

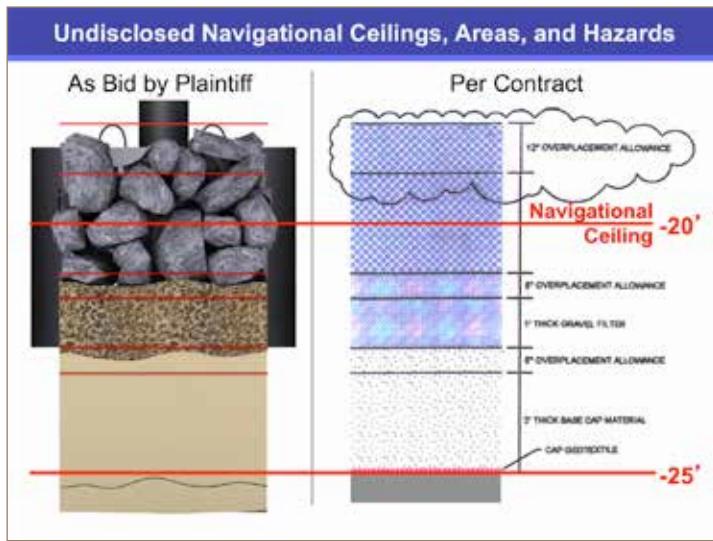


Visual Persuasion for Construction Litigation.





Design liability.



Open to interpretation. This illustration of a port district's dredging and recapping plan demonstrates why lay fact finders might not properly interpret technical plans and drawings and realistic 2D or 3D renderings. In this case, a design defect created a navigation hazard.



Where's the proof? Plaintiffs alleged that new balconies of an office-to-condo conversion violated numerous building codes and must be replaced. The defense countered by listing every deficiency plaintiffs failed to prove.

Evidence?

Evidence Presented?	YES	NO
Balcony decks are interior floors		✗
Balcony decks need to be 2-hour fire rated		✗
Balcony decks aren't 2-hour fire-rated		✗
Deck bushings are uniformly 1-inch deep		✗
1-inch deck bushing causes deflection		✗
Floor deflection actually exists		✗
Widespread ponding actually exists		✗
Cause of interior water damage		✗
Defendant's original design would not work		✗
Defendant's proposed remedy will not work		✗
Defendant was legally obligated to insist on redesigning balcony decks		✗
Balcony decks are actually roofs		✗
Deck slopes must be $\geq 2\%$ (per roof code)		✗
Defendant was negligent for not discovering unknown conditions		✗



Build your case for damages. Besides technical issues, fact finders want to learn the global impact of alleged defects. In this case about defective crane railbed design, plaintiff's counsel laid a good foundation for damages by demonstrating the impact of lost production capacity.



Code interpretation.

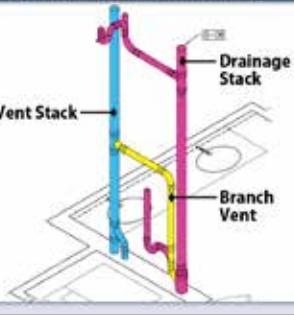
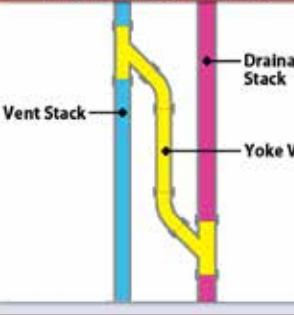
Yoke Vent Code Requirements

CPC § 907.1	CPC § 907.2
<p>907.1 Drainage Stack. Each drainage stack that extends 10 or more stories above the building drain or other horizontal drain, shall be served by a parallel vent stack, which shall extend unclimbed in size from its upper terminal and connect to the drainage stack at or immediately below the lowest fixture drain. Each such vent stack shall also be connected to the drainage stack at each fifth floor, counting down from the uppermost fixture drain, by means of a yoke vent, the size of which shall be not less in diameter than either the drainage or the vent stack, whichever is smaller.</p>	<p>907.2 Yoke Vent. The yoke vent connection to the vent stack shall be placed not less than 42 inches (1067 mm) above the floor level, and the yoke vent connection to the drainage stack shall be by means of a wye-branch fitting placed below the lowest drainage branch connection serving that floor.</p> 

To-the-letter code compliance...?

Plaintiff experts often rely on code non-compliance as proof of design or construction defects.

What Are "Branch" and "Yoke" Vents?

Branch Vent on Every Floor	Yoke Vent Every 5 Floors
	

... or, performance-based code compliance?

Defense experts can reasonably counter that to-code workarounds are appropriate alternatives.

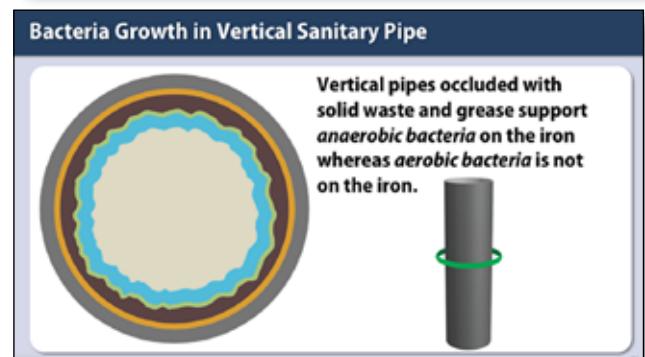


Defective materials.

Plaintiff's Opinion: Wall Thickness

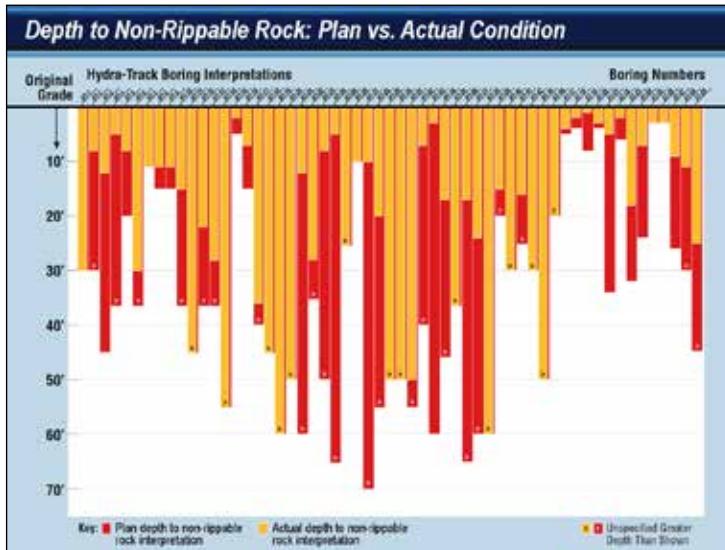
Opinion	CISPI 301-09
<p>"So the key thing there is the dimensions and tolerances, specifically the thickness, because one of my opinions is, as discussed by the Element report, the wall thickness is less than specified."</p> <p>Dep. Vol. I at 79:09-13</p>	<p>11. Mechanical and Chemical Test Methods</p> <p>11.1 For Gray Iron Mechanical</p> <p>• • •</p> <p>11.1.4. Analysis of castings or test bars after the time of production shall not be used as evidence of compliance to this standard.</p> <p>Source: CISPI 301-09, p. 6</p>
<p>"The presence of casting defects reduced the effective wall thickness to below CISPI 301-97 minimums in 16 of the 20 samples."</p> <p>Dep. Exh. 29, p. 3</p>	

Why is a material defective? Physical evidence can be compelling but is it enough to prove your expert's opinion? In this case, the defense disputed plaintiff's reliance on post-production destructive testing as evidence of noncompliance.

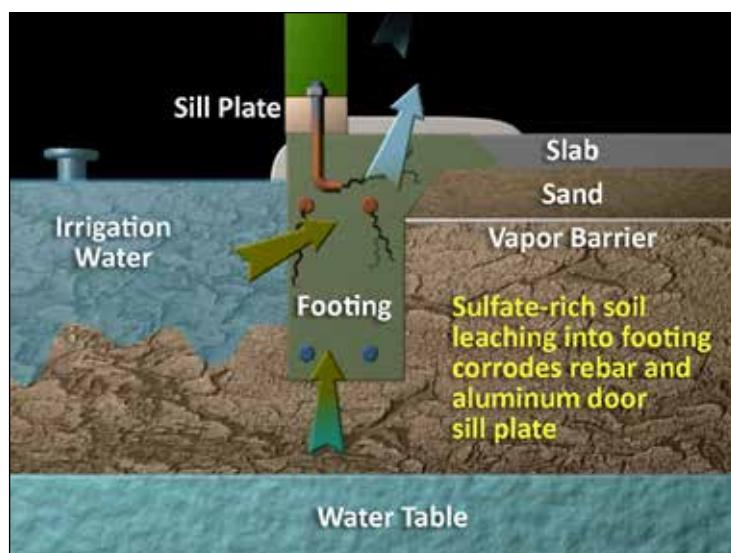
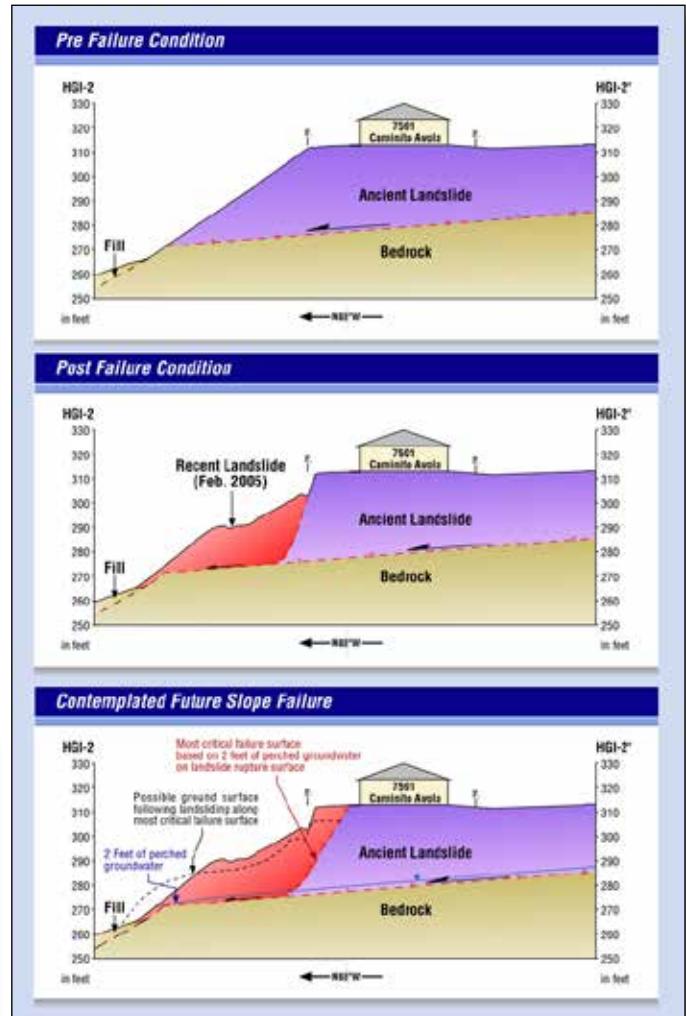




Site conditions.



Graphical comparisons are persuasive when your damages case is based on conflicting information, such as a pre-grading estimate later proved wrong.



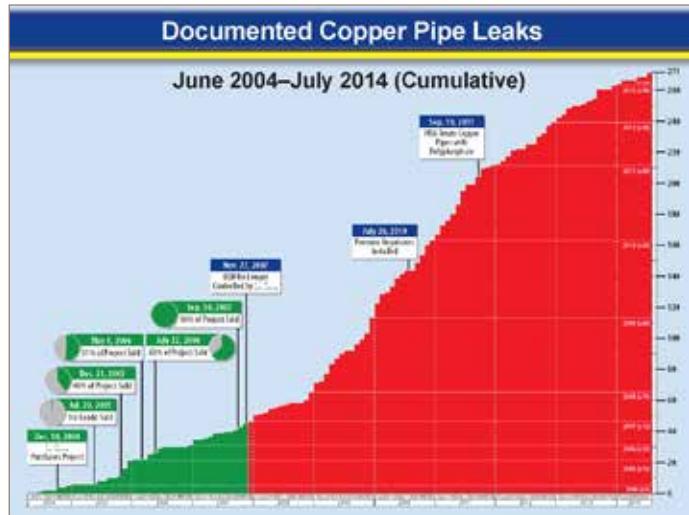
Satisfy fact finder curiosity how site conditions can cause property damage by demonstrating actual or contemplated **mechanisms of failure**.

Build temporal context for changing site conditions.
Illustrate contemplated future events when a site condition is potentially dynamic and suitable mitigation is not performed.

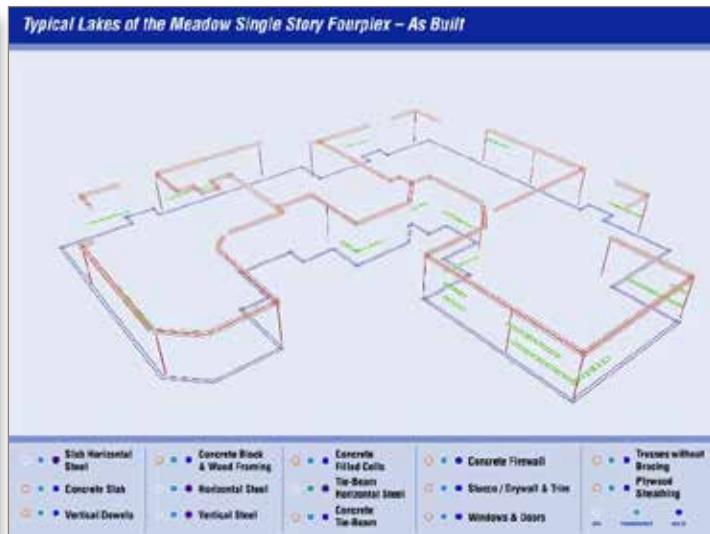
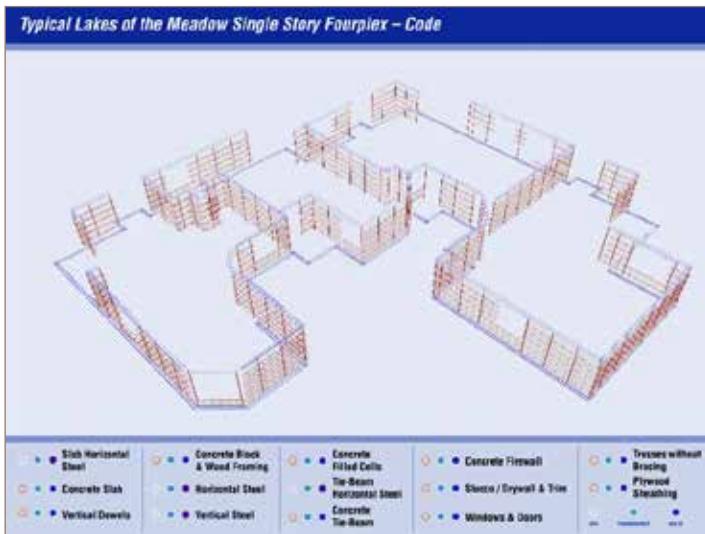


Construction defect: plaintiff.

Try a different approach. To demonstrate how spot repairs of plumbing leaks would never cure the root problem, we designed this cumulative chart to support complete replacement of a piping system plagued with problems.



Compare "proper" (code-compliant) to "improper" (non-compliant) construction. This example demonstrates how proper installation of a heat pump facilitates frontal access for maintenance while the defective installation does not.



Use interactive media to selectively focus on defects. Demonstrating defendant's failure to install over 90% of required structural steel was easy when the testifying expert could turn building components on, off, or semi-transparent.



Construction defect: defense.

3D versatility. To address several kinds of alleged construction defects we prepared exterior and interior 3D models of a high-rise condominium tower.



Destructive Testing Summary: Unit 2202, DT136

Impact on Waste System

Spandrel Access

North Elevation
Drop "E"

Defense Testing

Investigation – Window Wall Testing Locations

LEGALARTS
Visual Persuasion for Construction Litigation

Case Study: High-rise Condominium Tower

Defense Testing – Unit 303

Summary of Testing – Pre-Test

Send me an email for a PDF copy of the case study for this project
jgripp@legalarts.com



Inspector liability.

Undetected Condition

Trapped Moisture Creates Environment for Mold Growth Inside Wall Cavity

Evidence of Mold

What standards guide inspectors and how will the fact finder judge competence? Here, defendant mold inspector cleared a beachfront residence based on dubious testing standards and methods. Destructive testing revealed extensive contamination. Besides organizing plaintiff expert's photos, we prepared section view renderings demonstrating how mold was trapped and grew behind elastomeric paint—a clue that should have alerted the inspector to look more closely.



Valuation & damages.

Method for Determining Escalated Construction Costs

Gather Data

Establish Uniform Criteria

Develop Conceptual Schedules

Calculate Escalation Factors

Determine Escalation Costs

Demonstrate the logic behind your damages

Gather Data

Gather escalation data covering the subject project's comparative construction time-frames.

RSMeans
Full Price Construction Methods

Building Construction Cost Data

Establish Uniform Criteria

Convert the amenities-based cost breakdown of the "Project Program Criteria" into a CSI-based breakdown.

CSI
The Construction Specifications Institute

CSI Construction Guide

Develop Conceptual Schedules

Develop conceptual construction schedules in terms of CSI activities for each time-frame scenario.

Calculate Escalation Factors

Calculate prorated escalation factors relative to respective CSI categories and schedule time-frames.

Determine Escalation Costs

Apply these factors to the CSI-based cost breakdown to determine total escalated construction costs.

Demonstrate the logic behind your damages

Explain your expert's valuation methodology. This graphic introduced five topics plaintiff's expert evaluated to form his damages opinion in a construction delay matter.



Contractor liability.

Soil Nailing Basics

- If the soil nailing process is not completed within a single shift, the exposed face must be bermed before the crew leaves the site.



Collapse at the Southeast Corner

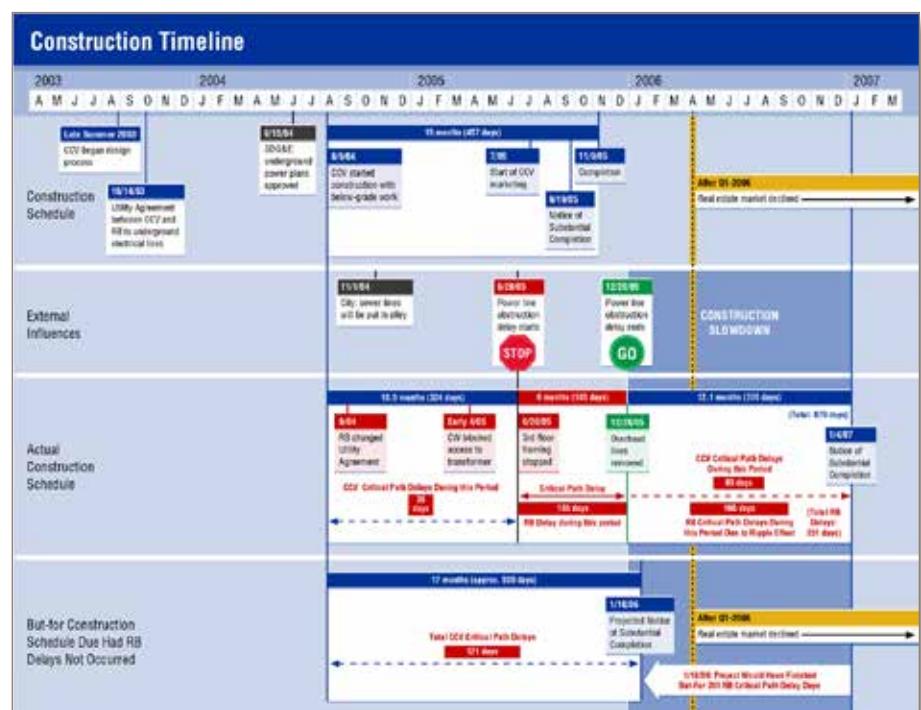


Demonstrate the cause-and-effect relationship between improper performance and damage. In this instance, an unfinished soil-nailed wall was not properly shored at end-of-day, resulting in a partial collapse overnight.



Construction delay.

Demonstrate the cause-and-effect relationships between events that contributed to delay with a stacked timeline. In this case, the delay forced plaintiff developer to miss the prime time to sell his properties before a significant real estate down cycle.





Construction accidents.



Accurate 3D-scene reconstruction demonstrates actual scene conditions from different points of view. In this incident, plaintiff insisted that he stepped off a ladder and immediately fell through an open shaft actually 12 feet away. The case settled on very favorable terms for the defense the same day this was shown to plaintiff's counsel.



Demonstrate mechanisms of failure and injury with animation.

When improperly secured scaffold planks gave way, plaintiff plunged 30 feet to the ground resulting in an injured elbow, broken ankles, and a shattered knee.

At issue was whether the on-site inspector tagged the scaffold safe. Photo documentation proved he did.



Leverage our experience for plaintiff or defense.



Take advantage of our four-decades litigation support experience crafting visuals that significantly influence outcome on your behalf.



Get ideas flowing. Even if you routinely delegate creative work to experts, our involvement will prioritize the process for the benefit of everyone.



Advocate for the fact finder. We anticipate fact finder needs for graphics, devise the best solutions, and continuously vet concepts to ensure they meet your objectives.



Conceive compelling stories. We craft storylines that resonate with the jury and maximize the impact on outcome.



Leverage our experience. We've participated in more trials to verdict than any lawyer will try in a lifetime, and in more areas than any single expert witness can possibly master. Leverage all of this experience every time we're engaged.



Enhance expert testimony. Construction experts are rarely expert visual communicators. We make them look good.



Benefit from value-added products and services. We provide organizational tools, searchable graphics compilations, ultra-secure cloud-based graphics repositories, and expert trial presentation services.

Contact us to see examples of our work in these specialty areas:

- Construction and Design Defect
- Contractor/Professional Liability
- Condemnation and Dedication
- Construction Accidents and Workplace Safety
- Construction Delay
- Construction Method Tutorials
- Drainage
- Dredging & Capping and Marine Engineering
- Easement Disputes
- Electric Shock and Electrocution
- Eminent Domain
- Excavation, Grading, and Paving
- Fire and Explosion Causation
- Geotechnology
- Historical Property Exemptions
- Hydrogeology
- Insurance Coverage and Agent Liability
- Mechanical and Plumbing
- Malodor Contamination
- Public Utilities (Electricity, Gas, Water, Easements)
- Real Estate Advertising and Misrepresentation
- Real Estate Broker Liability
- Real Estate Contracts and Transactions
- Soils
- Subsidence
- Toxic Contamination and Remediation
- Valuation and Forensic Economics
- Viewshed Obstructions
- Waterproofing
- Workplace Exposure to Toxins
- Zoning



What's your top priority?

Affordability

Hourly & Volume Pricing

- Competitive rates
- Best choice when scope is unpredictable
- Potentially substantial hourly rate discounts for volume work

Phased Pricing

- Best choice for long-term projects and when early tasks are predictable
- Accommodates budget reconsideration or renegotiation at project milestones

Flat Fee/Value Pricing

- Eliminates hourly fee unpredictability
- Best choice when scope is predictable

Special Skills

- Graphics consulting & design
- PowerPoint presentations
- Multimedia technology tutorials
- 2D/3D technical, scientific, and medical illustration and animation
- Professional photography & video productions
- Interactive presentations
- Courtroom presentation
- Physical models
- Graphics library management
- Expert foundational testimony (state, federal, and military)

Experience

Thousands of cases in 40 years

1970s Principal Jim Gripp started in the industry in 1975 and founded **Legal Arts** in 1979

1980s Expanded to all litigation practice areas and routinely engaged in hundreds of cases per year

1990s Developed animation and multimedia expertise

2000s Heavy concentration in patent infringement cases

2010s Renewed emphasis in business and commercial litigation, employment, insurance, and product liability

2020s Highly personal customer service combined with unparalleled experience

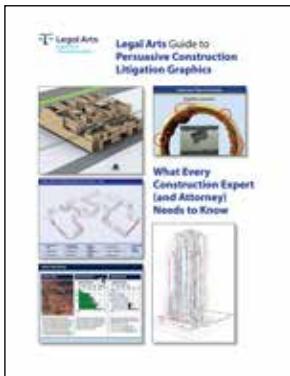
Practice Areas

Construction Litigation

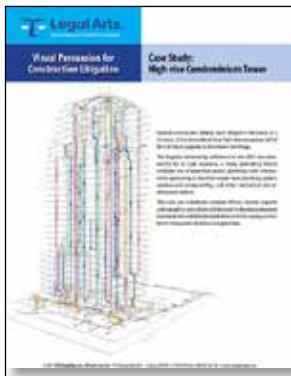
- Design liability
- Code interpretation
- Defective materials
- Site conditions
- Construction defect
- Contractor liability
- Construction delay
- Inspector liability
- Valuation & damages
- Construction accidents



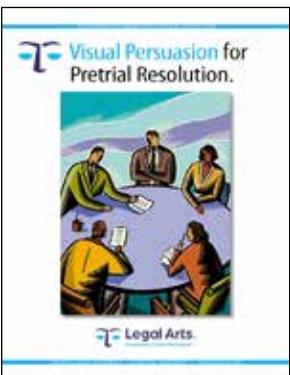
DEMONSTRATIVE EXHIBITS FOR CONSTRUCTION LITIGATION



Guide to Construction



Case Study: High-rise Tower



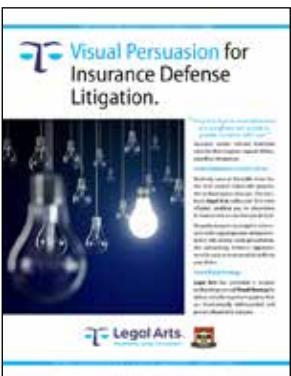
Pretrial Resolution



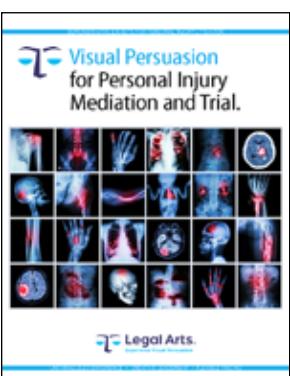
Case Study: Mid-rise Tower



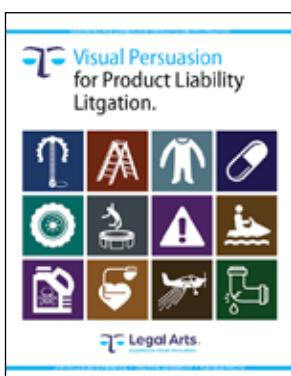
Insurance Coverage



Insurance Defense



Personal Injury



Product Liability



For more information or to discuss a pending matter, please contact:

Jim Gripp, CEO

jgripp@legalarts.com

619.239.1101 phone

888.305.1101 toll free

619.316.5672 direct

3755 Avocado Blvd. #207, La Mesa, CA 9194

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