



VECTORWORKS CASE STUDY



# WORKING TO SAVE THE AMAZON RAINFOREST WITH VECTORWORKS LANDMARK



MORE THAN 19,000 ACRES OF ENDANGERED LAND. ONE BIG MASTERPLAN. MORRIS TERRA DESIGNS THE ASLA-AWARD-WINNING PARQUE AMAZÔNIA IN SOUTH AMERICA'S AMAZON RAINFOREST WITH A PROJECT BASED ON ECOTOURISM, SUSTAINABILITY, CONSERVATION AND

EDUCATION TO HELP PROMOTE AWARENESS THROUGH ECOTOURISM. AND VECTORWORKS LANDMARK HELPED THEM PUT IT ALL TOGETHER.

The Amazon Rainforest covers 1.2 billion acres of land in the Amazon Basin of South America, representing more than half the world's remaining rainforests. About the size of the continental United States, it is the largest and most species-rich tropical rainforest region in the world. But it is also one of the most endangered. Studies estimate that

more than one-fifth of the rainforest has already been destroyed—60 percent of which has been clear-cut for cattle pastures. Brazil alone has lost more than 232,000 square miles of rainforest since 1970.

## SEEING THE RAINFOREST FOR THE TREES

When the state of Pará was looking to develop a state-owned 19,000-acre area along the banks of the Guama River, their development partner was promoting construction of a theme park, time-share condominiums and golf course against the rainforest. And Morris Terra heard a plea for help from Pará government officials. After many discussions with local and state officials, Morris Terra determined this was not a direction their client was comfortable taking with the land.

So the team of landscape architects and architects proposed an entirely different project concept. One that took into consideration concerns the locals had for protecting the forest and giving it the respect it deserved as a precious ecosystem in a precarious position. Ecotourism, sustainability, conservation, and education became the four founding principles. Thus, Parque Amazônia was conceived. And with the help of Vectorworks Landmark, a masterplan was born.

The Parque Amazônia site consists of roughly 19,000 acres along the banks of the Guamá River, which is part of the Amazon River Estuary. The masterplan preserves 13,000 acres of primary and secondary rainforest in state-controlled conservation areas. All proposed improvements are limited to 1,900 acres—just ten percent of the site—on primarily open land which had already been deforested in the 1800's when the Pirelli rubber plantation occupied that area. The remaining 4,000-plus acres of open land will be a combination of open space and reforestation areas to further buffer the existing forest and flooded forest systems. No clearcutting will be done to keep the forest intact as the project's main attraction.



## A PROJECT OF AMAZÔNIAN PROPORTIONS

The biggest challenge for the Morris Terra team was getting their arms around the sheer size of the site. But the ability to import GPS data into their Vectorworks Landmark masterplan was critical to the project's success.

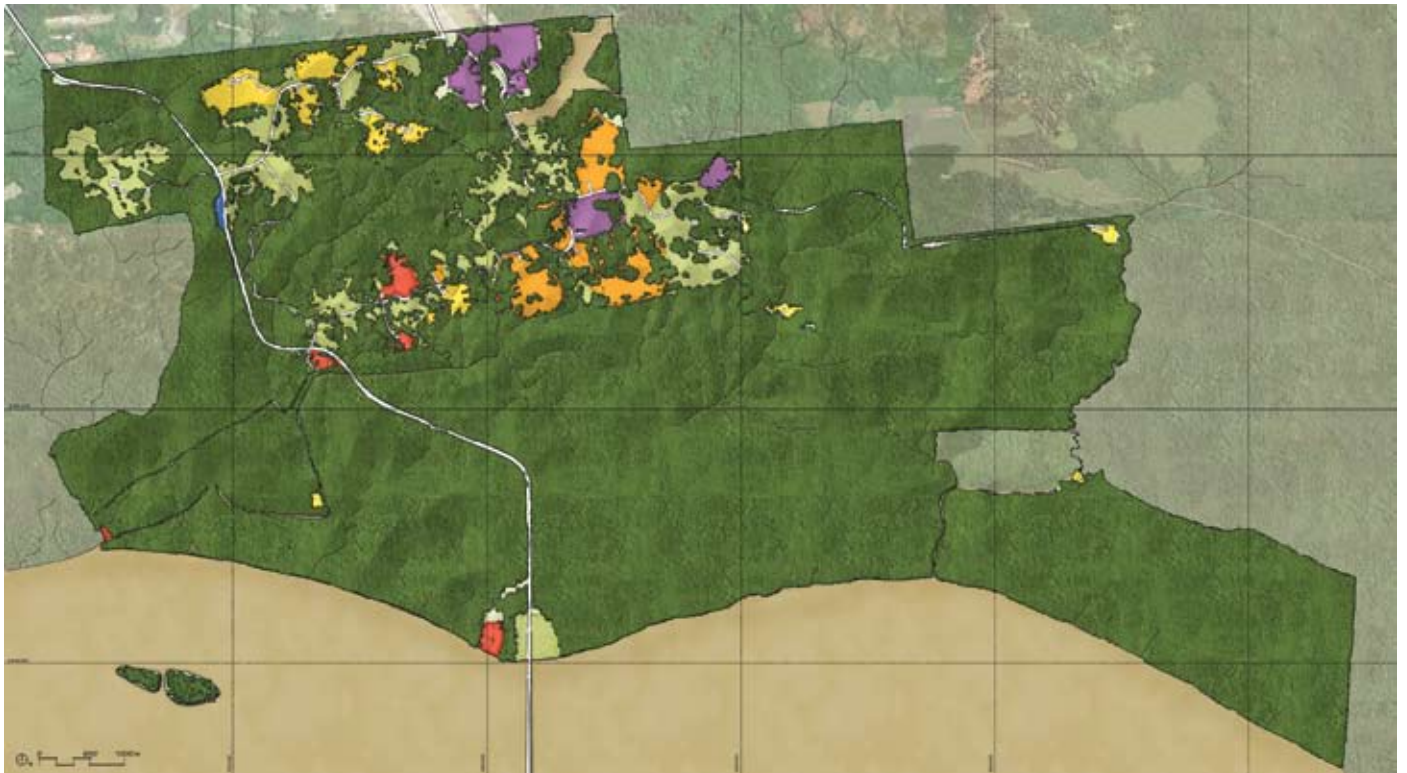
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"Park Amazônia has been a challenging and inspiring project to work on, and Vectorworks Landmark was instrumental in the success of the project," says Parque Amazônia's design lead Todd McCurdy, associate principal and director of landscape architecture and planning with the firm's Orlando, Florida, office. "Each time our project team traveled to the 19,000-acre Amazon Rainforest site, we used Vectorworks Landmark to integrate the GPS data gathered with our concept site plans to help us understand the vast land and verify locations of vital areas. We were able to analyze any piece of that huge site to understand what was going to go there and how it was going to work and figure out if what we were thinking in the studio was going to translate into reality."

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In some instances, McCurdy and other project team members Jim Pope, principal with Morris Terra, designer Ana Mönnaco, and Walt Geiger, design principal, used the Vectorworks concept plan with GPS coordinates located on it to determine exactly where they were when Brazilian team members led them through the jungle on foot, upriver in small boats, and over the site by helicopter.



## TELLING THE STORY

Morris Terras' Orlando-based landscape architecture department uses Vectorworks Landmark from start to finish on projects—as a 3D design tool in the early phases of design to visualization using the hand-drawn sketch effect rendering mode to doing take-offs, estimates, and documentation.

On this project, it was important to tell the story of a rainforest ecopark using a combination of wireframe 3D models of buildings for technical accuracy and actual hand-drawn sketches.

“Being able to set the views in Vectorworks Landmark to tell exactly what you want the story to be was a big benefit on this project,” explains

McCurdy. “It’s one thing to come up with a sketch in your head and put it on paper, but when you have all these different buildings and you’re trying to demonstrate their relationship to each other, as well as how they relate to the water or the landform, having a quick model really helps us tell the story more quickly and precisely.”

He adds, “Another benefit is being able to get simple concepts into 3D in a hurry—being able to test out massing or look at the way shadows are cast on pieces is just priceless. On this project, 3D models of key elements were also quickly created as a basis for final presentation sketches.”

In addition to the masterplan, Morris Terra produced a full-color 11" x 17" book that included an economic feasibility study, a financial analysis pro forma, and background research summary of current industry trends in ecotourism as evidence that Parque Amazônia could fulfill the project's goals.

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"In our 300+ page final presentation book, Vectorworks Landmark drawings were used side-by-side with hand sketches, seamlessly working together to create just the right character for this presentation," says McCurdy

## A SKETCHY PROPOSITION

In fact, McCurdy likes that the versatility of Vectorworks Landmark allows him to combine a variety of outputs to achieve a desired effect for presentations.

"We use Vectorworks Landmark's sketch rendering technique a lot and combine those outputs with hand-drawn sketches," he says. "We also use the plan graphics in Vectorworks that are sketchy, so everything goes together and looks like it all belongs on the same piece of paper. On quite a few projects, we feel this style of presentation gives a warmer, more human feeling than pure computer renderings."

## PARQUE AMAZÔNIA— RESPECTING THE RAINFOREST

The site is located about twenty miles from Belém, Brazil, historically known as the birthplace of Amazonian culture and a major metropolitan area of more than one million. Because of its proximity to potential visitors and an international airport, Parque Amazônia offers big opportunities for rainforest exploration and education.

The heart of Parque Amazônia contains most of the program's elements in one location south of a wetland forest, including the Cultural Entertainment Park, the Zoological Park and Aquarium, Bromeliad Gardens, the main Lodge, and Anatuba Village. The Resort Village, home to a limited number of ecohotels, resides to the north of that to minimize impact on the forest at night and combine services to minimize infrastructure impacts. The masterplan dictates these manmade additions be artfully tucked into the landscape, taking full advantage of the rolling topography, views, and relationships to forest edges and river banks. And the experience of traversing the site from one project element to the next is an integral part of the design.

## TOOLS FOR THE TRADE

McCurdy has worked with AutoCAD® but finds Vectorworks Landmark far superior as a design tool and admits he can't live without certain tools the program offers.

"Vectorworks Landmark gives me the opportunity to do things quickly and efficiently try out options, like throwing colors into a drawing, printing out something that looks sketchy and diagrammatic but has accurate technical information contained within—and all in a format I can present to a client without it looking like an ugly CAD drawing."

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He says working with Vectorworks Landmark is a lot like drawing on paper, "You get the power of CAD in Vectorworks Landmark combined with the beauty and simplicity of drawing on paper."

Capabilities within Vectorworks Landmark that McCurdy finds useful include the space tool, which the team used to catalog all the areas in Parque Amazônia, the matrixes, and the worksheets, which they used to calculate and keep track of how much program they had in different elements of the Parque masterplan.

He notes that his firm can do take-offs and estimates a lot more quickly using Vectorworks Landmark. "There are a lot of programs that do



take-offs and estimating, but Vectorworks Landmark is darn near automatic, and that's a tremendous time-saver for us."

"One of our all-time favorite tools is the Custom Selection tool," he says. "When some of our people have to go back to work in AutoCAD on a particular job, they pull their hair out because they're so used to using Vectorworks Landmark tools such as the Custom Selection to pull data out of the drawing or select key objects based on certain criteria."

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Layers and classes are two more powerful capabilities McCurdy likes. "Using layers and classes together to really help organize data in drawings is really powerful," he explains. "It gives you a substantially easier way of organizing and assigning objects into specific groups, either by class or layer or both. From there, you can use the Custom Selection tool to pick things out of a drawing quickly without spending a lot of time to do it."

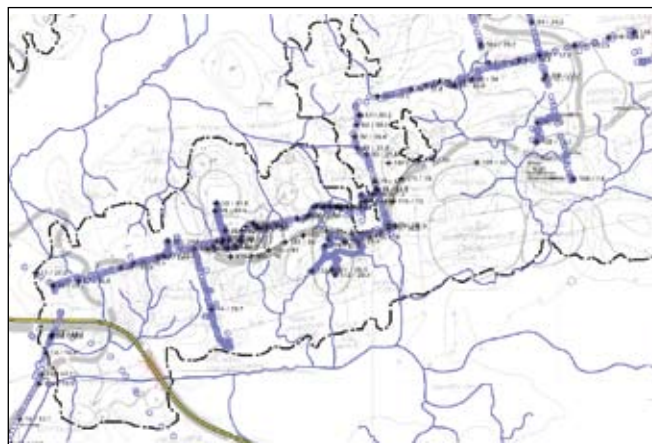
## DOWN AND DIRTY WITH DTM

Another essential tool for McCurdy is Vectorworks Landmark's Digital Terrain Modeler (DTM).

"The terrain tools and other landscape architecture-specific tools are absolutely fantastic in a program that's as cost-effective as Vectorworks Landmark," he says. "To do the same thing in AutoCAD, you'd have to pay a heck of a lot more for add-ons that might do the same things but would not be nearly as accessible to non-gearheads."

He adds, "Vectorworks Landmark's Digital Terrain Modeler allows you to visualize a piece of land that has a lot of topography quickly, analyze it, and illustrate points to clients easily. We used the Digital Terrain Modeler extensively to study landform, slope, drainage, and zone of visual influence, as well as a key part of our 3D models."

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## NEXT STEPS

Parque Amazônia will be built in four construction phases over a twenty-year period. Morris Terra began a new contract on the project to take the project to the next level. The firm is helping the government of Pará prepare requests for proposals for developers, so construction can begin. Once again, Vectorworks Landmark will play a part.

*"Vectorworks Landmark allows us to do a whole lot more than other programs for not a whole lot of money. It's easy to learn and enjoyable to work with, and I wouldn't have it any other way."*

"Among other things, we'll be using the Property Bounds tool to define specific project boundaries within the scope of the overall project, so developers can get to work."

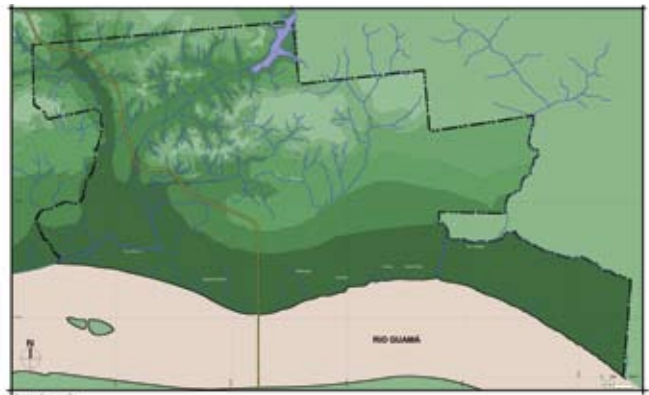
## CLEARCUTTING THE COMPETITION

McCurdy recently sat in on a Revit® demonstration at his firm and observed, "When I saw the demo, I realized I'd been doing 95 percent of what they demonstrated with Vectorworks Landmark for years."

*"I felt AutoCAD as a design tool just wasn't helping me get my job done; I felt like I was doing my job with one hand tied behind my back."*

"Vectorworks Landmark allows us to do a whole lot more than other programs for not a whole lot of money," affirms McCurdy. "It's easy to learn and enjoyable to work with, and I wouldn't have it any other way."

*For more information, contact Nemetschek North America, Inc., makers of Vectorworks, at 888-646-4223. Or, visit us on the web at [www.vectorworks.net](http://www.vectorworks.net)*



## SWIMMING UPSTREAM WITH AUTOCAD

Although Morris Terra is an AutoCAD office, the Orlando office's landscape architecture department uses Vectorworks Landmark. When McCurdy came on, after using AutoCAD initially, he convinced the partners to let him go back to Vectorworks. A self-taught user since the product was called MiniCAD in the 80s, McCurdy had to take classes to learn AutoCAD.

"I felt AutoCAD as a design tool just wasn't helping me get my job done; I felt like I was doing my job with one hand tied behind my back," he explains.

So he told one of the firm's partners about his success with Vectorworks, and now the landscape architecture department has six seats of Vectorworks Landmark.

