



VECTORWORKS CASE STUDY



"VECTORWORKS DESIGNER" HELPS BRING 007 TO THE BIG SCREEN



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WHEN EON PRODUCTIONS WANTED TO KICK OFF A WHOLE NEW ERA OF JAMES BOND FILMS, THAT INCLUDED USING COMPUTER TECHNOLOGY FOR SET DESIGN—A FIRST IN THE UK FILM INDUSTRY. ENTER ART DIRECTOR STEVEN LAWRENCE AND VECTORWORKS DESIGNER.

Bond, James Bond, returns in CASINO ROYALE, the 21st Bond film. 007's very first assignment kicks off with a high-octane chase set in Madagascar. The chase reaches dizzying heights of tension on a building site set designed with the assistance of VectorWorks. VectorWorks Designer.

VECTORWORKS CUTS TO THE CHASE

This opening sequence of CASINO ROYALE at the building site was actually filmed in the Bahamas in a derelict hotel that had never been finished and had been abandoned for 30 years. CASINO ROYALE art director Steven Lawrence assisted the design of the sequence using VectorWorks Designer.

"We went down and surveyed the site, then I came back and matched the existing location in VectorWorks Designer," explains Lawrence. "I added our own steel structure—designed from the ground up in VectorWorks—to the drawing, then sent the drawings out to the structural engineers."

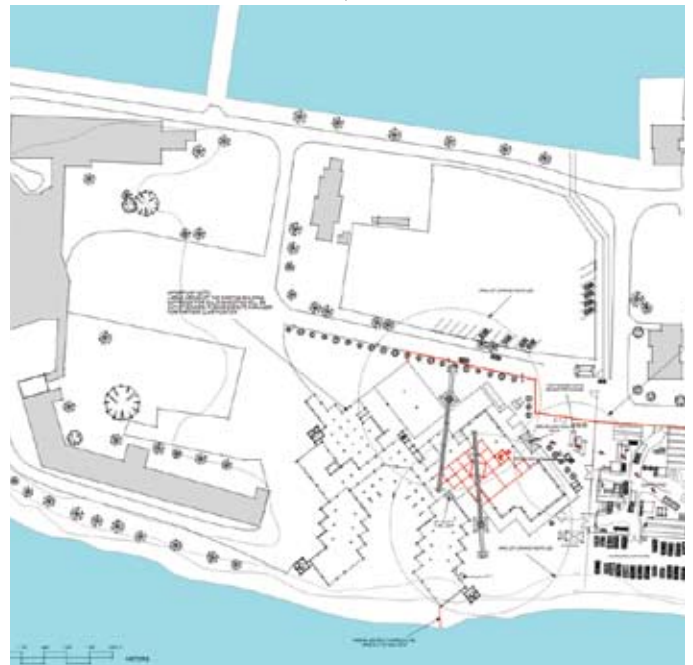
Lawrence continued through the production process with VectorWorks Designer. "The great thing about VectorWorks Designer is not only could I draft the steel structure that was built for this particular chase sequence where everyone is running at top speed along these beams at great heights, but I can also create a 3D model that we can spin around, drop the camera object into, change the aspect ratio and the object info for, and instantly see what the camera will see."

While he has been able to do that with pencil and paper for years, the process is now automatic. "When projecting by pencil, it can take a lot of time, because you're pulling lines back through objects, to make one view at a time. But now any view is instantaneous with the VectorWorks camera object. When people see that, their jaws drop. We've been brought up to project camera views by hand, and VectorWorks virtually makes this process obsolete."

For such action packed scenes, the art department often goes a step further by designing models in VectorWorks and exporting them to LightWave®, a high-end animation software program, to create animations and fly-throughs. For this scene, Lawrence handed the 3D model to concept artist Julian Caldwell, who animated the scene in LightWave®. Then he compiled a DVD containing the VectorWorks 2D drawings and 3D models of the set within the site, along with the animations and fly-throughs. After viewing the DVD, the director was able get a feel for the site before he even arrived on location.

"When movie goers see the end result, our hope is that they'll see a building under construction and never know that it's a set we actually built," says Lawrence.

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OPENING CREDITS

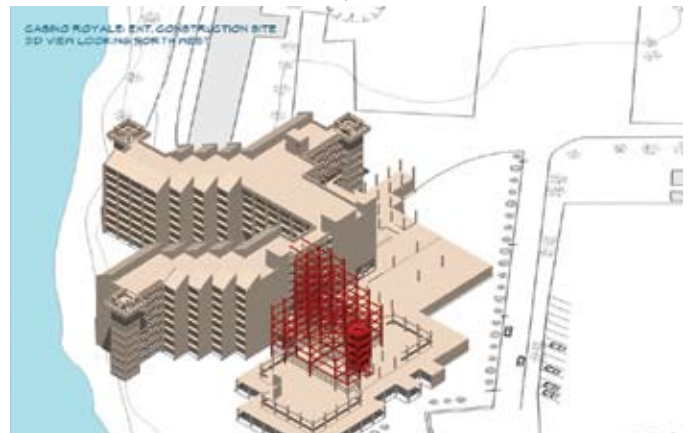
According to Lawrence, using VectorWorks to design from the very first conception to final completion of the set is very much a new process within the UK art departments. EON Productions/Danjaq, LLC, which has produced 20 James Bond films since 1962, wanted something new from this film, and VectorWorks Designer played a key role in making this happen.

"EON Productions wanted to kick off a whole new era for the Bond films, and we wanted to do that within the art department as well, with a hot, new look," says Lawrence.

"I am grateful to the foresight and understanding of Peter Lamont, production designer, and Simon Lamont, supervising art director, who have paved the way for VectorWorks to be used to its full potential on CASINO ROYALE and their help in this new area of film set design."

He credits VectorWorks Designer in helping to pull it off. "Most art departments in the UK still draw with pencil and T square and are skeptical of such a radical change," he says. "But when they start to use a few of the tools within VectorWorks and see how much more they can do and how much faster they can work, they're blown away. Of course, the sketch rendering technology that allows me to render drawings in a more natural, hand-drawn style is a huge plus, as this look is preferred by some production designers. This is the beginning of a big movement of people transitioning to VectorWorks."

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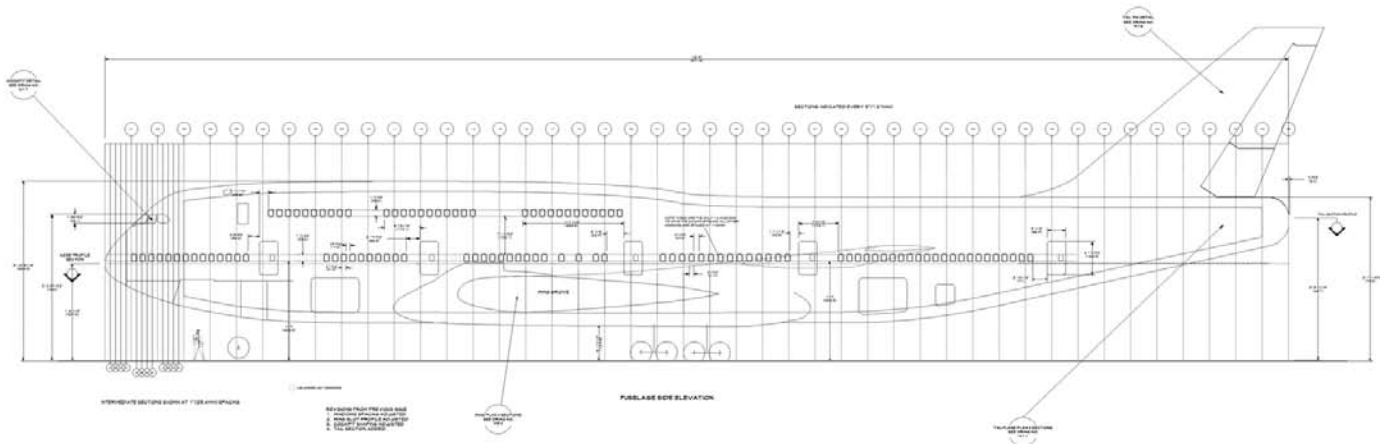


His own recent credits include Batman Begins, the first three Harry Potter films, Titanic, Enemy at the Gates, The World is not Enough, Shakespeare in Love, GoldenEye, and Quills.

For CASINO ROYALE, Lawrence used VectorWorks Designer to produce 2D drawings and site plans to assist the production designer and director in mapping out how action would take place within an area and create 3D models of sets to help the team get a feel for a set before they arrive on location. He takes advantage of VectorWorks design layers to build up drawings and moves into VectorWorks viewport technology to block out the plans and elevations.

"I can go back and forth between viewports and the original design layer quickly—and VectorWorks updates every change automatically as I go along," he says. "Love that."

He can then issue drawings either as traditional prints to in-house construction and other departments or via email to outside companies or contractors.

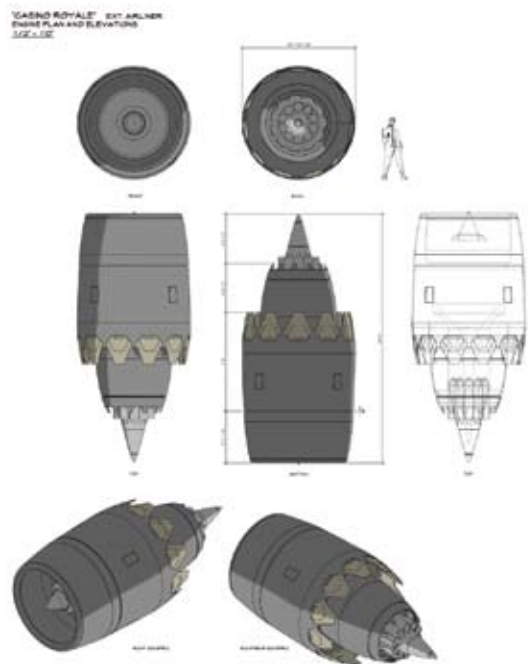


FLYING FIRST CLASS WITH VECTORWORKS

Creating an airplane from scratch for another big action sequence in the middle of the film was one of the most challenging sets Lawrence had ever been asked to develop. The production company wanted to create a new airplane, so the art director had to create one from scratch, patching parts of an existing out-of-service airliner with a new fuselage and engines, fuel pods, etc.

To complicate matters, his deadlines were tight.

"The whole thing was a mixture, and everything was drawn up in VectorWorks—our elevations, plans, cross sections through the fuselage," says Lawrence. "Piecing the airliner together and making it work was brilliant in VectorWorks. Normally, I'd lay out long sheets of paper and use a lathe to generate the curves with a pencil, then piece it together. Now I can do all that sitting at my desktop." He continues, "We developed the airliner by first drawing the plans and elevations and then, with the help of the 3D side of VectorWorks, produced the 2D cross sections (profiles) for the fuselage, wings, etc. These were then emailed to the CNC



cutting company and then taken back in house to our model makers to start the process of building the twelfth-scale airliner. Everything was also given to the visual effects team to start the CGI version, too. Certain elements, such as engines and fuel pods, were built full size in fiberglass and attached to a real 'out-of-service' airliner that was used for close-up filming. The twelfth scale model and CGI and live action elements components were then composited by the visual effects team into what you see on screen in the chase sequence."

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VECTORWORKS HAS SFX APPEAL

Lawrence attributes VectorWorks with helping the art department retain design integrity when sending drawings to visual effects teams.

"Using VectorWorks, we can draw exactly what we want and hand the designs directly to the visual effects department as vector files," he explains. "We can send DXF/DWG files, SAT files, and IGES files, for example, and this eliminates the need for other departments to completely redraw. It cuts out a whole step and gives the art department a lot of control over the finished product—what you actually see on film."

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Lawrence gives an example, "When we draw a set for a film, the visual effects team often comes on to the set to scan the set, so they have a virtual 3D model. With VectorWorks, we can forward them the actual 3D model before the set is even built, so the visual effects process can start earlier and, I feel, retain more of the production designer's original intent."

Watch a QuickTime® movie of a set for a CASINO ROYALE scene that's modeled in VectorWorks Designer.



SHAKEN, NOT STIRRED

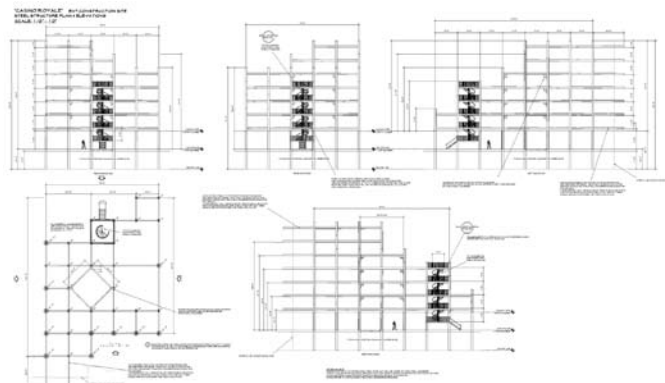
Lawrence says VectorWorks is shaking up UK art departments, "Production is becoming aware of how much can be saved by having VectorWorks in the art department."

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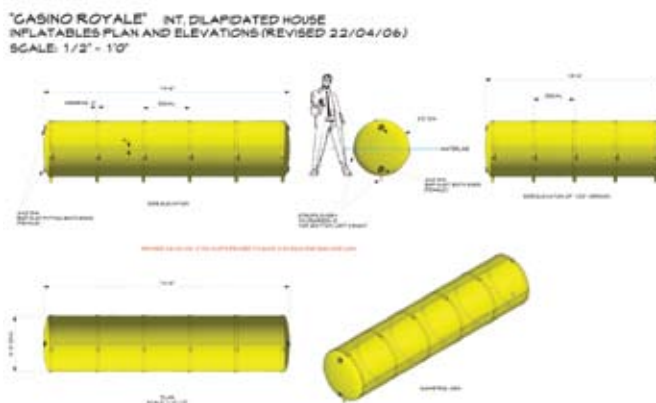
Take file translation, for instance. "When working with outside contractors to build certain items for a film, such as the steel structure in the opening sequence, we would usually send out pencil drawings to an engineering company that would then generate the CAD drawings. Now we can send out a DXF/DWG files to the outside contractor, saving a lot of time and money on things being redrawn, and maintain the original intent of the design."

On CASINO ROYALE, he was the only person in the art department who used VectorWorks full time in the beginning. But, as others saw what Lawrence could accomplish, they wanted to get in on the action. Lawrence began running tutorials in the evenings, and, as the film moved along, he got two people up and running on VectorWorks.

"People are getting scared of being left behind when they see what VectorWorks Designer is capable of doing."



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"Everyone is interested; everyone wants to use it," he notes. "People are getting scared of being left behind when they see what VectorWorks Designer is capable of doing."

"Manpower costs money, and production companies are looking to streamline," he explains. "VectorWorks gives art departments the ideal solution to cope with that. We feel the only way we can still achieve maximum output and keep production companies happy is by using VectorWorks. If your output goes up, then you're in demand."

ACE IN THE HOLE

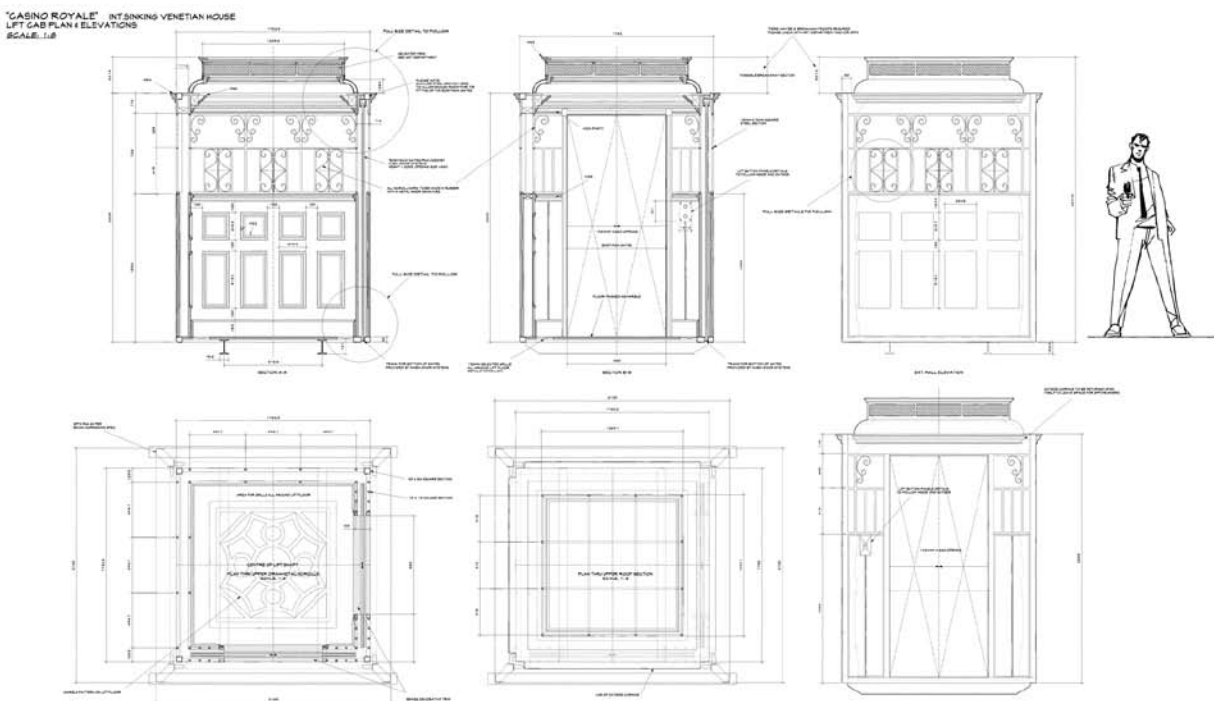
Lawrence says VectorWorks gives anyone using it an edge in the industry. He had tried other CAD programs, but when he began using VectorWorks, there was no contest.

"VectorWorks is ten times better than the program I had been using previously," he says. "It's much more intuitive and so easy to pick up. Since I started using VectorWorks, my output has easily gone up significantly—especially if I draw in 3D. Once I create a model, the drawings just pour out. I can put the model into any elevation; I can also slice through it. And with live sections, it's even easier to produce what I need quickly."

Because of tight deadlines, the art department tends to feed construction crews drawings on the fly. "They need drawings quickly, so the project can move along. With VectorWorks, I can very quickly

produce quarter-inch-to-the-foot set layouts, so they can start breaking down drawings and building the flattage. Then we go back and do the details." He continues, "I can design a set—complete with 3D models and views and 2D construction drawings—with so much more speed than hand drafting with the same detail and much more flexibility. It's all there and just a matter of using viewports to zoom in on areas and crop and drop things within the drawing. So VectorWorks has given me quite an edge in terms of production output. Now I can spend a lot more time on the design than figuring out the geometry or specifics or redrawing requested changes."

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THE GRAND FINALE

High production output and interoperability were critical for Lawrence when art directing the set for the film's final sequence, which takes place in a Venetian palace and was built on the biggest film stage in Europe.

The structure was designed to be gimbaled so it could move on all axes—it was essentially a massive, moving house with a collapsing lift shaft. Lawrence converted some original pencil drawings into VectorWorks. He imported into VectorWorks drawings created in Autodesk® Inventor™ from the special effects team for the twelfth-scale exterior

house rig and AutoCAD® drawings from outside contractors for the full-size interior version.

"We had to create a very technical version of a sinking Venetian palace, and there was absolutely no way we could have pulled it off in such a short amount of time without VectorWorks Designer," Lawrence concludes. "VectorWorks allowed us to bring the different elements created in different programs, including pencil drawings and photographic reference, from all sources together within VectorWorks Designer to assist in creating the most complex of sets."

