3-D Visualization

**joint-use elevated storage tank (at left)**

*CITY OF KELLER AND TOWN OF WESTLAKE*

FNI designed the industry’s first-ever joint-use elevated storage tank. The composite tank has two concentric-but-separate isolated tanks to provide independent storage for the City of Keller and the Town of Westlake. 3-D renderings were created to help the client visualize the design.

**elm fork athletic complex (center)**

*CITY OF DALLAS*

As part of FNI’s design and remediation services for this 160-acre project site, we created 3-D renderings and animations to demonstrate to the public the amenities and facilities of the new athletic complex.

**central wastewater treatment plant influent pump station (below)**

*DALLAS WATER UTILITIES*

FNI provided 3-D renderings and animation for the completed design of Dallas Water Utilities’ influent pump station. The renderings helped the client envision the final constructed project.

**community center and golf pro shop (at right)**

*CITY OF MISSOURI CITY*

FNI used 3-D modeling software for the design, development and construction documents for the Missouri City Community Center and Golf Pro Shop. Facility renderings and animation assisted with marketing the project to the community.

The essence of 3-D visualization is the simulation of a real-world environment using computer-generated modeling and lighting techniques. 3-D visualization can be used for several purposes, including:

- Exploring multiple design configurations and aesthetics
- Studying visual impacts on an existing environment
- Communicating complex ideas to an audience with limited technical knowledge

Freese and Nichols’ (FNI’s) 3-D modeling staff has a wealth of experience in creating 3-D visualizations for engineering and architectural design plans. 3-D visualization is a powerful planning and design tool that helps us make informed decisions using techniques that vary widely in complexity and cost. We have created graphics and videos that are effective in helping a community, client or project team visualize the functionality, appearance and value of a project.
3-D Visualization Makes Your Vision a Reality

A RENDERING IS A STILL IMAGE CREATED TO SHOW A PROPOSED project from a specific camera position. An animation is a series of still images used to provide the viewer with a “walk-thru” experience of a proposed project. Renderings and animations can be simplistic or complex depending on the nature of the proposed project. Both are effective for communicating visually.

FNI’s 3-D modeling staff works closely with a variety of technical staff and design teams, completing 3-D renderings for facility, roadway, dam and water transmission projects. This is a tool of tremendous value during a public meeting and during other project phases. 3-D products are useful in:

- Public meeting announcements, exhibits and hand-outs
- Newsletters and other stakeholder communications
- Project websites
- Media plans and fact sheets
- Other project collateral, such as postcards, posters, flyers, fact sheets, news releases, direct mail, etc.

PROJECT HIGHLIGHT

Clearfork Main Street Bridge, City of Fort Worth

FNI’s design of the four-lane, 1,300 linear foot arterial roadway and bridge crossing the Trinity River in southwest Fort Worth included significant coordination with various stakeholder groups, including the U.S. Army Corps of Engineers (USACE), river advocacy groups, public artists, property owners and pedestrian groups. To involve all stakeholders and give accurate visuals of the design, the team used 3-D renderings and animation as crucial part of this project.

SHADOW STUDY

FNI used 3-D rendering software to simulate a shadow study underneath the bridge for impacts to both environmental and pedestrian aspects of this project.

MULTIPLE DESIGN CONFIGURATIONS PRESENTED DURING PUBLIC INVOLVEMENT

The bridge needed to complement the natural beauty of the site, accommodate pedestrian and bicycle traffic from the Trinity Trails system at trail level, and coordinate with both the existing and future flood levees. To meet these goals, multiple bridge concepts were developed and presented to stakeholders at a conceptual design collaboration workshop (shown at right).

FINAL DESIGN DECISION

The final design is one that satisfies both the technical floodway requirements of the USACE and the pedestrian traffic needs of the public in an aesthetically pleasing and cost-effective solution.