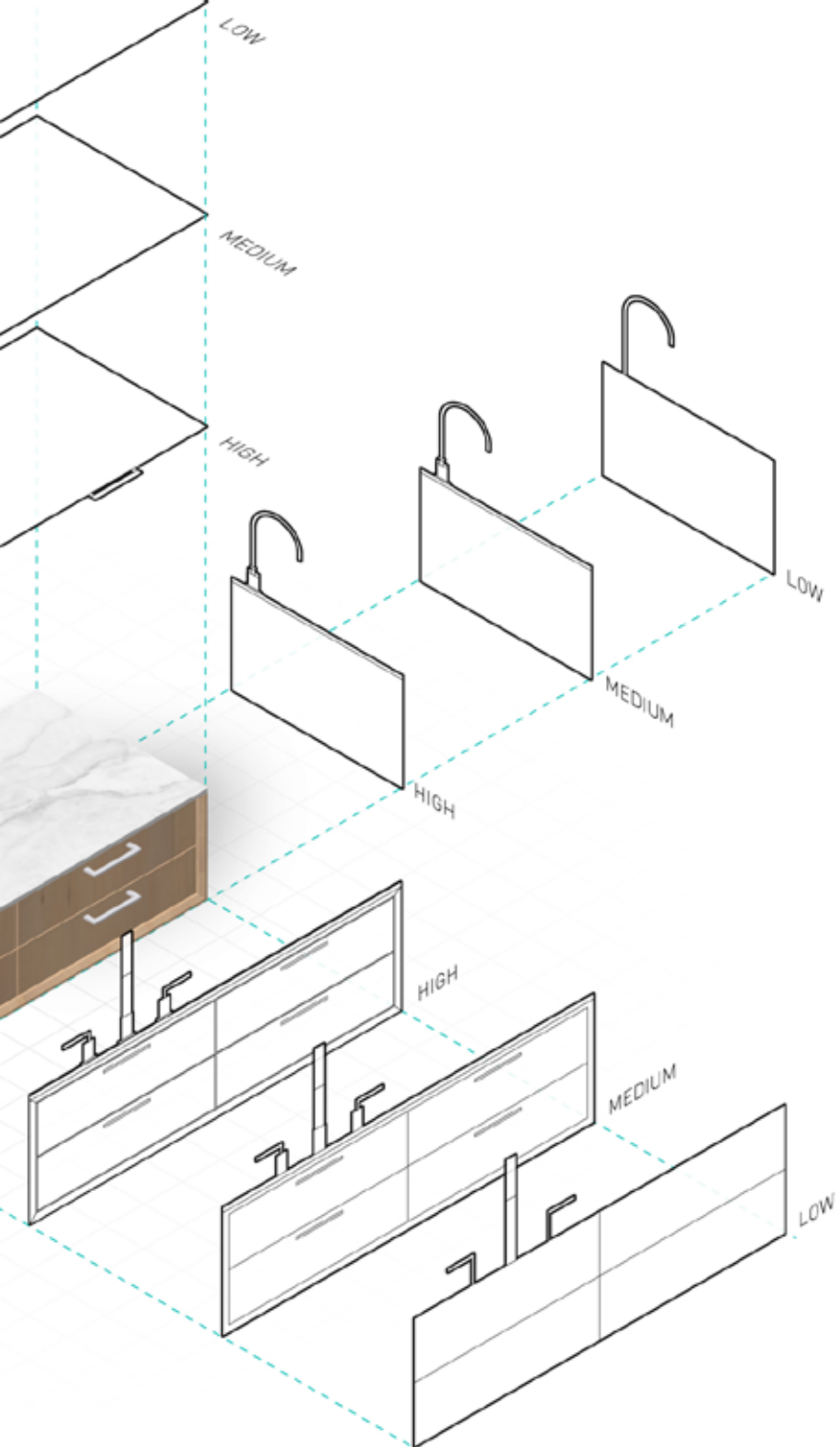


F A L S B V D

CUSTOMIZE YOUR DRAWINGS WITH 2D COMPONENTS FOR HYBRID OBJECTS

You've made the move to working in 3D. Now, optimize that effort by efficiently creating 2D drawings from your 3D and BIM models. With the new 2D components for hybrid objects capability, we're putting you in complete control of the detail level your symbols and plug-in objects display. Simply right-click to edit the detail and display of any 2D/3D hybrid object so it draws exactly as you want in plan, elevation, and section views.





BENEFIT FROM BIM-READY BUILDING LIBRARIES

We've added BIM data sets to all architectural symbols to make it easier to exchange BIM data with others. Now, all building objects that ship with Vectorworks are compliant with the latest versions of IFC (IFC2x3, IFC4) and COBie (v2.4), resulting in a reliable and efficient export of your building model for both IFC and COBie standards.

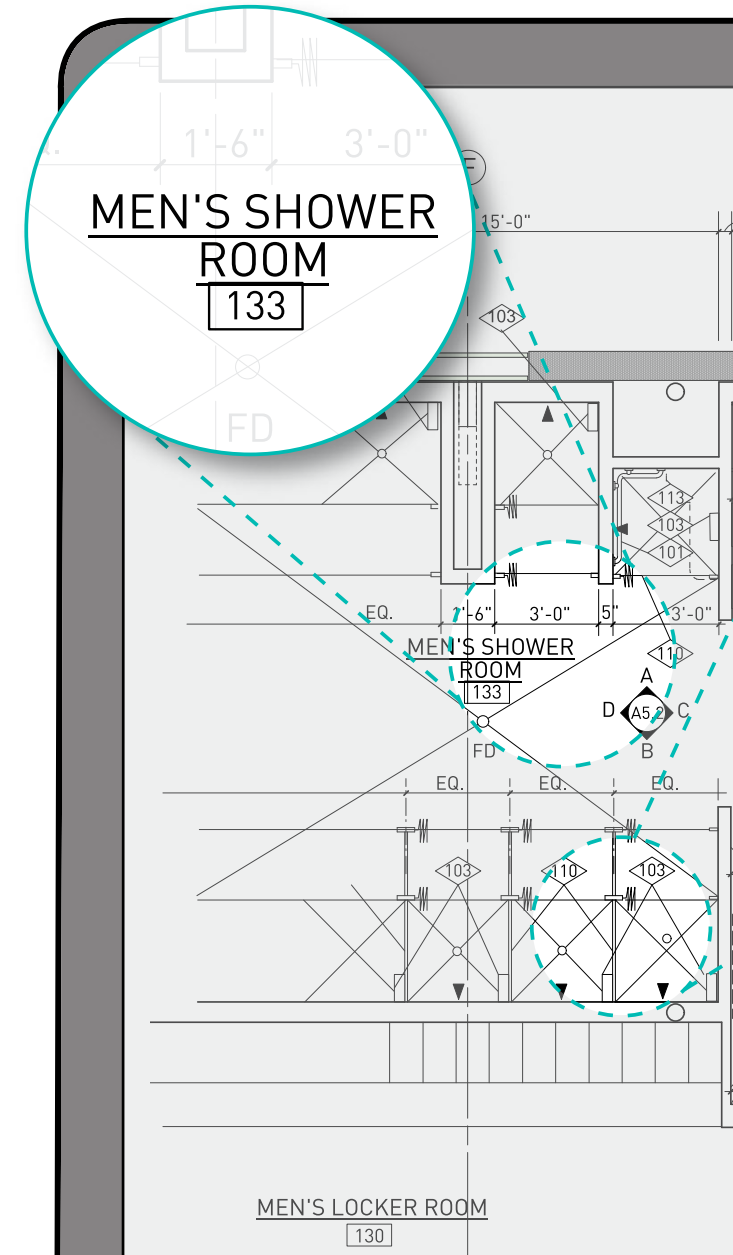
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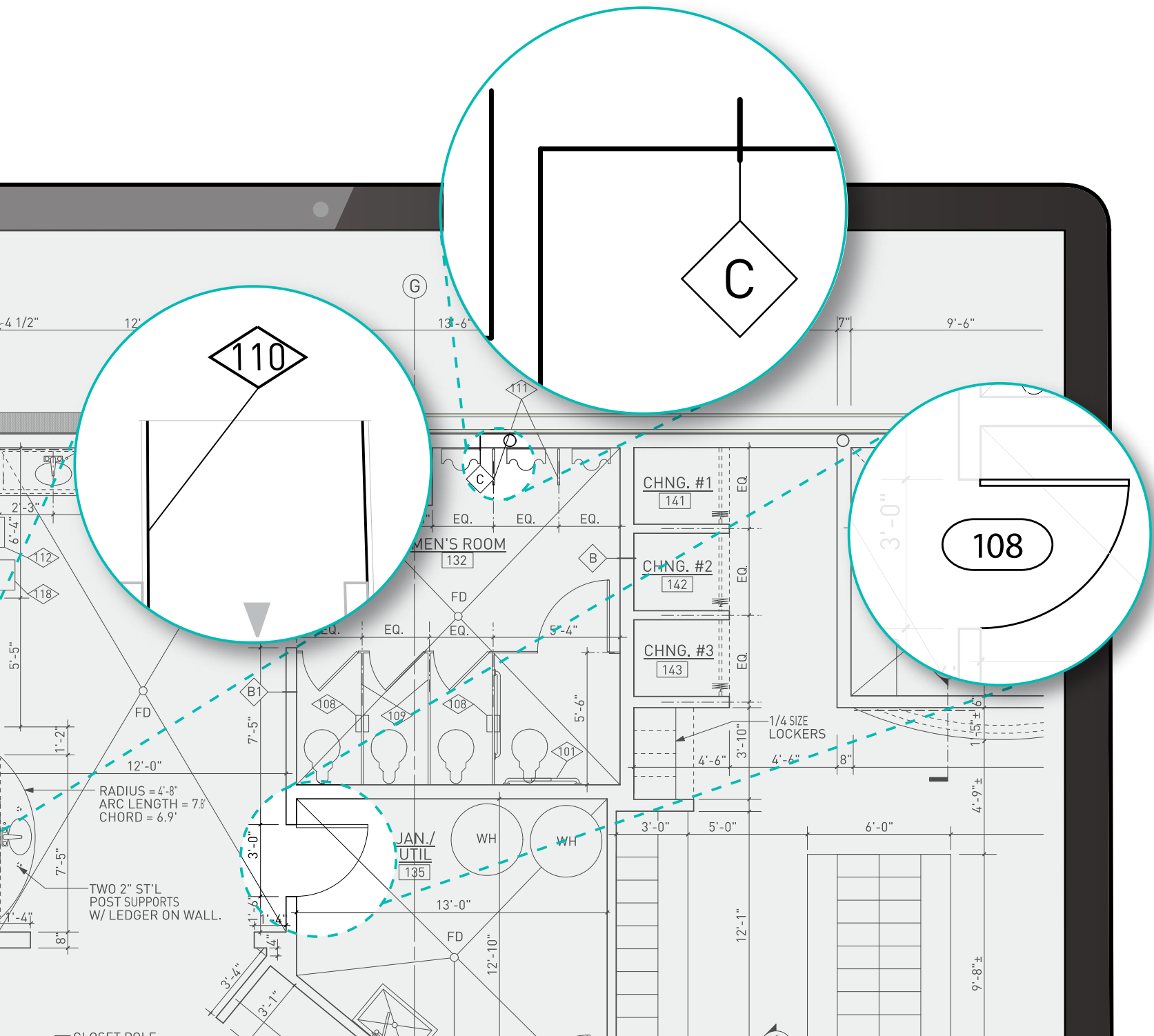


SAVE TIME WITH DATA TAGS

Some aspects of your workflow thrive when flexibility works in predictable ways. The new Data Tag tool in Vectorworks 2019 gives you a consistent and robust method for tagging and displaying data about the intelligent objects and symbols in your model and viewports. Tag objects individually, or automatically tag multiple objects, all while having complete control over the graphic appearance of data tags. This will save you time and simplify the process of managing displayed data in your documents.

F A L S B V D





BENEFIT FROM ADVANCES IN **MARIONETTE**

More and more, designers are recognizing the benefits of algorithmic design to automate tasks and save them time. We've included a number of usability improvements and new nodes to make Marionette easier and more powerful.

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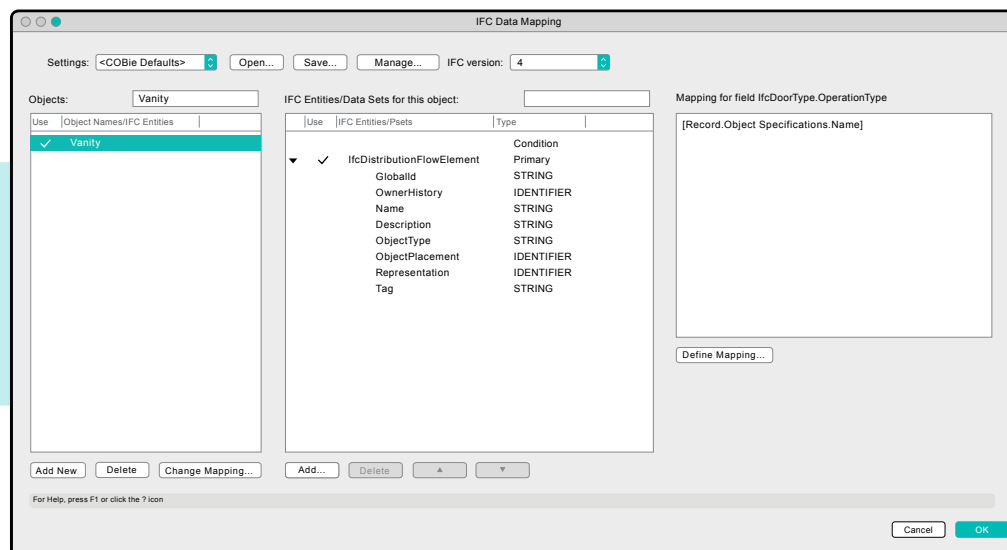
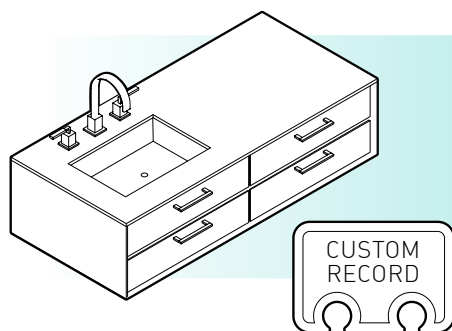
SIMPLIFY THE DATA HANDOVER WITH **COBIE WORKSHEETS**

The assets data handover from BIM to operations just got easier. Unlike other BIM software that produces read-only COBie reports, Vectorworks Architect 2019 has bi-directional control. Edit the BIM model and the COBie worksheet automatically updates, or update data in the COBie worksheet and drive changes in the model.

BETTER openBIM WITH CUSTOM IFC EXPORT

In a BIM project, controlling and filtering which objects and IFC data are exported is key to successful collaboration. Revolutionary changes in Vectorworks IFC data mapping give the BIM manager more control over IFC export. Custom export options and the ability to specify data for sub-objects provide you confidence in the exchange of BIM models with other project stakeholders.

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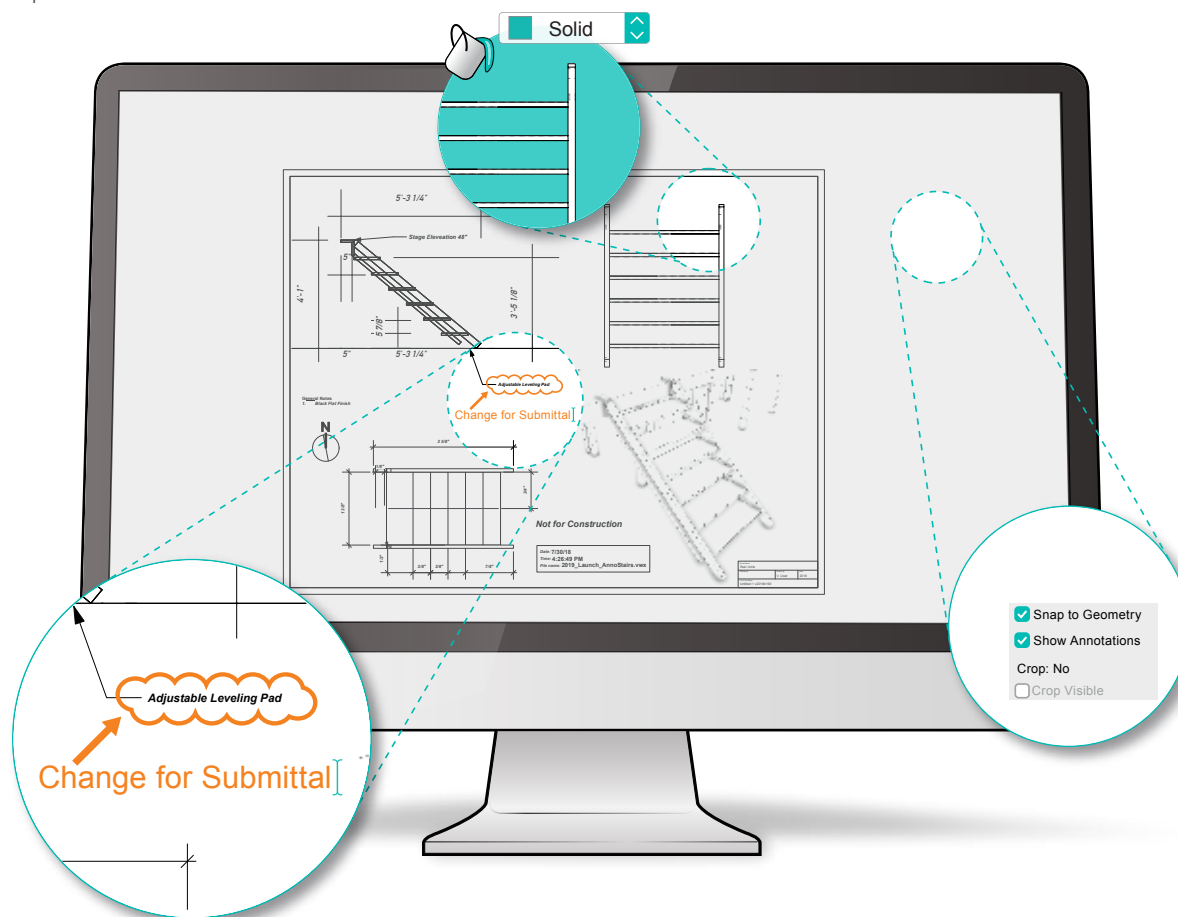
EASILY CREATE CONCEPT LAYOUTS WITH **IMAGE EFFECTS**

Now you can accomplish mainstream image editing right inside of Vectorworks. You don't need to export your designs to other editing applications such as Photoshop® or Illustrator®. The new viewport image effects work with viewports and imported images, which lets you prepare your presentation boards in the same software you used to create your designs.

INCREASE EFFICIENCY WITH IMPROVED PDF WORKFLOWS

Building on our integration with Bluebeam® Studio Prime, we made it easier to work with imported PDF files. New options allow you to toggle off and on annotations, improve snapping, control background fills, and quickly resize and align multiple PDFs at the same time.

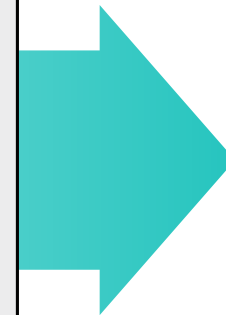
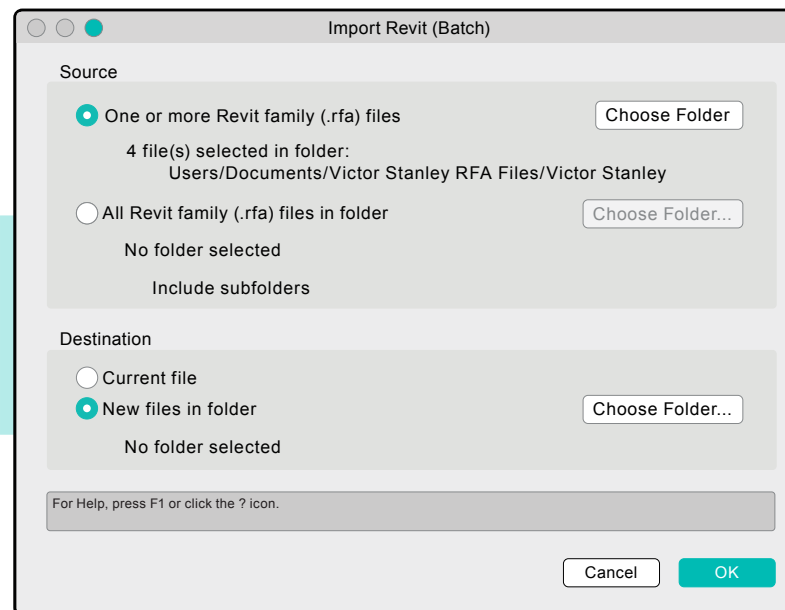
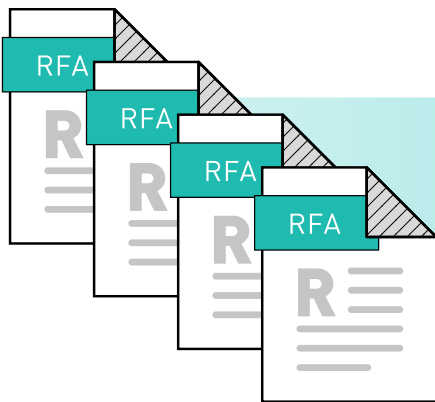
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IMPROVE COLLABORATION WITH REVIT

Thanks to the latest updates to the industry standard Teigha® BIM library from the Open Design Alliance, Vectorworks users can now batch import Revit® Families making it easier to incorporate manufacturer objects and convert more building objects from a Revit model to native Vectorworks objects. This is a huge improvement for Revit customers migrating to Vectorworks and makes it easier to access manufacturers' BIM product content.

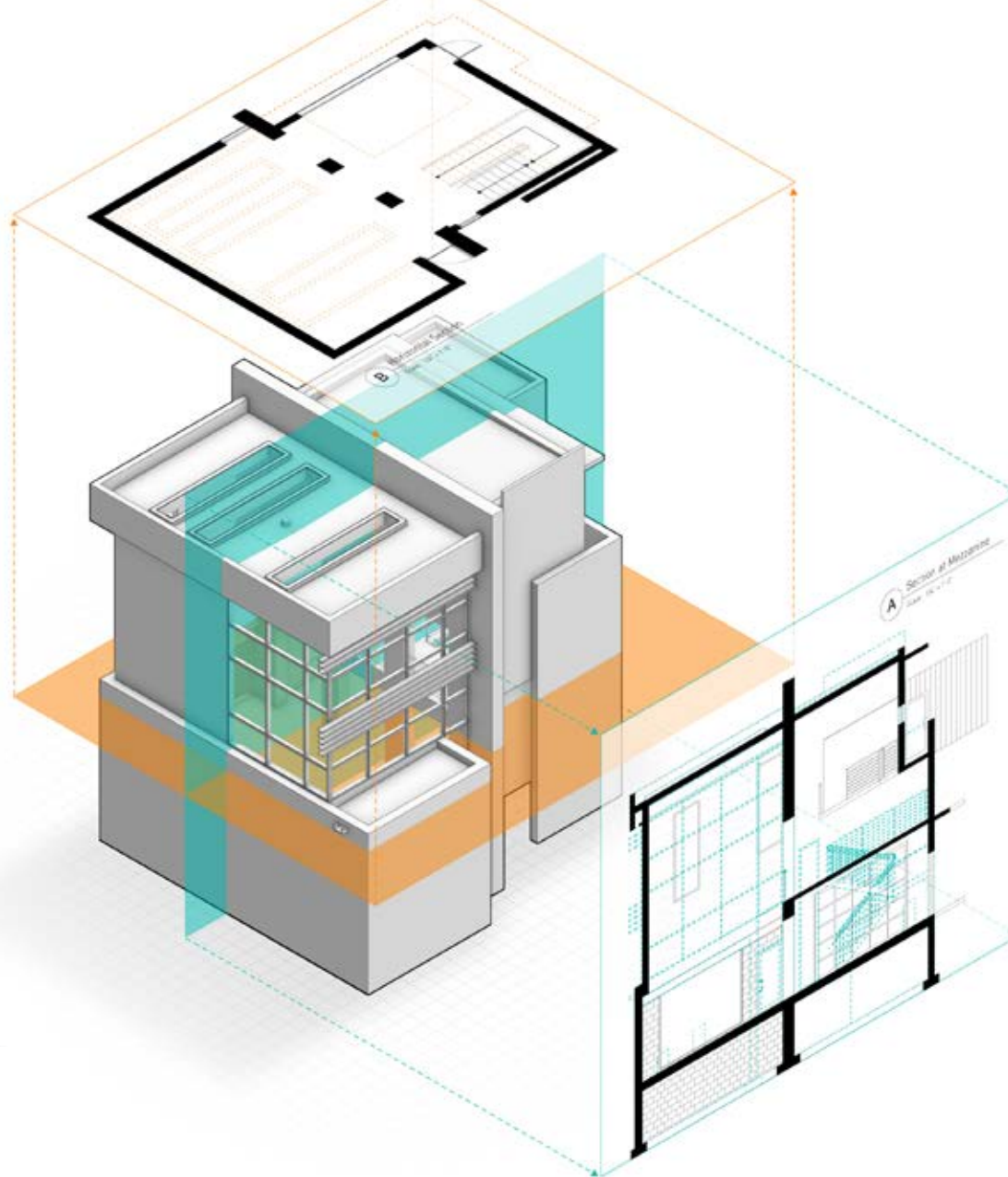
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DISCOVER STREAMLINED SECTION DRAWING CREATION

Derive high-quality sections from your model without wasting time making repetitive adjustments. A new default display for section attributes provides universally acceptable defaults, and a new context-sensitive right-click menu allows you to generate sections directly from section elevation markers or orphaned section lines. Create better drawings by generating a profile line that emphasizes the cut of your sections. Plus, you can now override object visibility beyond or before the cut plane using the correct line weights and styles. The object visibility control is the same for horizontal and vertical sections.



02

ENHANCE YOUR MODELING PROCESS

Vectorworks 2019 gives you more opportunities than ever before to optimize your modeling process. No matter your project type or size, Vectorworks provides you with intuitive and robust modeling functionality to help you save time and deliver exceptional results.

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RL 1.5m





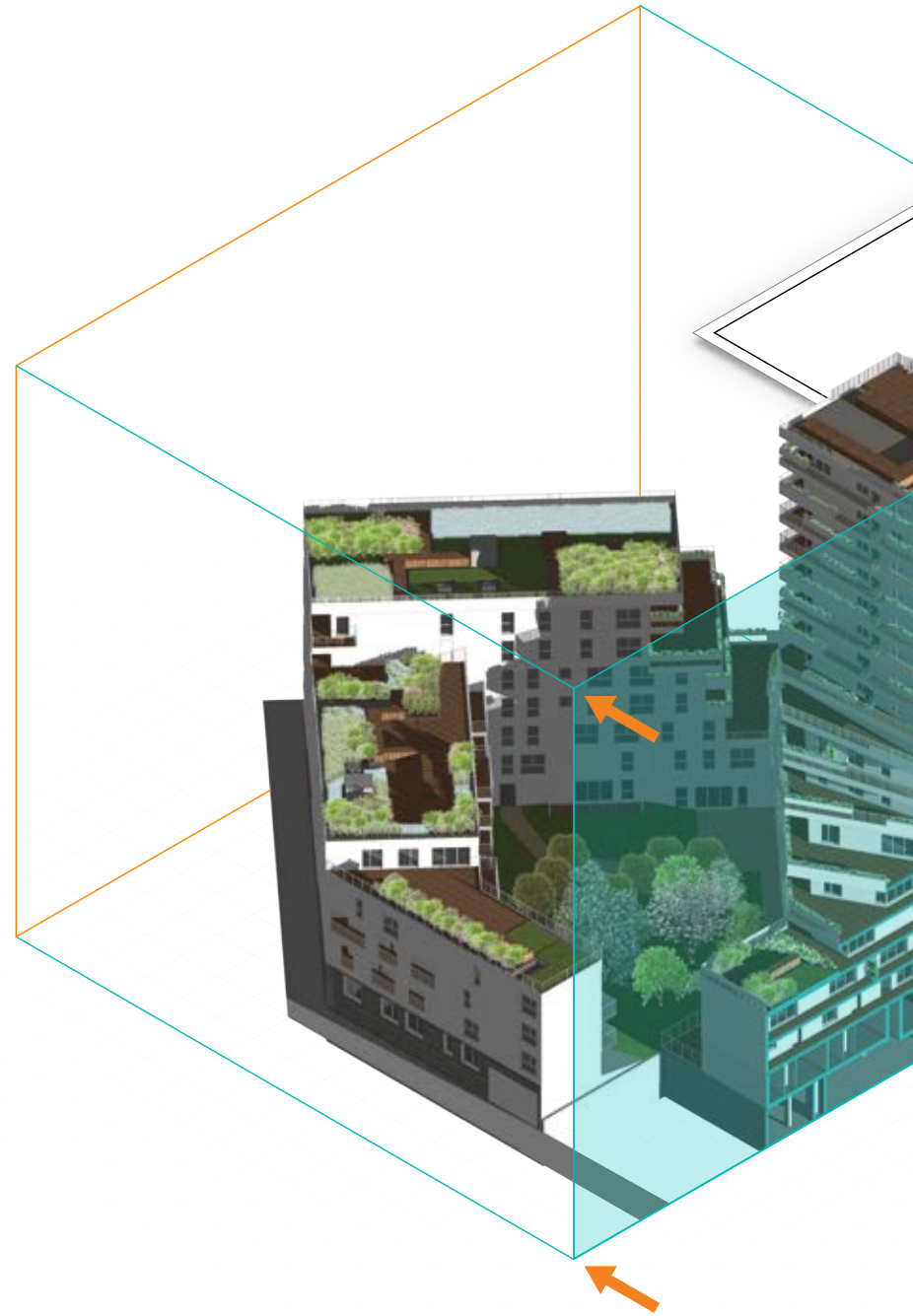
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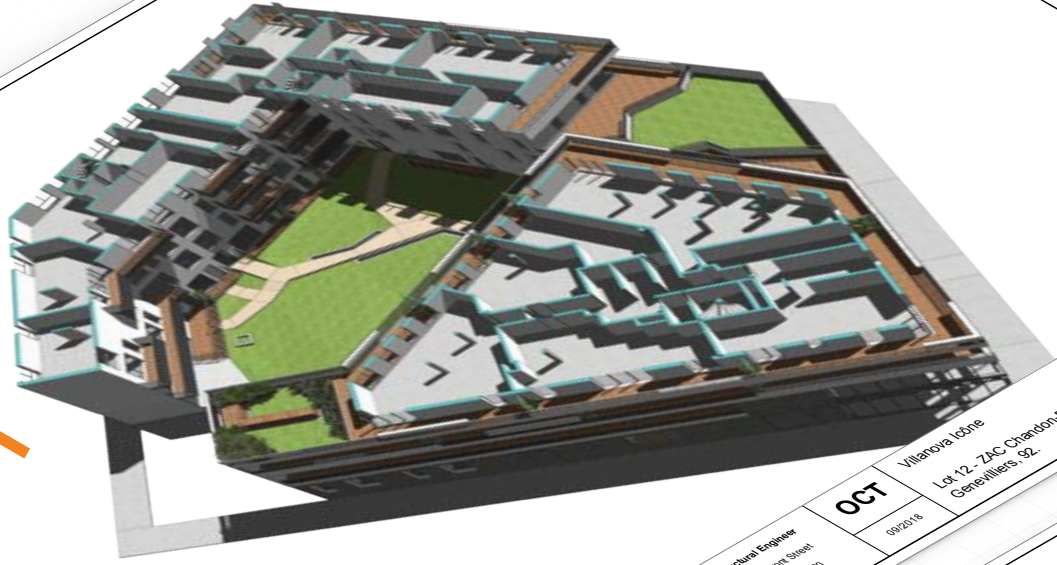
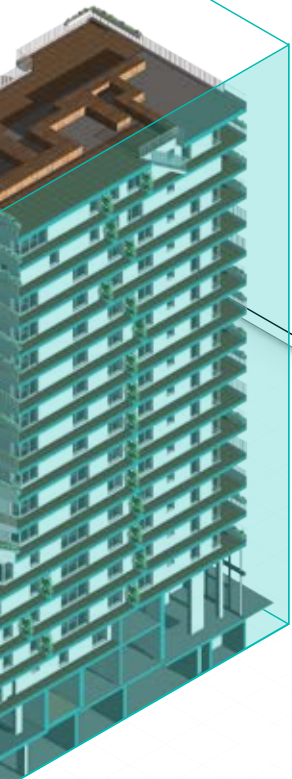


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CREATE REMARKABLE PRESENTATIONS WITH NEW CLIP CUBE OPTIONS

You asked for it, and now you can use the clip cube on sheet layer viewports. And, unlike other applications that have limitations on the visualization of clip cubes, Vectorworks enables you to use clip cubes in any rendered view or style, giving you the efficiency and capability you need to create remarkable sections, elevations, and presentation drawings.





A Plan Perspective
Scale: 1/250

Hamon & Associés
50 rue Froelich Street
101 01 50 62 24 43
1 01 50 62 24 43
www.hamon.com

Construction Manager
451 West 44th Street, New York, NY
1 212 512 5555
1 212 512 5555
www.constructionmanager.com

Landscape Architects
8562 Main Street, Suite 402
Edgewater, NJ 07020
908 555 4336
info@landscape.com

Structural Engineer
50 rue Froelich Street
101 01 50 62 24 43
1 01 50 62 24 43
construc@hmo.net

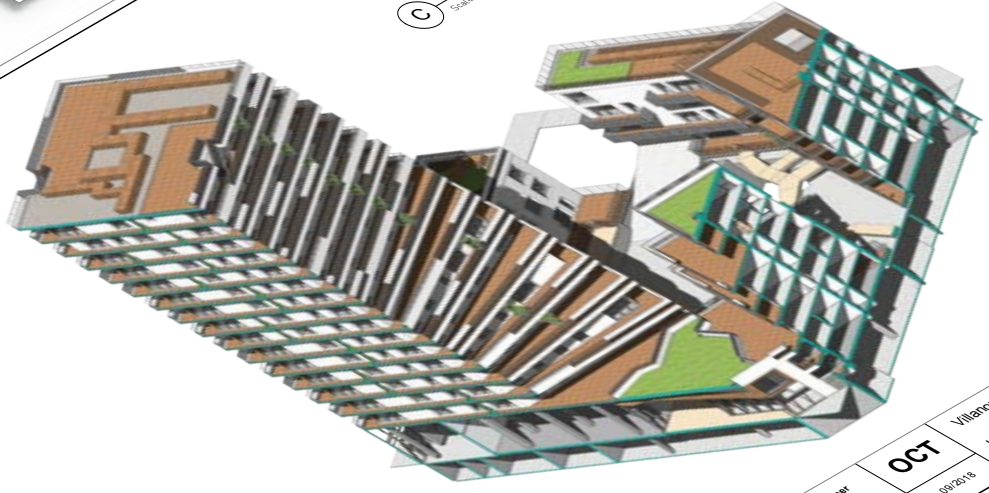
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orientation
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document
Clap, Coupe, Model

scale
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C Section View
Scale: 1/250



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orientation
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Clap, Coupe, Model

scale
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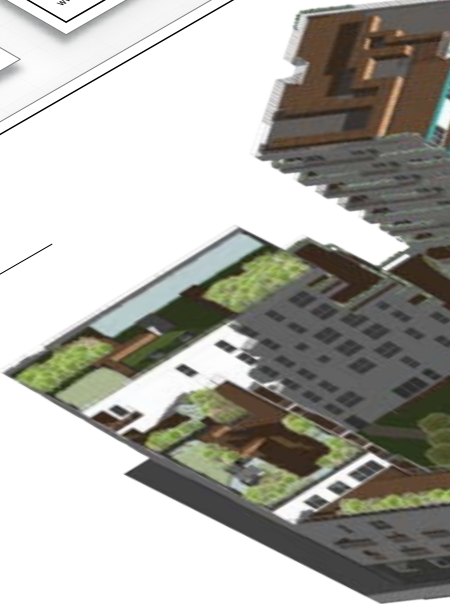
D Section View
Scale: 1/250

B Section @ Mezzanine
Scale: 1/6 + 1/3'

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www.hamon.com

Construction Manager
451 West 44th Street, New York, NY
1 212 512 5555
1 212 512 5555
www.constructionmanager.com

Landscape Architects
8562 Main Street, Suite 402
Edgewater, NJ 07020
908 555 4336
info@landscape.com



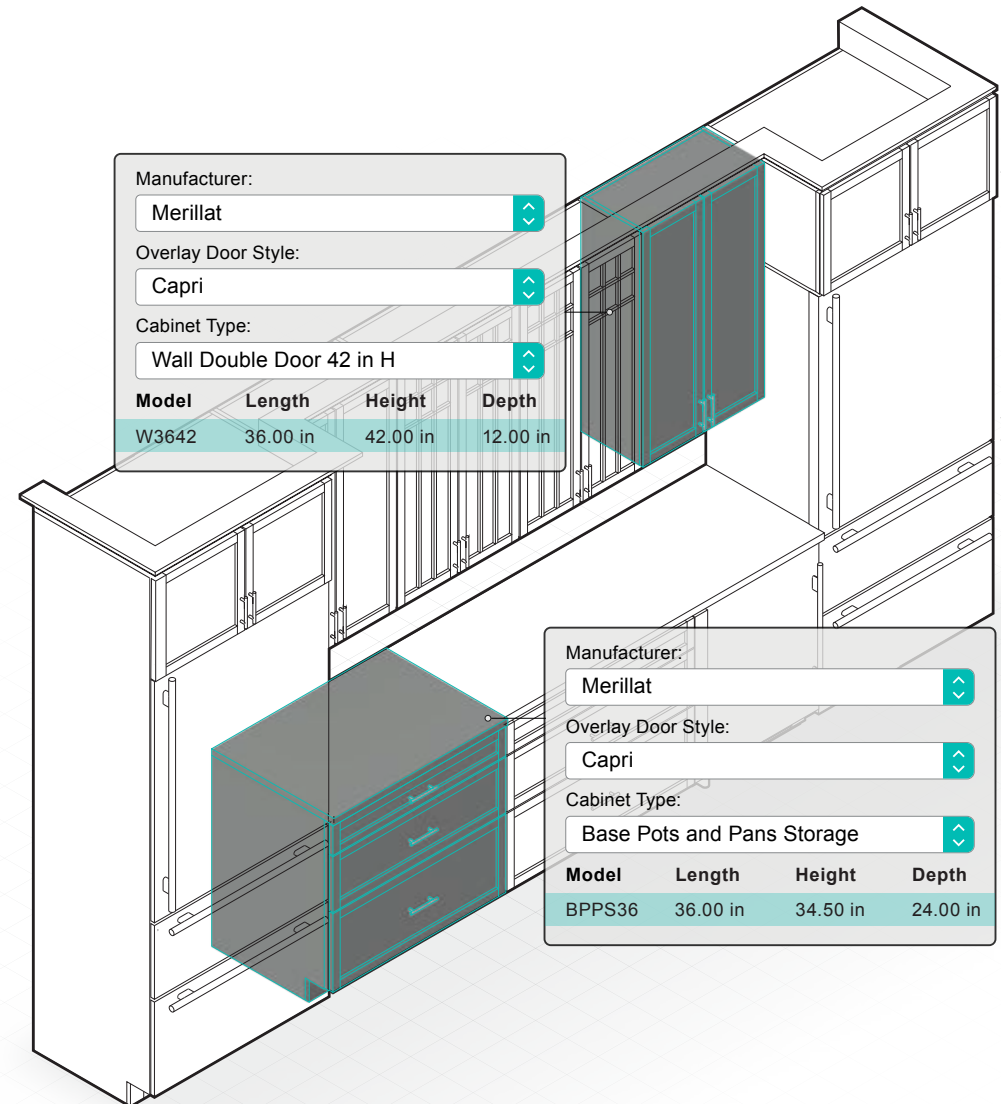
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F Section @ Mezzanine
Scale: 1/6 + 1/3'

SAVE TIME SPECIFYING WITH NEW OBJECT CATALOGS

We've expanded our support of catalog styles to additional architectural elements, including all cabinet objects. You can quickly define and specify the cabinetry in your designs using manufacturer catalog data. Controlling objects by catalog styles lets you quickly modify the architectural object data while saving you time with your materials specifications. Additionally, Vectorworks now supports this style capability for third-party plugins.

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QUICKLY CAPTURE SITE DATA WITH

POINT CLOUD ENHANCEMENTS

Reality capture has quickly transformed from a high-cost, advanced technology for experts into an affordable and accessible process that can have a major impact on your design workflow. Our latest release makes working with point clouds faster and easier. We added import of PLY point cloud files, new controls to manage the density and automatically clean up point cloud data, and the ability to define a marquee region to refine the data set. A new Merge Point Clouds command creates a single model from individual scans, and a new custom color option allows you to define height limits of various regions, so you can better visualize your data set.

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SPEED UP YOUR MODELING PROCESS WITH

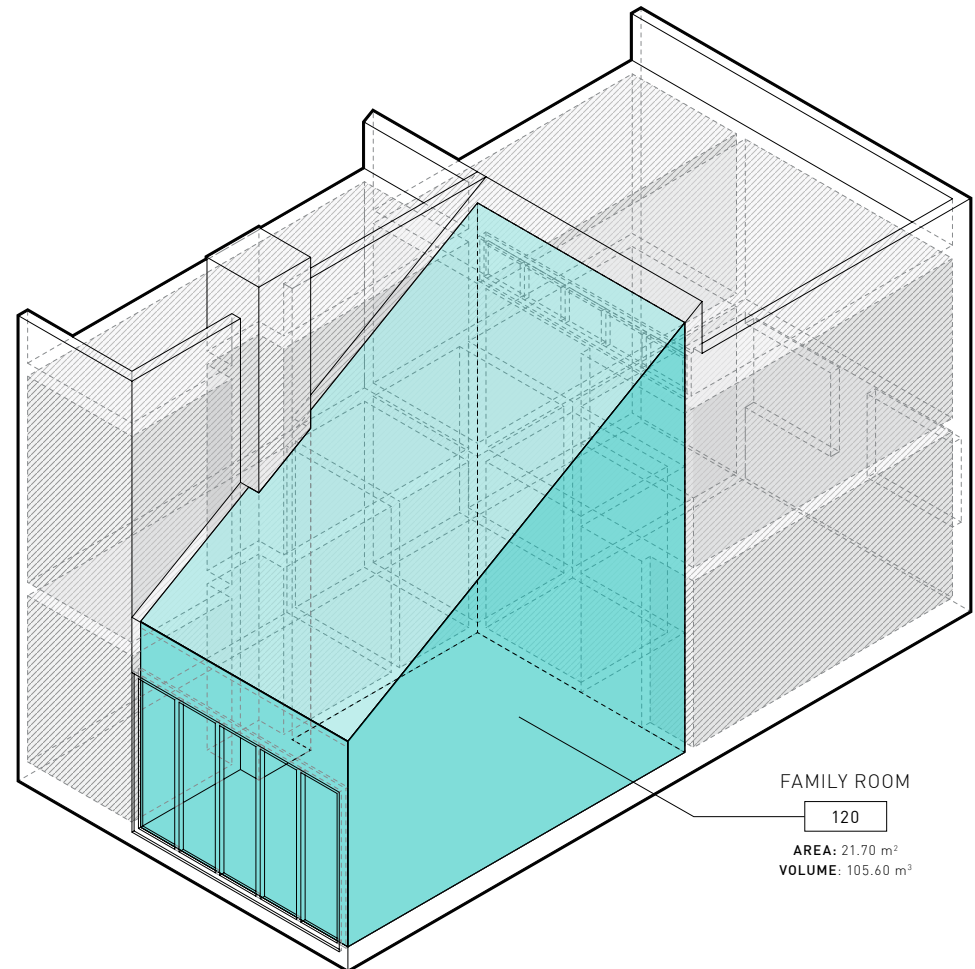
SUBDIVISION ITERATIONS

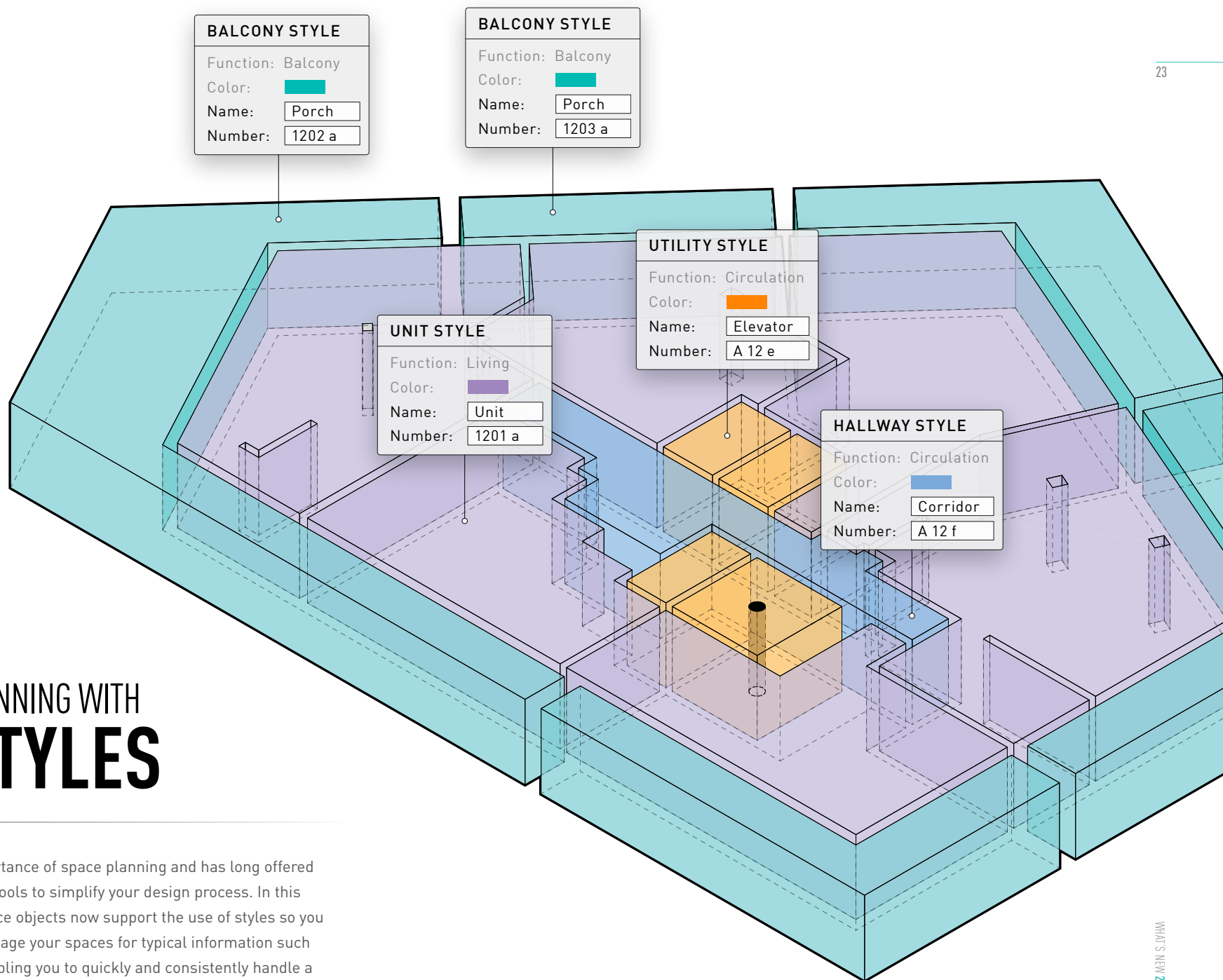
We've continued to refine the ease of use of our subdivision feature, built on Pixar's OpenSubdiv library. A new setting in the Edit Subdivision tool gives you the ability to quickly see how subdivisions will look with one to five subdivision iterations being performed, making it possible to go from generic form to your desired result much faster.

INCREASE ACCURACY WITH NON-HORIZONTAL CEILINGS AND FLOORS IN SPACE OBJECTS

Having a 3D model of building spaces is incredibly advantageous for understanding your design at all stages. With these latest improvements to our space objects, you can easily fit your spaces to geometry above or below your space, such as walls, ceilings, roofs, and slabs, resulting in more accurate representations of space volumes, areas, calculations, and visualizations.

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IMPROVE SPACE PLANNING WITH SPACE STYLES

Vectorworks understands the importance of space planning and has long offered a powerful suite of space planning tools to simplify your design process. In this latest release, the Vectorworks space objects now support the use of styles so you can more efficiently create and manage your spaces for typical information such as usage type, color, and class, enabling you to quickly and consistently handle a large number of spaces.

03

ENJOY EXCEPTIONAL QUALITY

We pride ourselves on listening to customers like you. We know you love the innovative technology we've delivered in the past, and we strive to provide the top-notch quality you expect across all Vectorworks products. With Vectorworks 2019, we've listened to your feedback, and we've doubled down on many under-the-hood improvements that you're sure to notice when you experience version 2019 for the first time.





SAVE TIME WITH MULTIPLE-CORE SUPPORT

FOR THE VECTORWORKS GRAPHICS MODULE

The Vectorworks Graphics Module has been enhanced to use intelligent on-demand object tessellation for loading only geometric objects that need to be shown. This enhancement significantly speeds file and view loading in Vectorworks files of all sizes.

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IMPROVE COLLABORATION WITH BETTER DWG IMPORTS AND EXPORTS

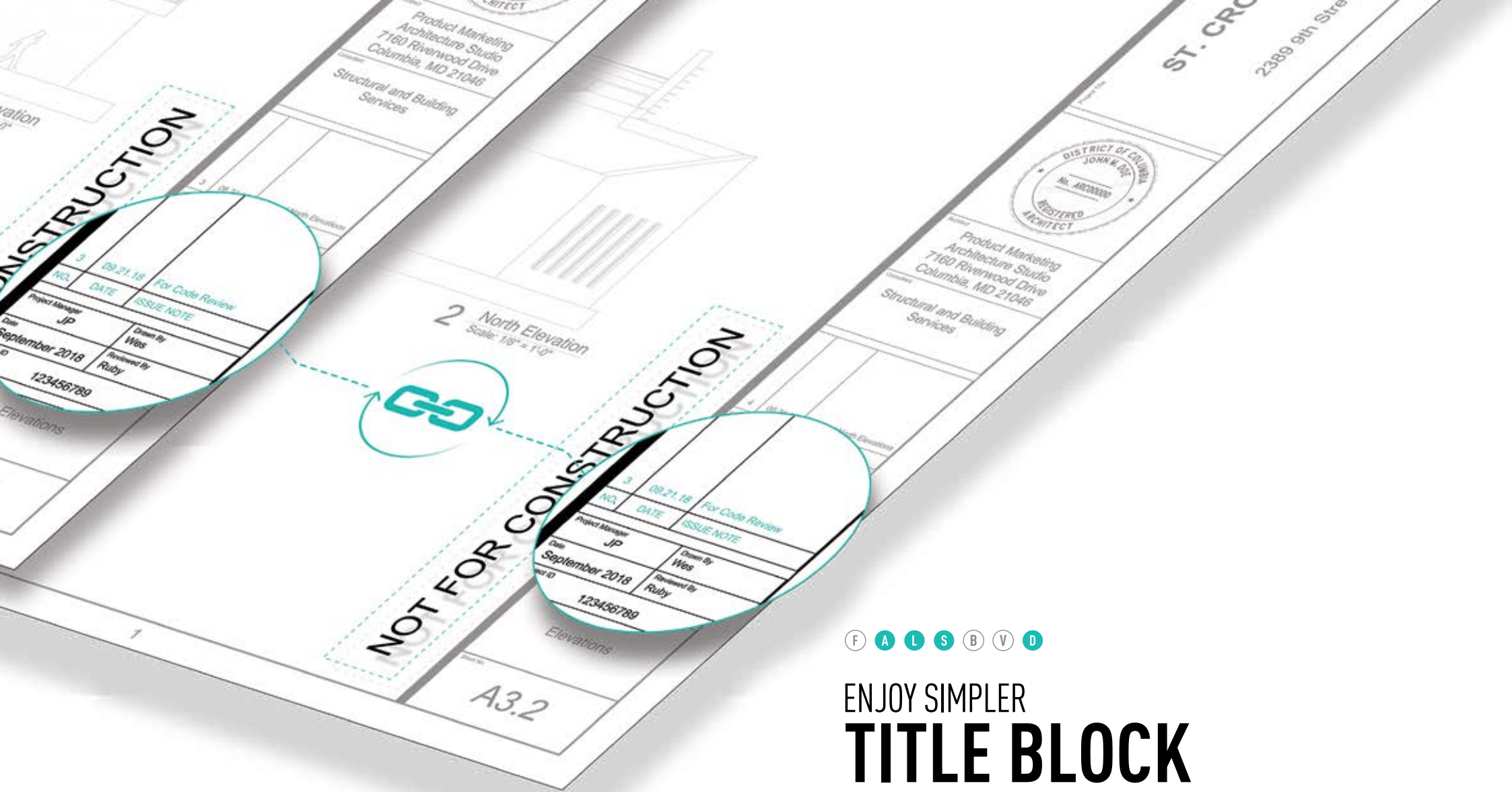
When you collaborate with others, you expect the information you share is accurate and easy to manage. With enhancements to the layer and class mapping for DWG imports, you'll enjoy a quick import process that doesn't require manual effort to rename and organize the DWG file information. A new purge option lets you delete empty layers and unused objects for a cleaner import. And, new options give you more control when exporting images, fills, and tiles resulting in higher-quality DWG exports from Vectorworks.

WORK FASTER WITH THE VECTORWORKS GRAPHICS MODULE ON SHEET LAYERS

Our Vectorworks Graphics Module is an exceptional screen-drawing technology that makes it possible for you to enjoy smooth, fast, and reliable generations of drawing and model views while you're using Vectorworks. With this latest release, your project's sheet layers now benefit from optimized, multi-threaded technology for use with advanced GPUs. As a result, there's no performance difference between panning and zooming in a sheet layer compared to a design layer.

F A L S B V D





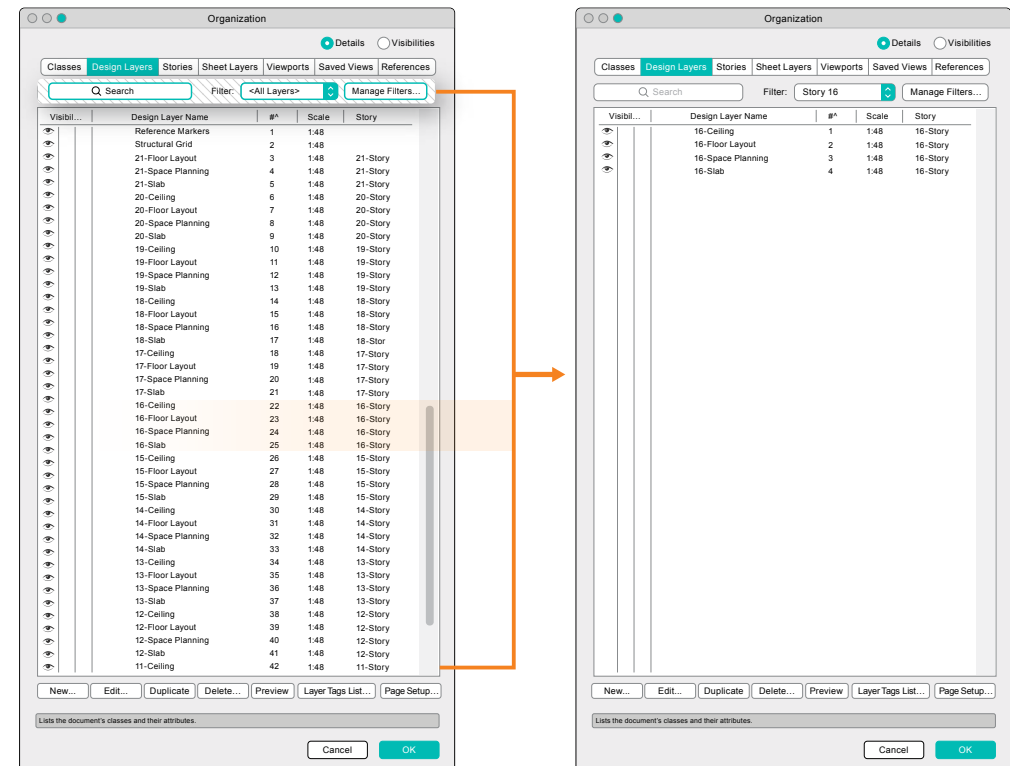
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ENJOY SIMPLER TITLE BLOCK MANAGEMENT

With enhancements to the title block in Vectorworks 2019, you'll enjoy the ability to manage title blocks across multiple documents from a single file, regardless of how many Vectorworks files are incorporated in your project.

IMPROVE NAVIGATION WITH LAYER AND CLASS FILTERING

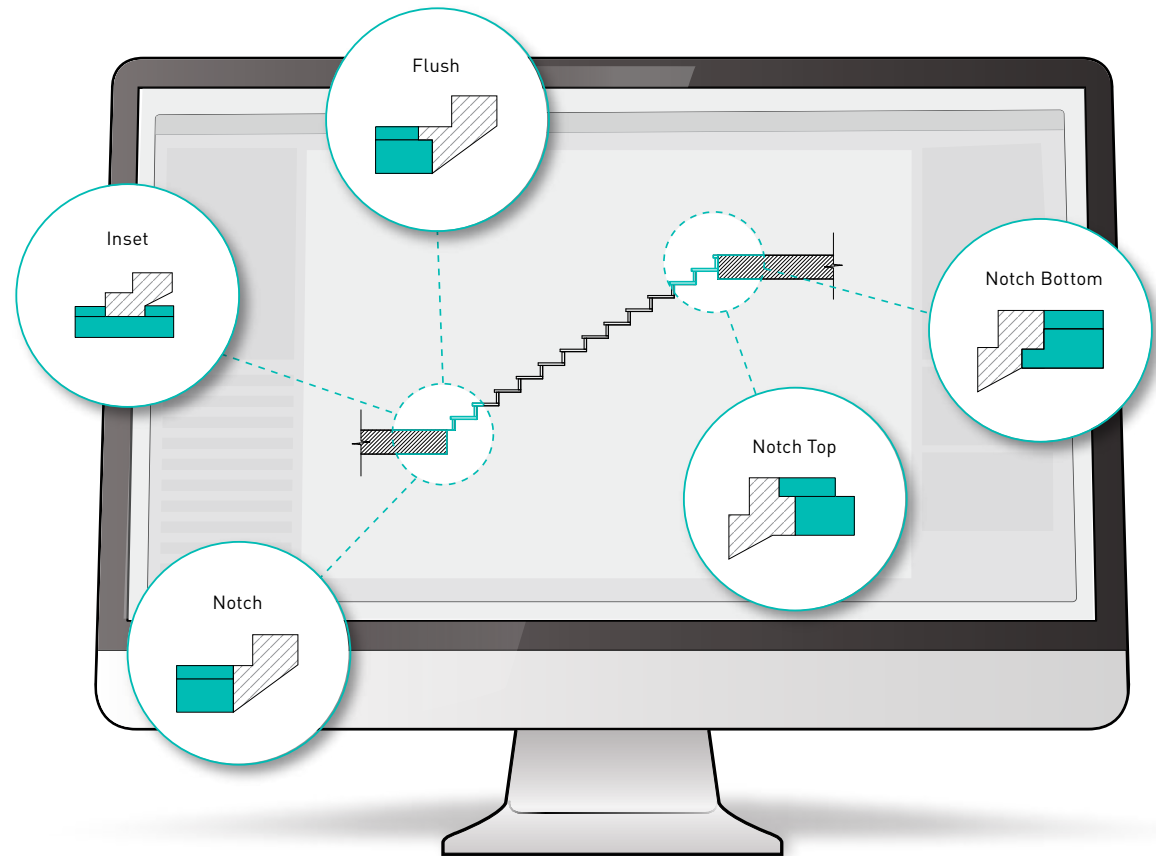
Searching through long lists to find the layer and class you're looking for is a huge pain. In 2019 you can instantly find what you're looking for by typing in a keyword search or using filters to display classes and layers based upon specific properties. Being able to work with filtered lists, and instantly search to find classes or layers, will significantly improve your productivity.



INCREASE YOUR EFFICIENCY WITH IMPROVED STAIRS

The Stair tool has several exciting quality improvements in this release, including options for correctly modeling custom top and bottom treads in any design scenario, at-your-fingertips access to stair content in the Resource Selector, and easy-to-discover settings for stair-to-floor connections.

F A L S B V D



DISCOVER PEACE OF MIND WITH

PROJECT SHARING DIAGNOSTICS

We've tuned project sharing to address the common usage issues. We've added safeguards to prevent accidental deletion of work when multiple users have admin privileges within a project. Moreover, you can run diagnostics to check for performance issues and take corrective actions.

F A L S B V D

F A L S B V D

TAKE CONTROL WITH IMPROVED

FLYOVER SENSITIVITY

With version 2019, you now have easy access to settings for controlling the Flyover tool sensitivity, so you can stay in complete control of your 3D flyover.

F A L S B V D

EASILY HANDLE CHANGES WITH IMPROVED

CHAIN DIMENSIONS

Take advantage of new capabilities with Vectorworks dimensions that enable you to simultaneously add multiple dimensions in a chain dimension and quickly split a chain dimension in two, so you can more efficiently handle changes with your design dimensions.

04 ADVANCE YOUR SITE DESIGN

Vectorworks Landmark is the all-in-one program that will transform your design, presentation, irrigation, documentation, and BIM workflows. Unlike other software, Vectorworks has the flexibility to support your entire project from beginning to end, or anywhere in the process — with tools created specifically for you as a landscape professional. See what's new in Vectorworks Landmark 2019.

32

*Ceratopetalum
gummiferum*

24

*Trista
spp.*



anlopsis

99

Cyathea australis



62

Omalanthus populiifolius

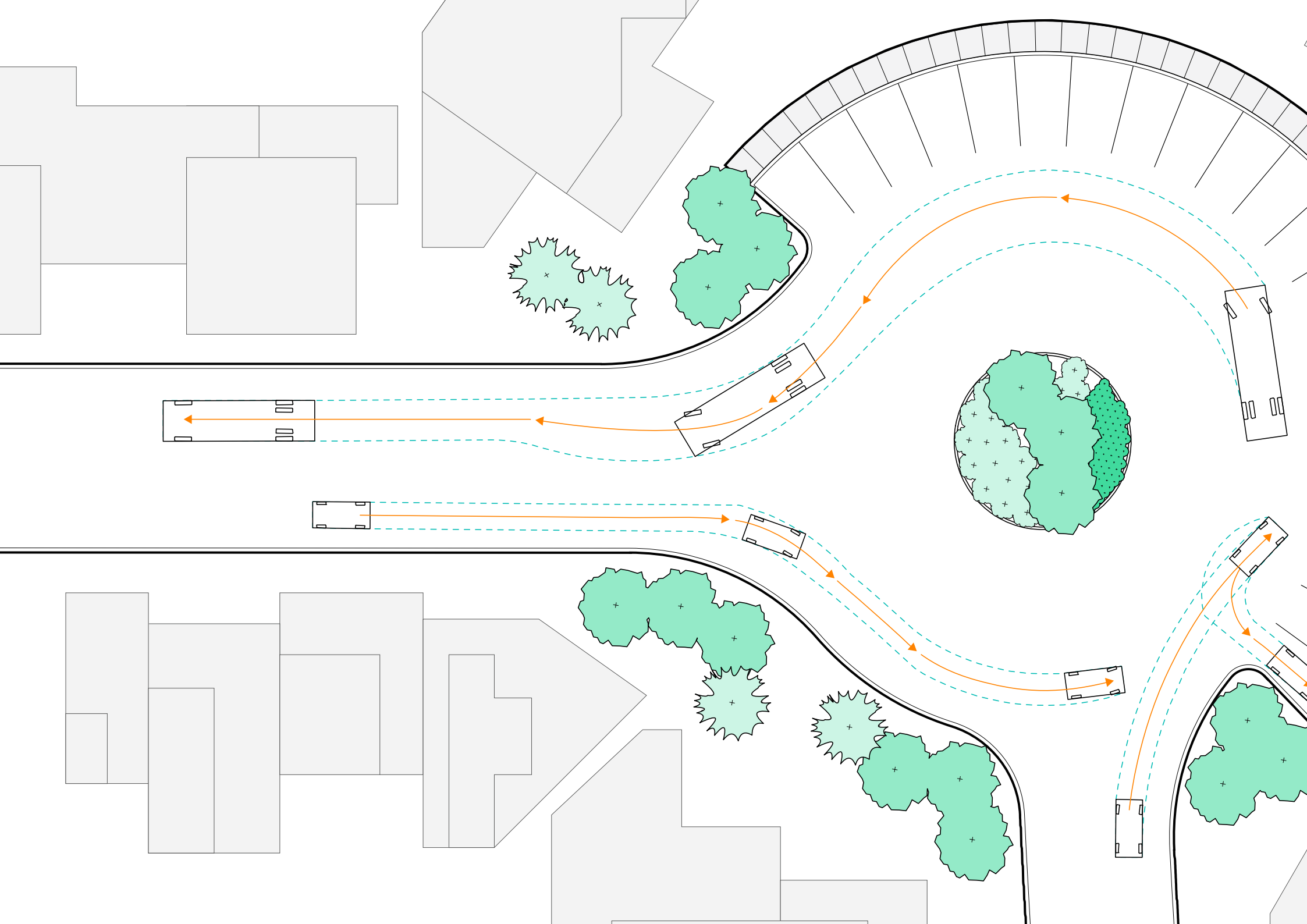


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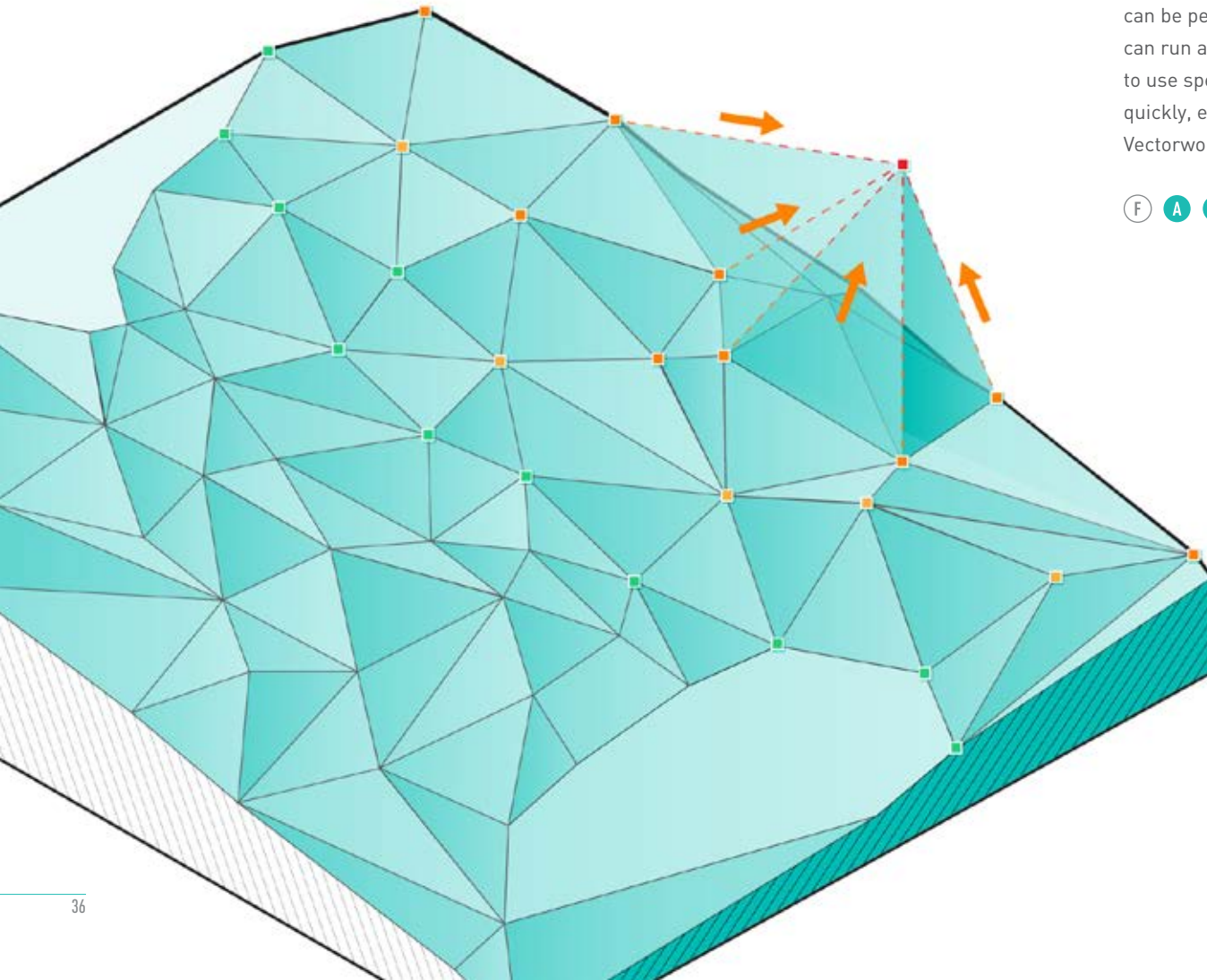
SIMULATE VEHICLE TURN REQUIREMENTS WITH **AUTOTURN ONLINE**

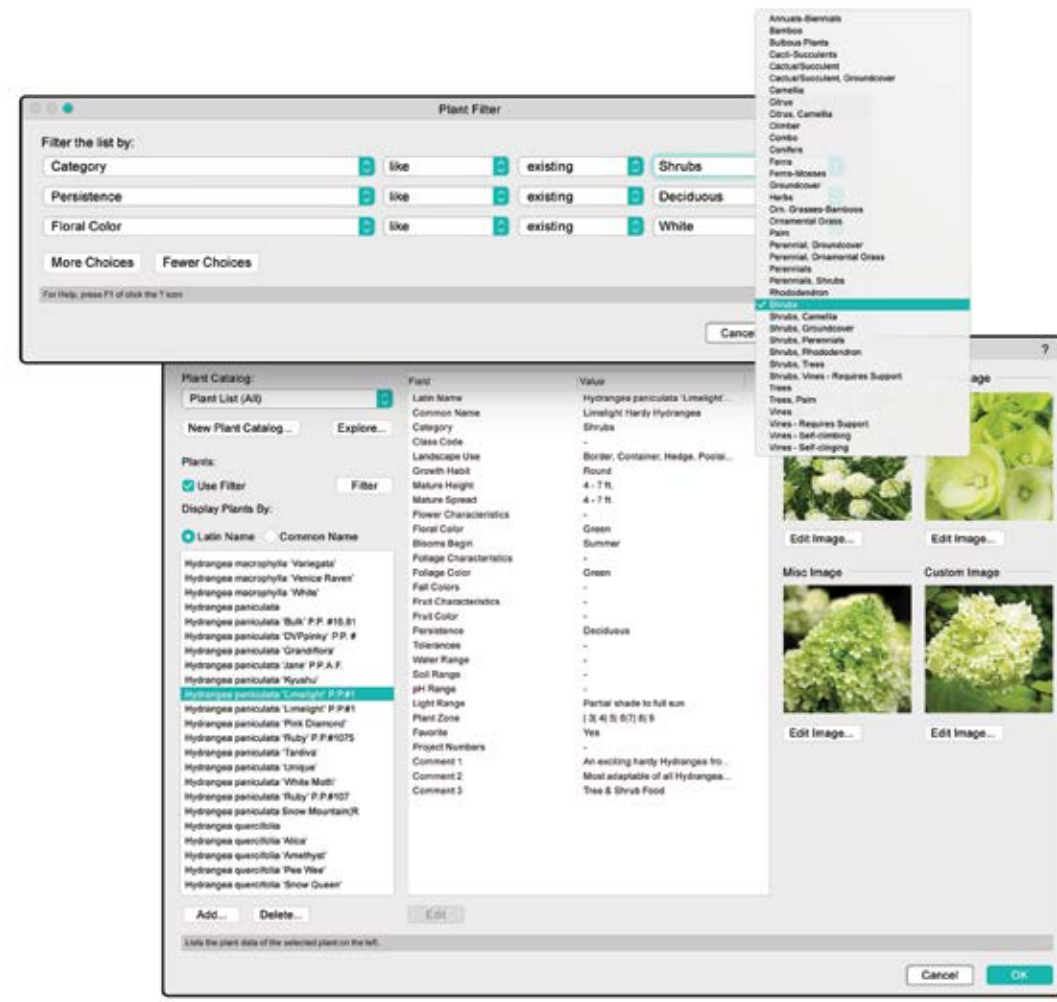
In the past, evaluating whether a design can accommodate the turning paths of vehicles was a time-consuming trial-and-error process. With a new partnership with TranSoft Inc., we're making it simple to evaluate vehicle access on any project. From Vectorworks' new AutoTURN® Online browser, simply upload a design, pick a vehicle, perform a simulation, and export the results back into your project file.

STREAMLINE SITE MODELING WITH 3D SCULPTING

Unlike SketchUp and Rhino, site model sculpting in Vectorworks BIM products can be performed on both geometry and on an intelligent site model, so you can run a site analysis and calculate the effects of your changes without having to use specialized add-ons or entirely separate products. With 2019, you can quickly, easily, and intuitively sculpt the site for your project using a variety of Vectorworks direct modeling features, such as reshape and push/pull.

F A L S B V D





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SAVE TIME WITH PLANT DATA SOURCES

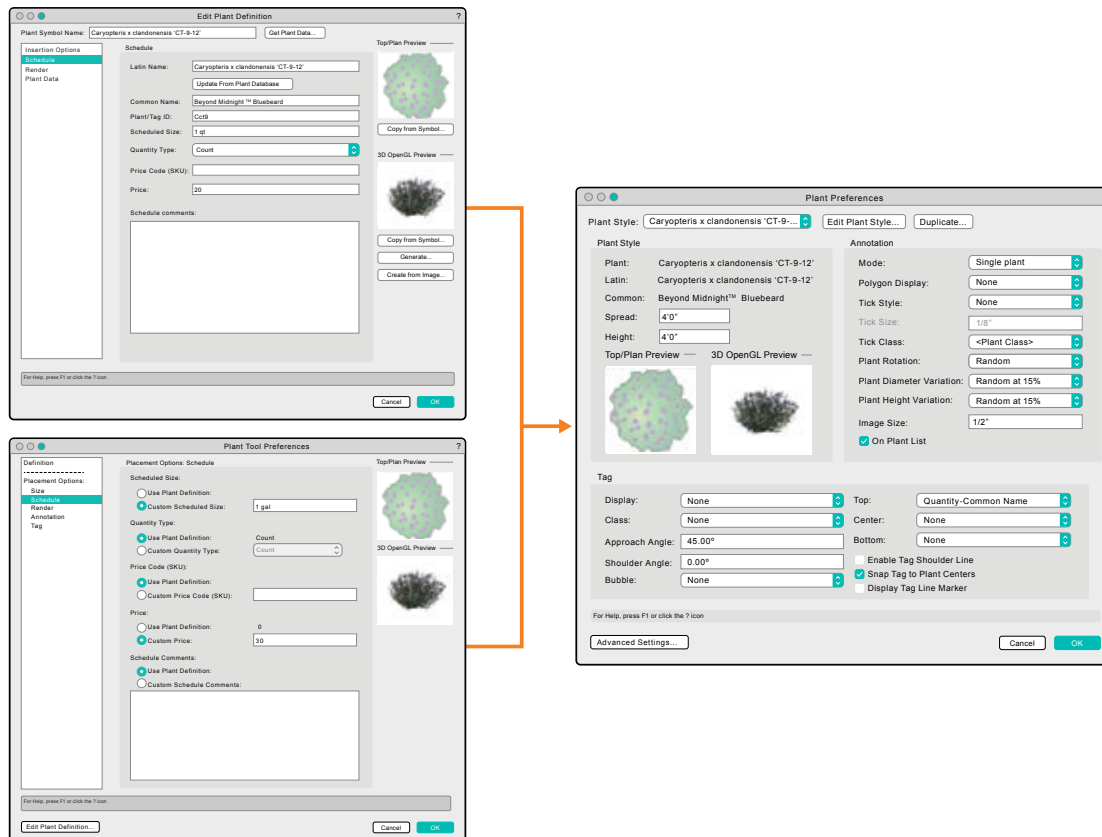
The Choose Plant Data Source command has a new option for you to either open the entire default plant database or open a specific plant catalog from online resources. The new capability to specify a catalog can help you more efficiently work with your preferred plant palette and save you the time you'd otherwise spend searching through the entire plant database.

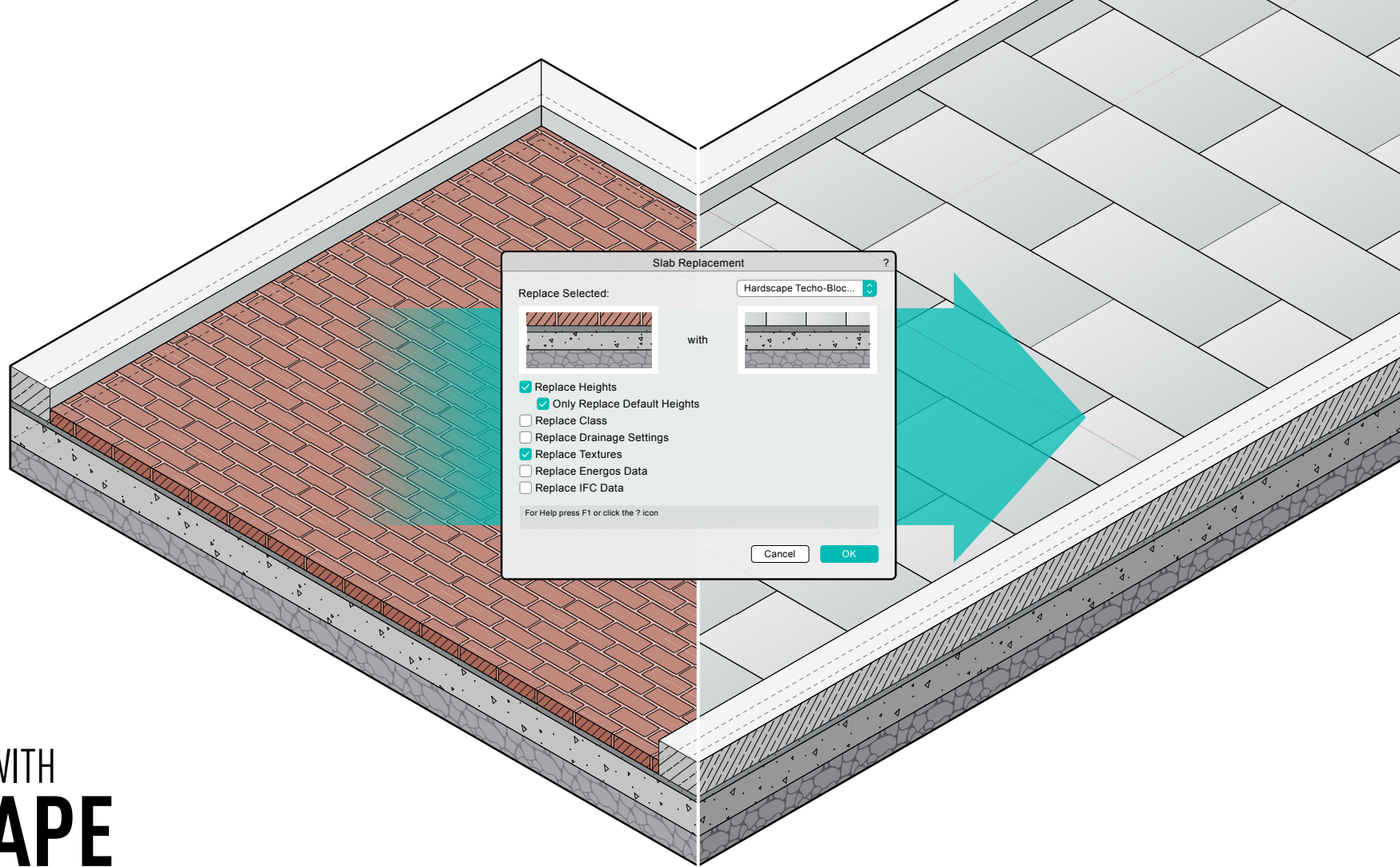


SIMPLIFY THE CREATION OF PLANTING PLANS

Creating planting plans has always been a strength of Vectorworks Landmark, and to keep that legacy, our latest release provides significant user interface improvements to the plant preferences dialog boxes that make the planting workflow more straightforward and easier for new users to learn, while maintaining the advanced functionality you rely on.

F A L S B V D





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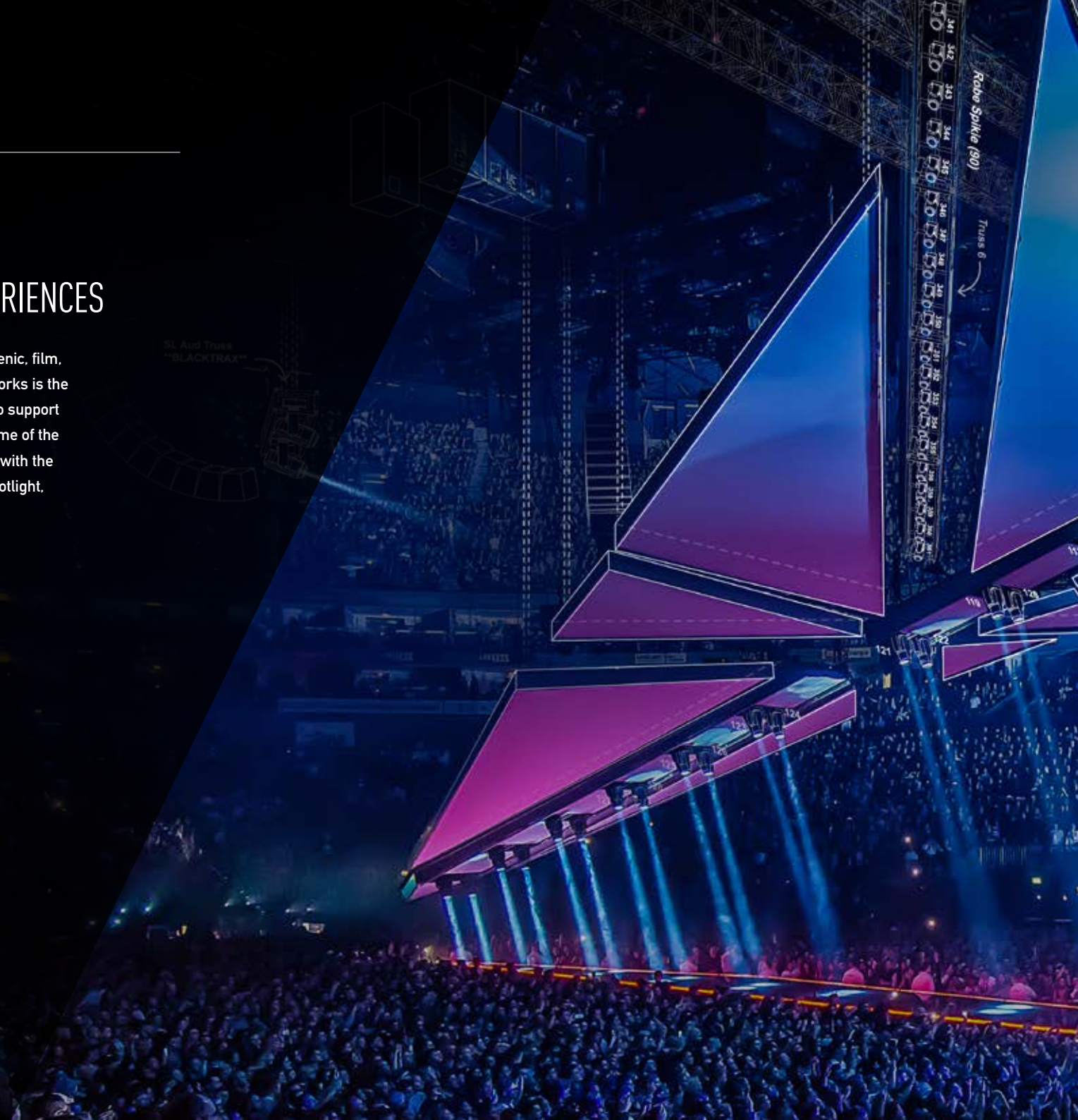
GAIN EFFICIENCIES WITH **HARDSCAPE COMPONENTS**

Improvements in the hardscape object make it possible to define hardscape components such as pavers, mortar, concrete slabs, gravel, etc., and to slope hardscapes for drainage when used in conjunction with the Slab Drainage tool. This gives you an efficient workflow to specify paving material layers and create accurate material take-offs.

05

CREATE UNMATCHED EXPERIENCES

Whether you work in lighting, scenic, film, event, or exhibit design, Vectorworks is the only solution with the flexibility to support your entire process. Here are some of the improvements you'll experience with the 2019 versions of Vectorworks Spotlight, Braceworks™, and Vision.





WHAT'S NEW 2019

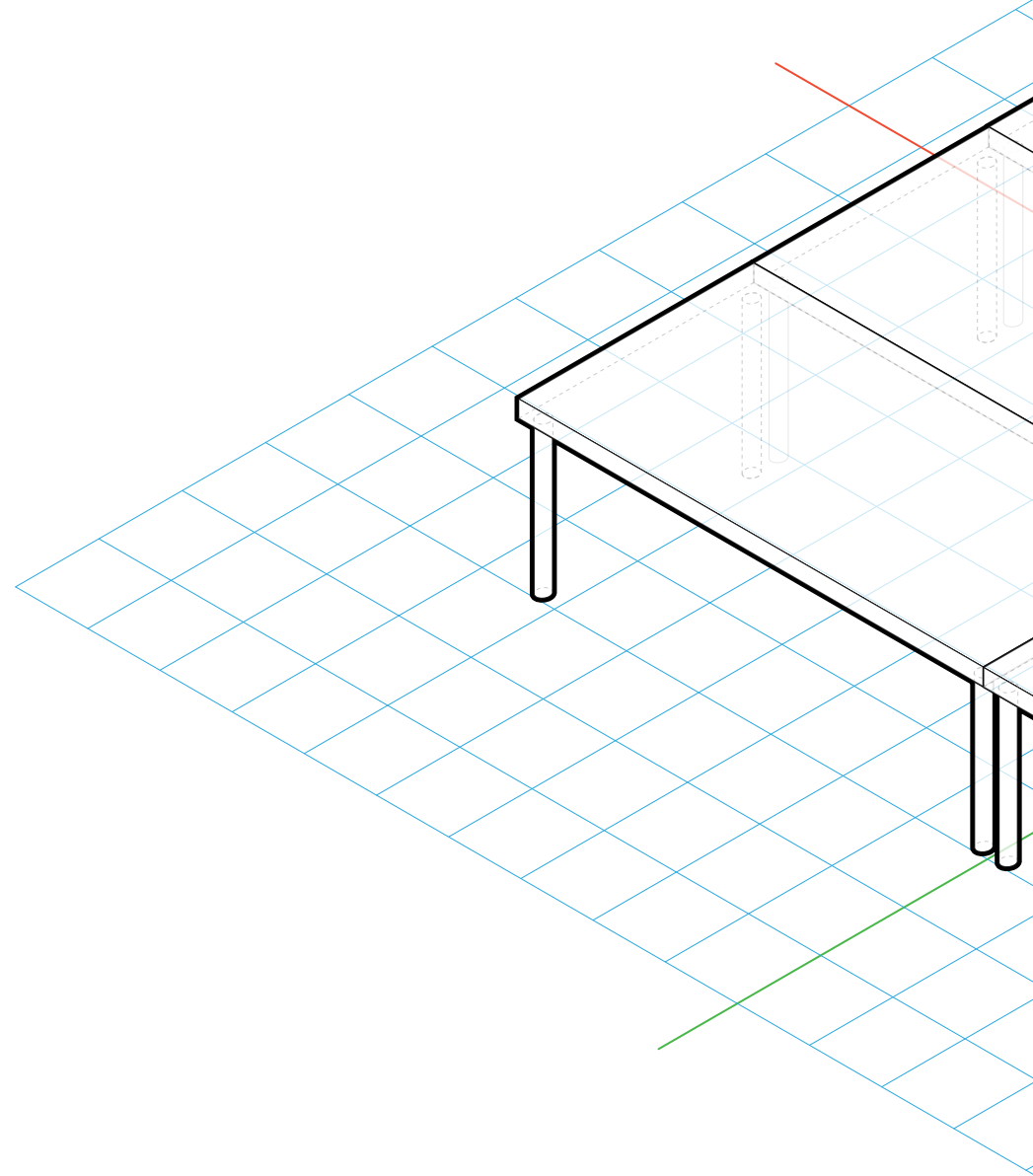
THE WEEKND STARBOY TOUR
COURTESY OF SRAE PRODUCTIONS AND RALPH LARMANN

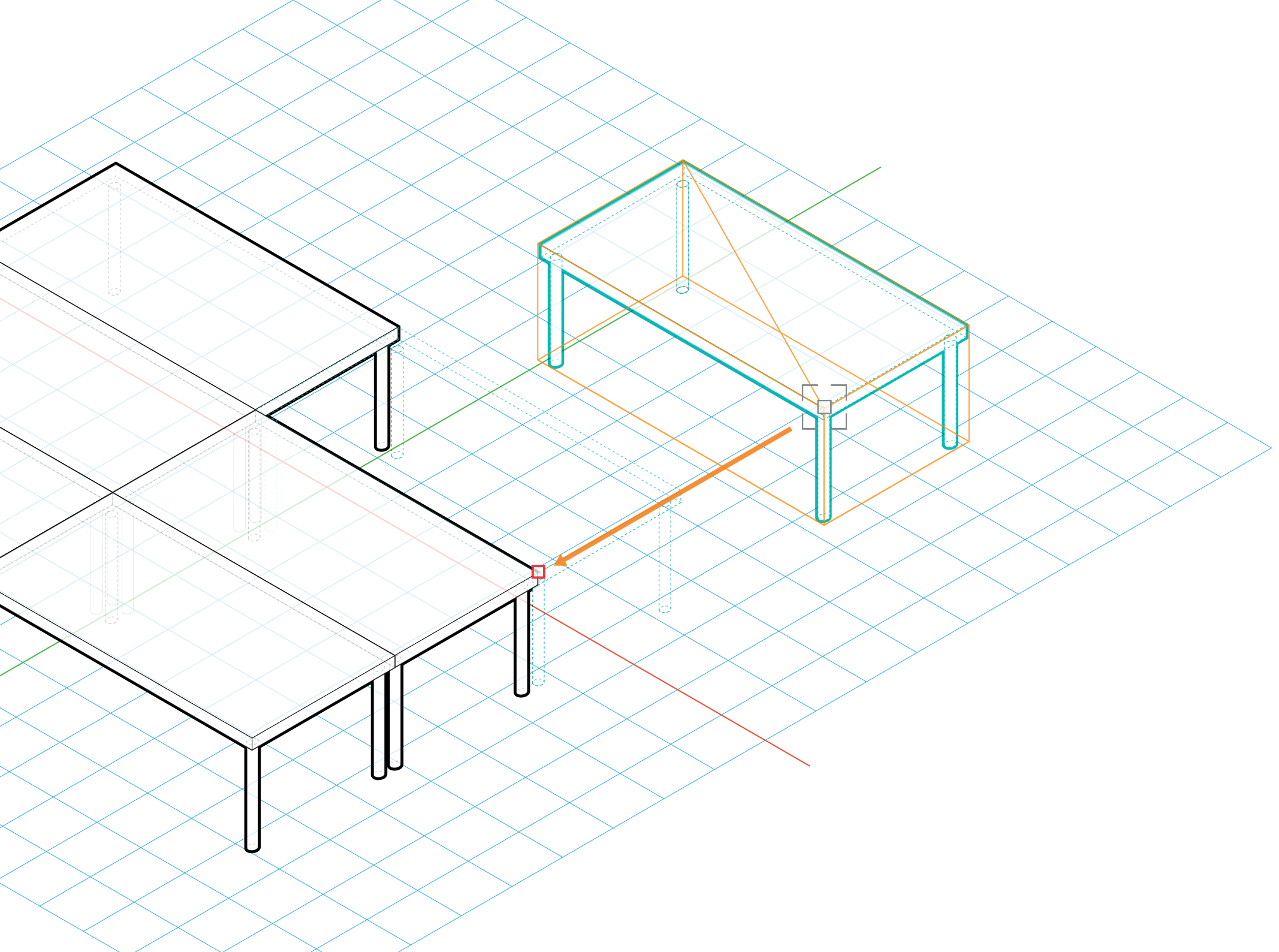


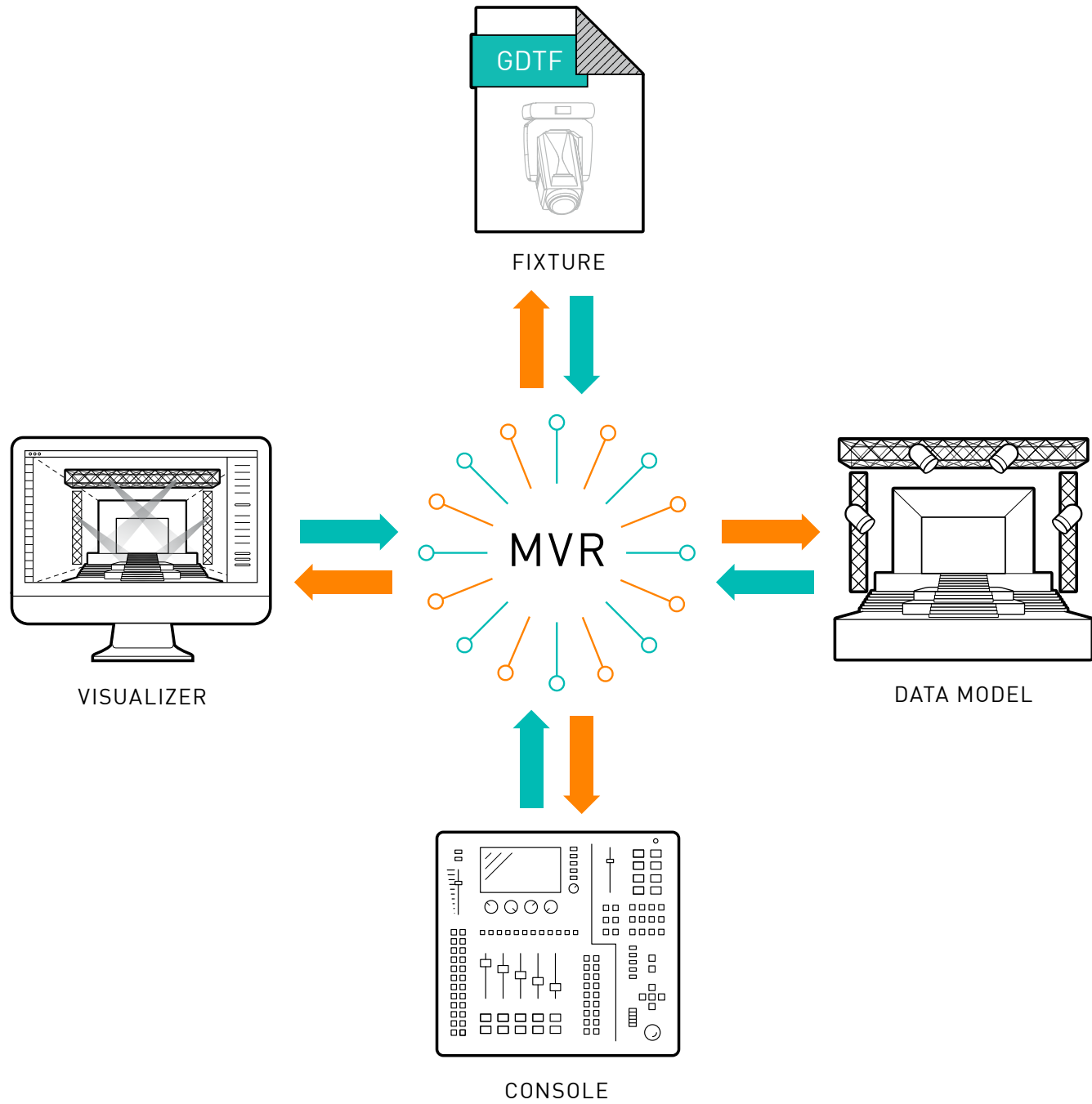
EASILY PLACE FIXTURES AND MODEL WITH SPOTLIGHT OBJECTS IN 3D

You increasingly work in 3D to design your lighting rig, scenic elements, and venue, so why should you be limited to using Spotlight tools in 2D? With Vectorworks Spotlight 2019, you can work in 3D from the beginning. Stage decks and all of the commands in the Spotlight menu have been updated to include more intuitive snapping and 3D behaviors that automatically detect and snap to surfaces. No more switching views to move objects into the correct position. Moreover, you can quickly rotate and align lighting devices in any 3D view using the Rotate tool.

F A L **S** B V D







DISCOVER BETTER CONSOLE COLLABORATION WITH **MY VIRTUAL RIG**

Vectorworks has partnered with MA Lighting and Robe lighting to bring to the industry a new open-standard format known as the General Device Type Format (GDTF). The format has really taken off, with unified support from many of the biggest brands in the entertainment industry. To build on that momentum, we've introduced My Virtual Rig (MVR). MVR is an open-file-format container that packages the GDTF files for all of the lighting fixtures in your design, along with a complete 3D model and data describing the positions and 3D elements. This allows you to easily conduct your previz with Vision and communicate directly from your Vectorworks design to your console. The GDTF format is already supported by the grandMA3® console and will be supported by more than 20 of the largest lighting manufacturers in the near future.

F A L **S** B V D

F A L **S** B V D

GAIN MORE CONTROL WITH **3D LABEL LEGEND IMPROVEMENTS**

Unlike other software applications that have no convenient way to represent labels for vertically hung positions, Vectorworks Spotlight gives you direct control over how your 3D labels for lights are displayed — in any view.

IMPROVE PRECISION WITH A NEW **PROJECTOR SCREEN CREATION MODE**

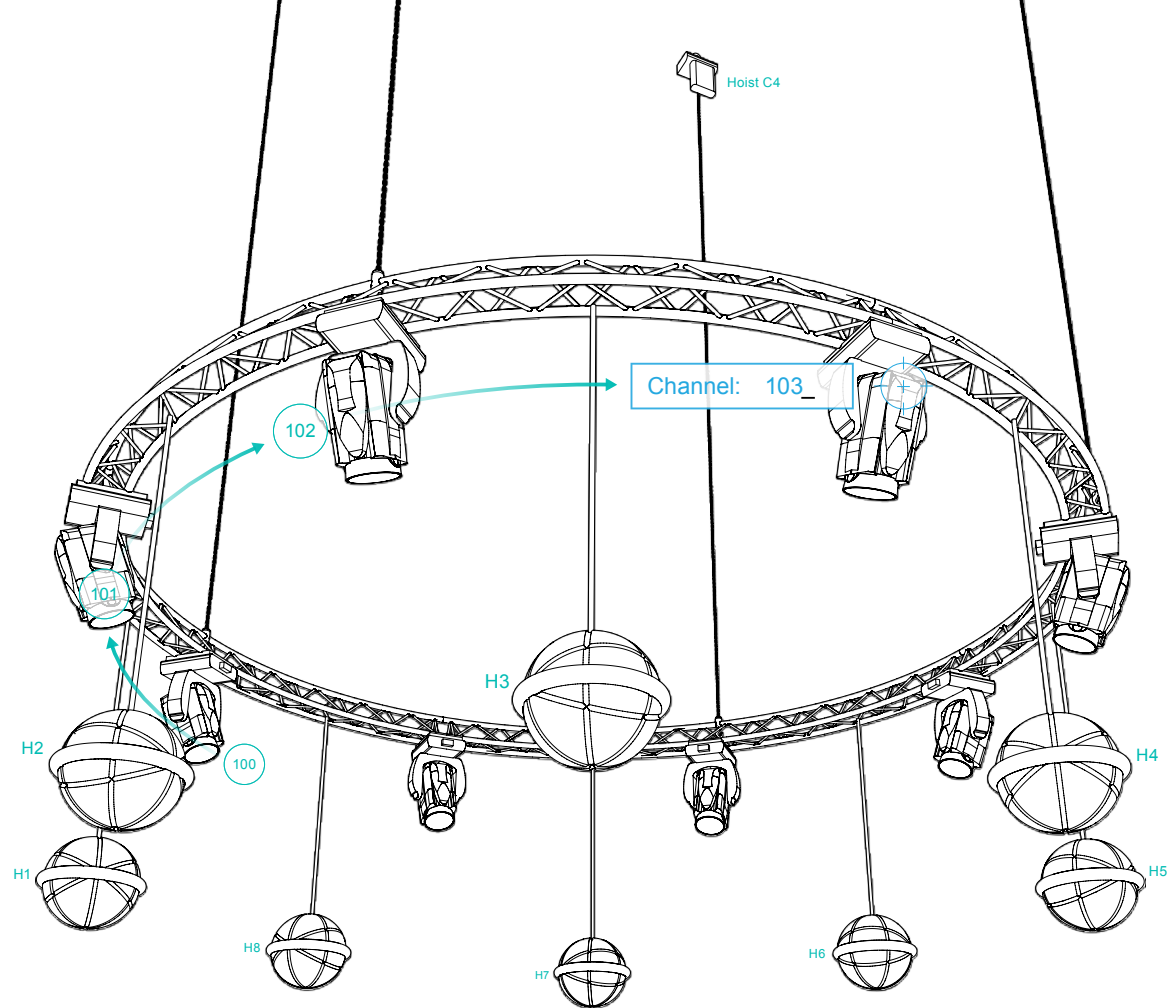
The video and blended screen objects have a new insertion mode that lets you set the projector's throw distance at insertion, resulting in a more efficient process to accurately design multiple video positions.

F A L **S** B V D

F A L **S** B V D

DISCOVER THE IMPROVED **LIGHTING INSTRUMENT TOOL**

You often have an idea of what fixtures you want to use and how you want those fixtures numbered. New modes in the Lighting Instrument tool can save a huge amount of time by allowing you to specify, prior to insertion, the desired fixtures mode and fixtures auto-numbering preference. Now you don't have to insert a fixture and then go back and define its mode and number.



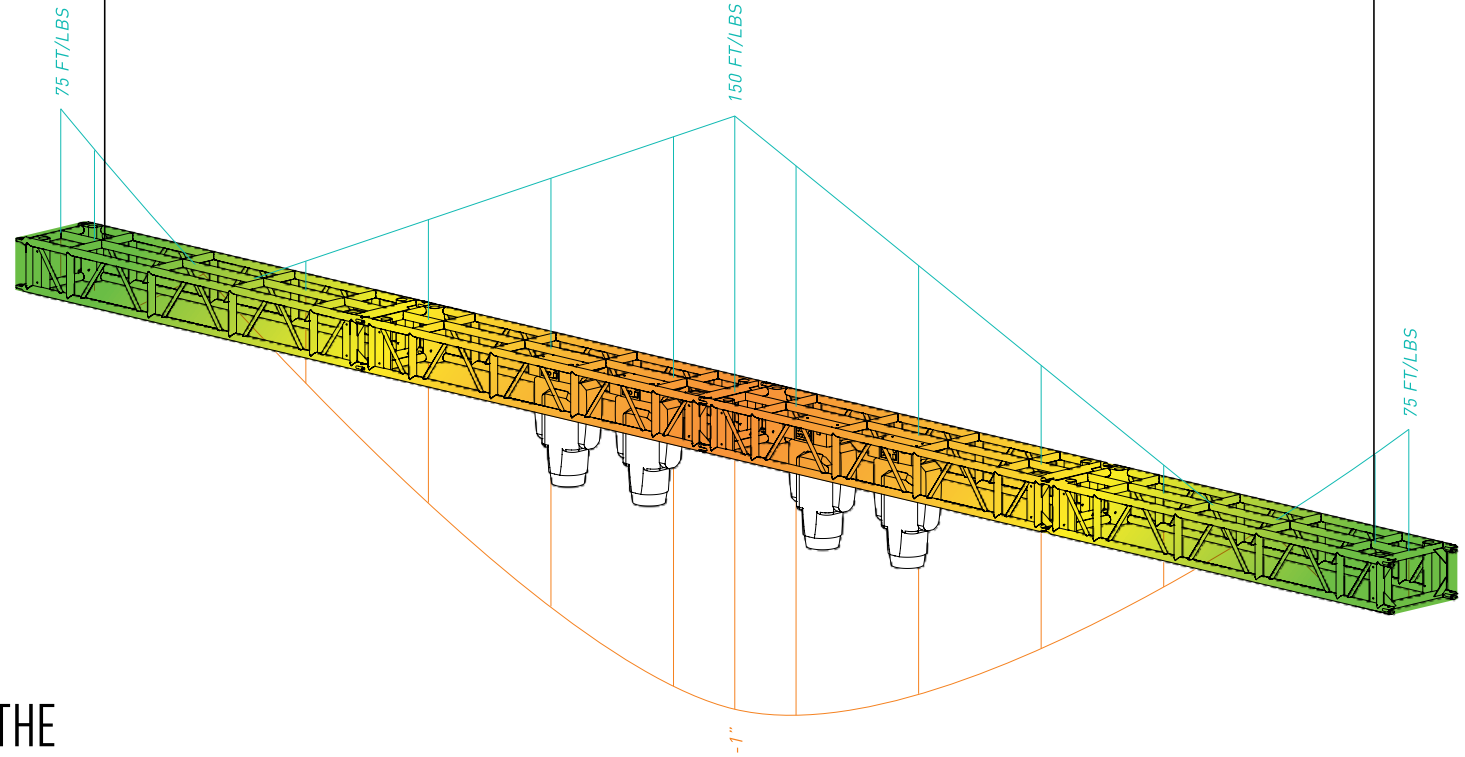
F A L S B V D

INCREASE EFFICIENCY WITH THE SPOTLIGHT NUMBERING COMMAND

Spotlight now provides a streamlined method to produce complex unit-numbering documentation in less time and with more flexibility. It works on multiple object types in any projection and is designed to be configured with specialized, industry-specific enumeration patterns.



RIGGING FEATURES



F A L S **B** V D

ZOOM IN ON ISSUES WITH THE BRACEWORKS HEAT MAP

For better insight into how your rig is performing, you can now see the stresses rendered in 3D along a span in both top/plan and 3D projection views.

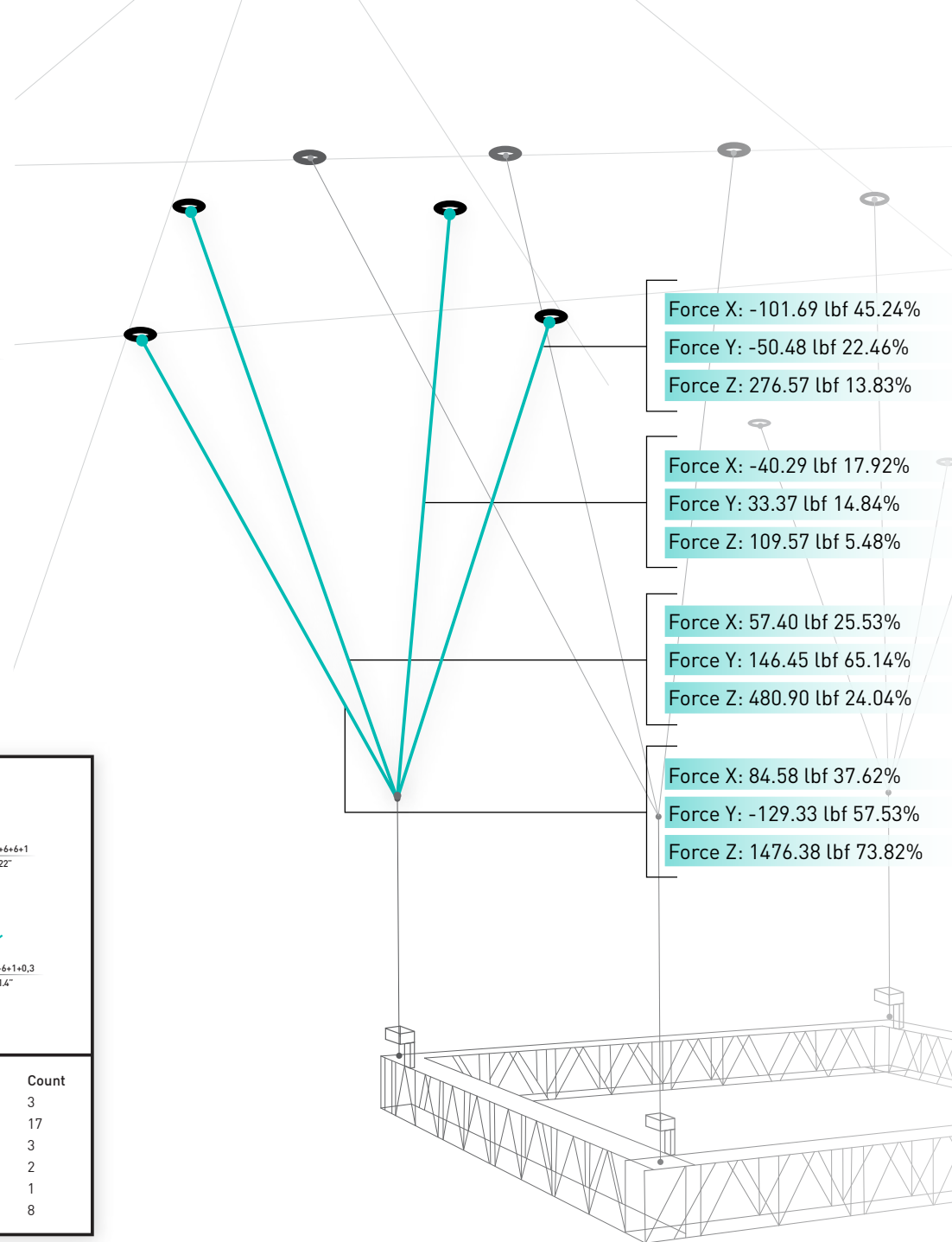
ANALYZE BRIDLES WITH BRACEWORKS

Braceworks now offers a suite of tools to create and calculate bridles, insert the components to achieve the needed leg length, and calculate reaction and deflection forces with the Braceworks engine. Plus, a complete list of parts and assembly diagrams can be generated using 2-, 3-, 4-point, and even stacked bridles for a project.

F A L **S** B V D

Bridle Setup Diagram

Name	Short Name	Count
S.T.A.C. Chain	SC	3
Shackle 1.5t	S1.5	17
Steel 100	1	3
Steel 30	0,3	2
Steel 300	3	1
Steel 600	6	8



Force X: -101.69 lbf 45.24%
 Force Y: -50.48 lbf 22.46%
 Force Z: 276.57 lbf 13.83%

Force X: -40.29 lbf 17.92%
 Force Y: 33.37 lbf 14.84%
 Force Z: 109.57 lbf 5.48%

Force X: 57.40 lbf 25.53%
 Force Y: 146.45 lbf 65.14%
 Force Z: 480.90 lbf 24.04%

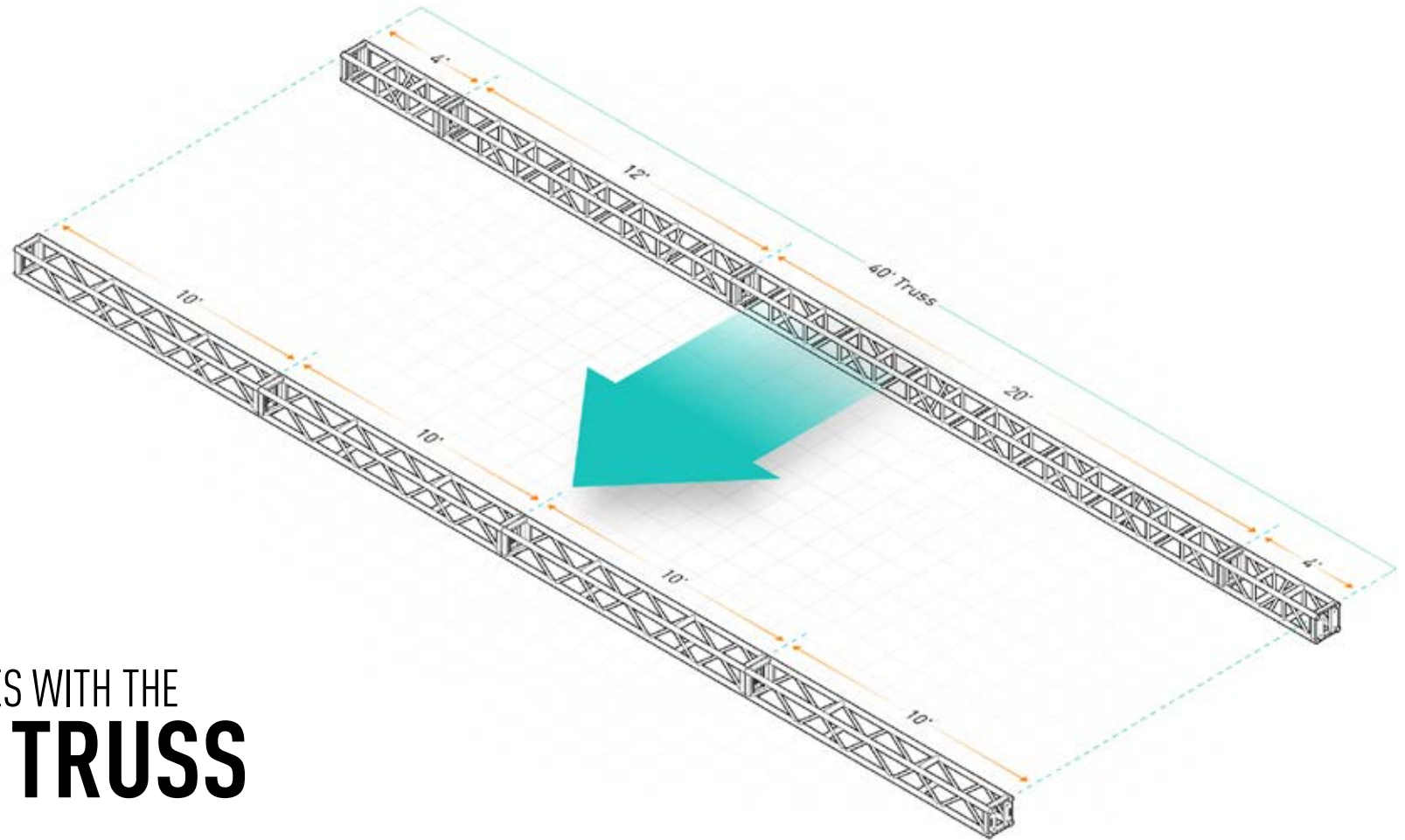
Force X: 84.58 lbf 37.62%
 Force Y: -129.33 lbf 57.53%
 Force Z: 1476.38 lbf 73.82%



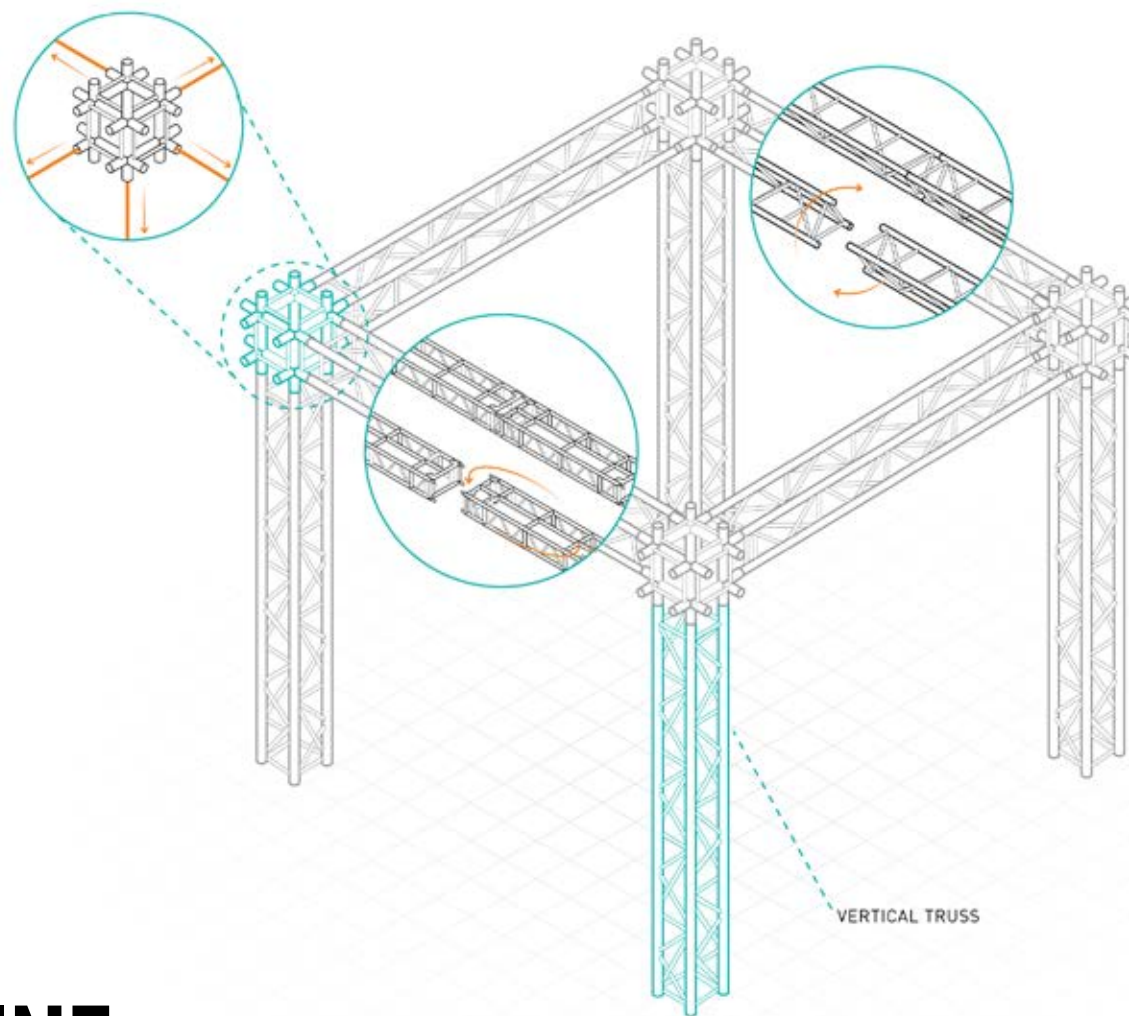
RIGGING FEATURES

F A L S B V D

EASILY MAKE CHANGES WITH THE REPLACE TRUSS FEATURE



Counting truss lines manually and tracking them in Excel is now a thing of the past. With the replace truss feature in Braceworks 2019, you can adjust to the changing requirements of a specific production by quickly swapping out a truss with another one available in your current truss inventory and still maintain the overall system design. You can change the components of an existing truss system and replace the truss type and/or the manufacturer without having to edit each object individually.



F A L S B V D

EASILY DESIGN WITH VERTICAL TRUSSES AND THE IMPROVED **AUTO CONNECT ENGINE**

Braceworks now supports all common types of trusses, truss orientations, and truss connections, including ground-mounted supports. The Braceworks Auto Connect engine has been enhanced to support vertical truss symbols and male-female-type connectors, and it now handles triangle trusses correctly and efficiently.

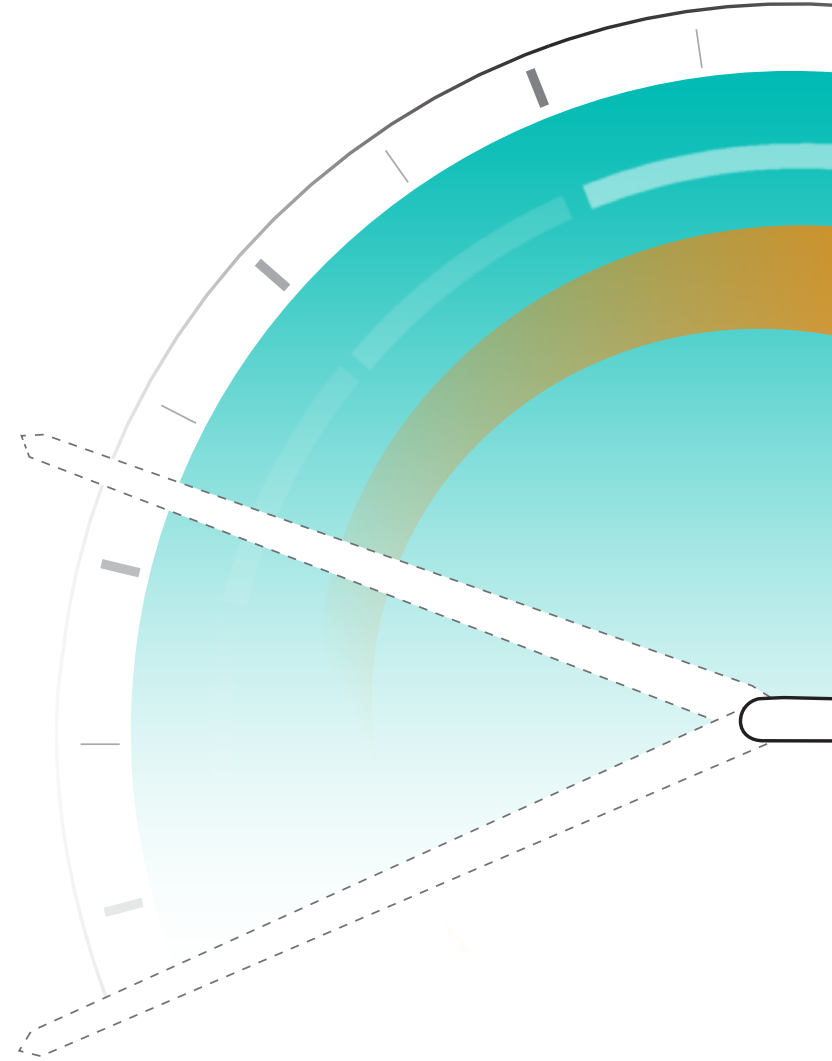
F A L S B **V** D

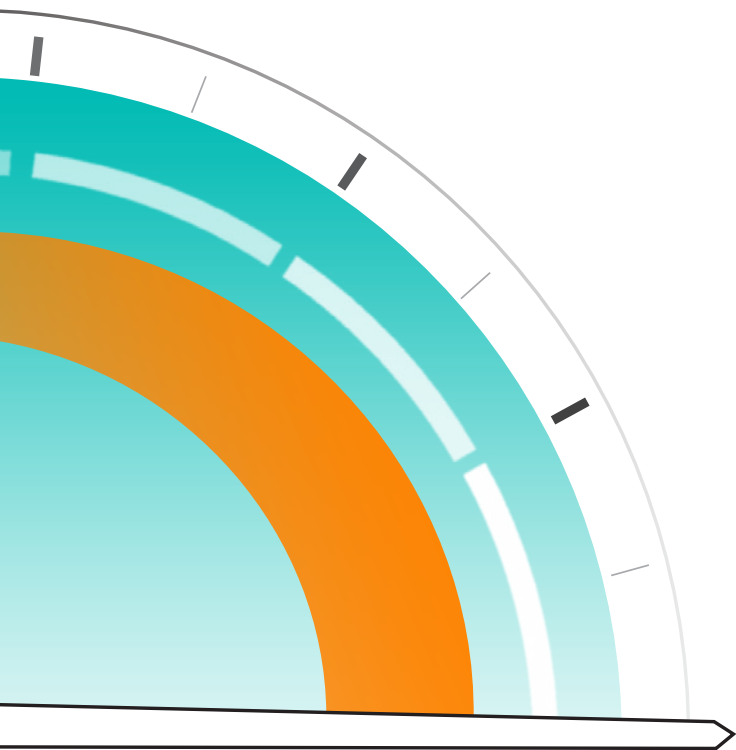
DISCOVER THE FREEDOM OF
**DONGLE-FREE
VISION LICENSES**

We know you've been there. You're at a show, and you want to meet with the client to go over looks while the rig is going up, but you can't find your dongle to use the software. We now offer a dongle-free version of Vision that uses an internet-based protection license to access Vision anytime, anywhere.

20
v18

20
v17





20
v19

EXPERIENCE UP TO
**7X FASTER
PERFORMANCE**
WITH BETTER REAL-TIME RENDERING

This is the Vision you've been waiting for! By re-engineering the rendering engine and tuning Vision's performance, we've made a serious investment in the overall interface quality. Version 2019 produces higher-quality rendering, including specular lighting and attenuation, in more complex files, at a higher frame rate. Additionally, you can now save and recall rendering and interactions in a Vision document. This provides an easier way to set up the appearance and interaction of Vision's rendering and controls.

F A L S B **V** D

2019

NEW FEATURE MATRIX

	F	A	L	S	B	V	D
	FUNDAMENTALS	ARCHITECT	LANDMARK	SPOTLIGHT	BRACEWORKS	VISION	DESIGNER
SIMPLIFY YOUR WORKFLOWS							
Customize Your Drawings with 2D Components for Hybrid Objects	●	●	●	●			●
Benefit from BIM-Ready Building Libraries		●	●	●			●
Save Time with Data Tags		●	●	●			●
Benefit from Advances in Marionette		●	●	●			●
Simplify the Data Handover with COBie Worksheets		●	●	●			●
Better openBIM with Custom IFC Export		●	●	●			●
Easily Create Concept Layouts with Image Effects	●	●	●	●			●
Increase Efficiency with Improved PDF Workflows		●	●	●			●
Improve Collaboration with Revit		●	●	●			●
Discover Streamlined Section Drawing Creation		●	●	●			●
ENHANCE YOUR MODELING PROCESS							
Create Remarkable Presentations with New Clip Cube Options	●	●	●	●			●
Save Time Specifying with New Object Catalogs		●	●	●			●
Quickly Capture Site Data with Point Cloud Enhancements		●	●	●			●
Speed Up Your Modeling Process with Subdivision Iterations	●	●	●	●			●

	F	A	L	S	B	V	D
	FUNDAMENTALS	ARCHITECT	LANDMARK	SPOTLIGHT	BRACEWORKS	VISION	DESIGNER
Increase Accuracy with Non-Horizontal Ceilings and Floors in Space Objects		●	●	●			●
Improve Space Planning with Space Styles		●	●	●			●
ENJOY EXCEPTIONAL QUALITY							
Save Time with Multiple-Core Support for the Vectorworks Graphics Module	●	●	●	●			●
Improve Collaboration with Better DWG Imports and Exports	●	●	●	●			●
Work Faster with the Vectorwork Graphics Module on Sheet Layers	●	●	●	●			●
Enjoy Simpler Title Block Management		●	●	●			●
Improve Navigation with Layer and Class Filtering	●	●	●	●			●
Increase your Efficiency with Improved Stairs		●	●				●
Discover Peace of Mind with Project Sharing Diagnostics		●	●	●			●
Easily Handle Changes with Improved Chain Dimensions	●	●	●	●			●
Take Control with Improved Flyover Sensitivity	●	●	●	●			●
ADVANCE YOUR SITE DESIGN							
Simulate Vehicle Turn Requirements with AutoTURN Online		●	●	●			●
Streamline Site Modeling with 3D Sculpting		●	●				●

2019

NEW FEATURE MATRIX

	F	A	L	S	B	V	D
	FUNDAMENTALS	ARCHITECT	LANDMARK	SPOTLIGHT	BRACEWORKS	VISION	DESIGNER
Save Time with Plant Data Sources			●				●
Simplify the Creation of Planting Plans			●				●
Gain Efficiencies with Hardscape Components			●				●
CREATE UNMATCHED EXPERIENCES							
Easily Place Fixtures and Model with Spotlight Objects in 3D				●			●
Discover Better Console Collaboration with My Virtual Rig				●		●	●
Gain More Control with 3D Label Legend Improvements				●			●
Discover the Improved Lighting Instrument Tool				●			●
Improve Precision with New Projector Screen Creation Mode				●			●
Increase Efficiency with the Spotlight Numbering Command				●			●
RIGGING FEATURES							
Zoom In on Issues with the Braceworks Heat Map					●		
Analyze Bridles with Braceworks					●		
Easily Make Changes with the Replace Truss Feature				●	●		
Easily Design with Vertical Trusses and the Improved Auto Connect Engine				●	●		
PREVIZ FEATURES							
Discover the Freedom of Dongle-Free Vision Licenses						●	
Experience up to 7x Faster Performance with Better Real-Time Rendering						●	

SYSTEM RECOMMENDATIONS

Performance of Vectorworks and Vision may vary depending on several factors, including hardware configurations and project types.

To get a full list of minimum system requirements and recommended hardware profiles, please visit vectorworks.net/sysreq

MacOS 10.13 (High Sierra)

MacOS 10.12 (Sierra)

MacOS X 10.11 (El Capitan)

Mac OS X 10.10 (Yosemite)

Windows 10 64-bit

Windows 8.1 64-bit

Windows 8 64-bit

Windows 7 SP1 64-bit

PROCESSOR

- E** 64-bit Intel Core i5 (or AMD equivalent) or better
- M** 64-bit Intel Core i5 (or AMD equivalent) clocked at 2GHz or better
- H** 64-bit Intel Core i7 (or AMD equivalent) clocked at 3GHz or better

RAM

- E** 4GB or more
- M** 8GB-16GB or more
- H** 16GB-32GB or more

KEY:

E Entry-level profile

M Mid-level profile

H High-end profile

V High-end Vision profile

GRAPHICS CARD

- E** OpenGL 2.1 compatible graphics card with 1GB of VRAM or more
- M** Dedicated OpenGL 2.1 compatible graphics card with 2GB-4GB of VRAM or more
- H** Dedicated OpenGL 2.1 compatible graphics card with 4GB of VRAM or more
- V** Dedicated OpenGL 3.0 compatible graphics card with 8GB of VRAM or more

SCREEN RESOLUTION

1920x1080 or higher recommended

NETWORK REQUIREMENTS FOR PROJECT SHARING

Project sharing requires high-speed network connections. As the network bandwidth increases, so does project sharing performance. Slower network speeds can still provide a satisfactory user experience if you minimize operations that transfer large amounts of data over the network (such as committing changes to the project file or refreshing a local working file).

VECTORWORKS, INC.

7150 Riverwood Drive, Columbia, MD 21046-1295 USA

vectorworks.net

T 410.290.5114

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