

Case Study:
EON Productions,
Sony Pictures, and MGM



SKYFALL 007

ART DEPARTMENT USES VECTORWORKS FOR BOND SETS



If movie ticket sales were any indication, the latest James Bond film in the 50-year-old franchise's history lived up to its iconic status.



The Shanghai cityscape reflections on the glass of the Shanghai office tower. ©SKYFALL 2012 Danjaq, LLC, United Artists Corporation, Columbia Pictures Industries, Inc. All rights reserved.

SKYFALL shattered box office records around the globe when it premiered in October 2012, and subsequently picked up Oscar® awards for Best Original Song and Best Sound Editing. Production Designer Dennis Gassner focused most specifically on designing sets that ranged from exotic, futuristic, and post-apocalyptic to brooding and intriguing—all of which combined to play an integral role in building the mood and shaping the action that typifies Bond films.

Shanghai: World of Mystique and Murder

SKYFALL takes moviegoers on a globetrotting adventure as the witty, athletic, and perennially dashing Bond—played by Daniel Craig—aims to track down and eliminate a rogue MI6 agent. (MI6 is the intelligence agency that employs Bond and is led by M, a character played by Oscar-winning actress Judi Dench.)

Shanghai serves as the backdrop for part of the action-packed movie, filling the screen with sleek glass and steel buildings that reach sky-high and are accented by colorful city lights to dramatize dark nights. The Shanghai scenes are exceedingly modern and mysterious, heightened by Gassner's design for a skyscraper called the Shanghai Tower and a city bar.

Andrew Bennett was one of the assistant art directors who contributed to the Shanghai Tower set and used Vectorworks® Designer with Renderworks® software. He modeled the square building quickly, produced elevation plans from the drawing, and subsequently built in the detail.

The Shanghai Tower was built on the famed sound stage at Pinewood Studios in Iwer Heath, Buckinghamshire, located 20 miles west of London. A 60' x 50' television screen projected a background of



The set design goal for this scene was to create obstacles, ramps, and other aids to be used by the stunt team but which appear as natural parts of the environment, completely invisible to viewers. ©SKYFALL 2012 Danjaq, LLC, United Artists Corporation, Columbia Pictures Industries, Inc. All rights reserved.

ethereal blue jellyfish that seemed to swim in space. In the film, these images lent a beautiful, eerie otherworldliness to the scene in which assassin Patrice sets up his rifle in an empty, glass-encased room. A 3D design was made with Vectorworks software in just four days before smoothly transferring the model to the construction department.

“The Scale Objects command worked very well for us ... we could do maps quickly, enlist the Scale Objects feature, and resize the building. It’s a good example of where we could make a one-off adjustment very quickly.”

—Andrew Bennett, Assistant Art Director

Prepping for the Close Up—Or the Far Away

It is a challenge to achieve correct camera perspectives when designing such sets. “The Scale Objects command worked very well for us,” says Bennett. “Vectorworks could tell me that if you stand 40 feet from a building, that its windows should look like they are 60 feet away. But to achieve that look, we have to diminish that building by 10 percent. With this information, we could do maps quickly, enlist the Scale Objects feature, and resize the building. It’s a good example of where we could make a one-off adjustment very quickly.”

Since the camera angle often causes the viewer to see more or less of a set than Bennett calculates, he needs to be able to adjust a room size quickly with his software. He uses paper or card models to determine the need for resizing but says his CAD drawings show a clearer picture. “It’s very important for us to reassure the designer and director as quickly as possible that this set will work for them—and if it doesn’t, that’s the time to see it,” he adds. Armed with his Vectorworks drawings, Bennett can head off any production issues before they become problematic, which, of course, saves the productions time and money.

London: Above and Beyond Underground

Along with the Shanghai set, Bennett was also part of the team who worked on the London Underground, more famously known as the Tube. Bennett was initially worried about working on a set with so many rounded surfaces but was thrilled with the results. "The Vectorworks program handled the curves very well, and I have more self-confidence in the software following this project," he says. He helped to recreate central London's Charing Cross, a junction just south of Trafalgar Square, on the set's Bond Stage, as well as a 20' section of the end of the Tube station where Bond jumps on the back of a train while chasing the villain Raoul Silva, played by Javier Bardem. The set doubles as the front of the train where a trapped Bond attempts to shoot an emergency door in the tunnel as a Tube train rapidly approaches.

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Istanbul: High-Speed Action Up High

In Turkey, Art Director Neal Callow created scenes for a gravity-defying motorbike chase along the spines of narrow-tiled rooftops. The scene was filmed on site at the Grand Bazaar in Istanbul, and Callow's goal was to create obstacles, ramps, and other aids that were to be used by the stunt team but which appeared as natural parts of the environment, completely invisible to viewers.

Callow has been using Vectorworks software since 2008, preferring to draw in 2D and then lay out presentations and schematic illustrations with rendered visuals imported in 3D from other programs. He then generates construction drawings in the Vectorworks software. To create the harrowing, fast-paced scene in Istanbul, Callow employed Vectorworks software's drawing and scaling features, hatching, text tool, and import command.

Throughout his five-month *SKYFALL* project, Callow faced extremely tight deadlines and what he calls "the usual budgetary issues." He relied heavily on the Vectorworks program to communicate the project quickly and clearly since the scene had to first be approved by the Historical Buildings Commission of Istanbul, as well as by the Mayor and Council of Istanbul Offices. Callow also shared the drawings with



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the movie's London-based director and stunt coordinator, so they had precise illustrations of the components needed on location. Callow was thrilled to be able to operate effectively with an internationally dispersed team, and he thanks Vectorworks software for helping him manage it all.

Scottish Countryside: The Culmination of a Film and a Family

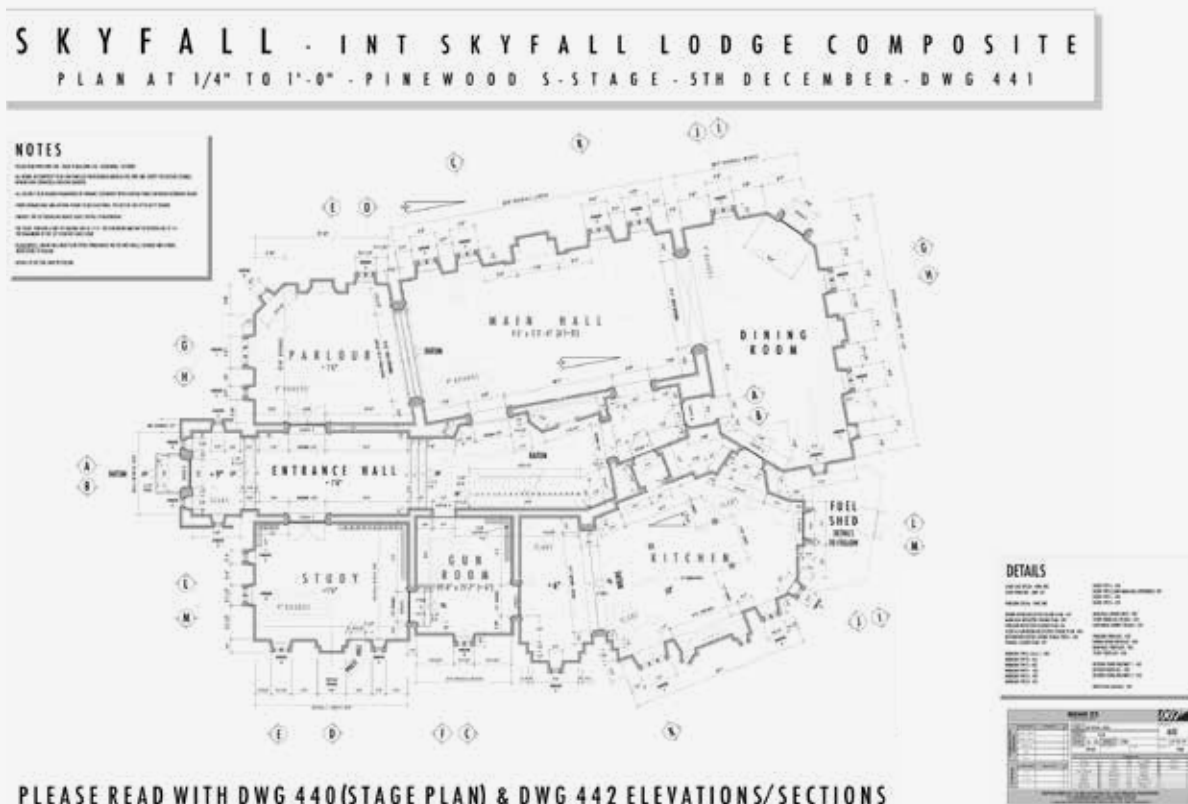
At the same time, Art Director Dean Clegg was in the UK working on Skyfall Lodge, Bond's ancestral home. Bond and his superior, M, ostensibly seek refuge at the lodge while actually seeking revenge. They plan to lure Silva and his henchmen to the estate. During the final scenes of the film, Silva and his men arrive. The house is alternately battered by Bond's armed silver Aston Martin DB5, rapid gunfire from Silva's henchmen, a helicopter, piloted hand grenades, gas canisters at the house, and then the explosion of the helicopter.

Clegg and the team helped create the chaos in the public heathland of Hankley Common in the UK. The old house was designed from the bottom up—a challenge Clegg summed up as “complicated.” For this film, Clegg art-directed a series of sets at Skyfall Estate, including a small, old chapel erected on the property about 200 yards away from the mansion. Over the span of six months, the sets were designed, built, and shot.

“I found it particularly liberating to throw an idea together on the design layer and keep it rough, then tighten it up on the sheet layers with the annotations.”

—Dean Clegg, Art Director

Accommodating special effects at Skyfall Lodge was the biggest challenge Clegg and his team faced because they required very detailed plans with many changes based on timing. Clegg needed to carefully document each stage of destruction because the schedule sometimes took the camera crew from one level of destruction to another and back again on the same day. Skyfall Lodge's interiors and exteriors also had to hide charges that mimicked the destruction of gunfire. For example, the interior set's timber paneling was fitted with removable panels that could be replaced with the charged special effects panels. Rather than adhering the panels flush to the walls, Clegg had to fit open frames, so that the paneling could be removed. Add to these challenges the continuity issues created by having to match previously shot interior destruction with the later exterior shots, and you have a recipe for complexity. “This was never magnified more than in matching the damage on the window shutters,” says Clegg. “We ended up having shutters for each level of destruction for each window.”



This composite drawing of Skyfall Lodge provided the construction team with all the detail they needed to build it. Courtesy of EON Productions.



Bond (Daniel Craig) and M (Judi Dench) arrive at Skyfall Lodge (pre-visual effects). ©SKYFALL 2012 Danjaq, LLC, United Artists Corporation, Columbia Pictures Industries, Inc. All rights reserved.

Creating Change with Vectorworks

Since a movie's design process undergoes constant change, CAD software ultimately saved Clegg a great amount of time. He adds, "In this instance, Vectorworks allowed me to very quickly put together a blast layout schematic for the various weapons that were going to destroy the lodge, share it with production, and make as many subsequent alterations as necessary until all parties were happy. This enabled us to isolate the specific parts of the set that needed to be prepped for special effects, making the process more efficient."

Clegg has been using Vectorworks software since 2010. "I was lucky to previously work for a supervising art director who is evangelical about Vectorworks and he encouraged us to learn the program on the job," he recalls. Clegg uses the software primarily in 2D to develop and present design proposals to the production designer and director. After approval, these same drawings are shared with the other departments, including construction, as well as camera, locations, electrical, special effects, and visual effects.

Using viewports kept him organized. "I found it particularly liberating to throw an idea together on the design layer and keep it rough, then tighten it up on the sheet layers with the annotations." Clegg also praises the ease of transferring files among departments. Both the special effects and visual effects departments needed his designs for animation programs or other applications. The end result? Clegg says, "The opportunity to look after a series of sets which make up the closing stages of a James Bond film is a great honor. And it was great fun."

Acknowledgements

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Images:

Cover photo: Skyfall Lodge blows up, Aldershot, England (pre-visual effects).
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