

Visual Persuasion for Construction Litigation

Mid-rise Condominium Tower Defects Settled in Mediation



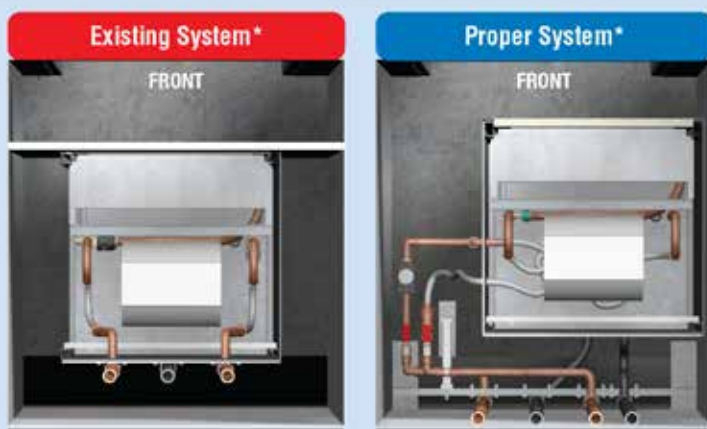
Photo: sandiegodowntown.com

This 86-unit condominium mid-rise tower in downtown San Diego was alleged to have over two dozen categories of construction defects encompassing plumbing design and materials, mechanical systems access, concrete work, exterior cladding, windows, and drainage.

Legal Arts worked closely with plaintiff homeowner association's trial counsel and its consulting experts to produce a comprehensive visual presentation comparing "proper" and "improper" construction design, material choices, and fabrication.

Our work served dual purposes for mediation, settlement negotiations, and trial. The case settled favorably for plaintiffs.

Proper Heat Pump Inspection Access



The creative challenge is to craft a persuasive story

Mediators and fact finders expect you will use visual communications to:

- Show the rules for proper construction, where they came from, who wrote them, and why they are important
- Show what acceptable construction looks like and how it works, and demonstrate the most important features and performance outcomes
- Show how and why the accused construction is defective
- Show comparisons of proper and defective construction and demonstrate how performance outcomes differ
- Show how the defective construction violates the codes, standards, or customs that define proper construction
- Show the most practical way to fix the problem and why one solution is more reasonable than another
- Break remedy costs down so they are easily understood and explain why the proposed cost is reasonable

Examples of proper vs. improper construction: the suds pressure zone

Top right: an industry standard and the California Plumbing Code describe how to properly bypass suds pressure zones.

Middle: demonstration of a proper bypass.

Lower right: illustration of how the alleged defect improperly connects to the suds pressure zones.

What Is a Suds Pressure Zone?

**American Society of Plumbing Engineers
"Engineered Plumbing Design II"**

Figure 4-2 Hydraulic Jump at Offset

VERTICAL:
"40 x Pipe Diameter"
HORIZONTAL:
"10 x Pipe Diameter"

CPC § 711.1

711.1 General. Drainage connections shall not be made into a drainage piping system within 8 feet (2438 mm) of a vertical to horizontal change of direction of a stack containing suds-producing fixtures.

Proper Connection Outside Suds Pressure Zone

**American Society of Plumbing Engineers
"Engineered Plumbing Design II"**

Figure 4-2 Hydraulic Jump at Offset

VERTICAL:
"40 x Pipe Diameter"
HORIZONTAL:
"10 x Pipe Diameter"

CPC § 711.1

711.1 General. Drainage connections shall not be made into a drainage piping system within 8 feet (2438 mm) of a vertical to horizontal change of direction of a stack containing suds-producing fixtures.

Improper Connection into Suds Pressure Zone

**American Society of Plumbing Engineers
"Engineered Plumbing Design II"**

Figure 4-2 Hydraulic Jump at Offset

VERTICAL:
"40 x Pipe Diameter"
HORIZONTAL:
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CPC § 711.1

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Demonstrate the standards for proper construction

You and your experts rely upon building codes, industry standards, manufacturer specifications, and plans to demonstrate proper construction and performance, but they aren't always easy to understand. We are adept at crafting user-friendly visuals to clarify them and emphasize your teaching points.

Secondary Heat Pump Condensate Drain

2001 CMC § 310.2

310.2 Condensate Control. When a cooling coil or cooling unit is located in an attic or furred* space where damage may result from condensate overflow, an additional water-tight pan of corrosion-resistant metal shall be installed beneath the cooling coil or unit top to catch the overflow condensate due to a clogged primary condensate drain, or one pan with a standing overflow and a separate secondary drain may be provided in lieu of the secondary drain pan. The additional pan or the standing overflow shall be provided with a drain pipe, minimum 3/4 inch (19.1 mm) nominal pipe size, discharging at a point which can be readily observed.

Properly Installed System

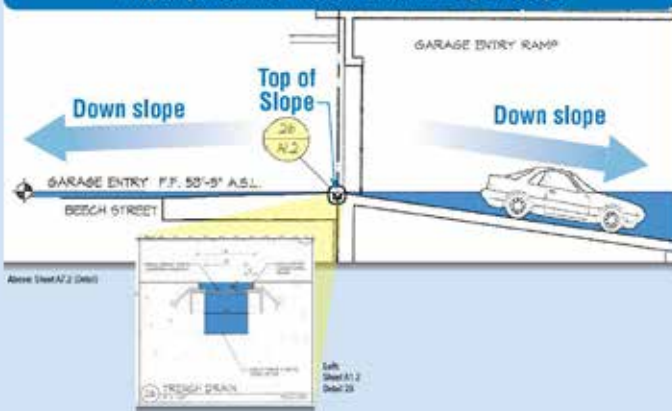


*furred: Provided with furring to leave an air space, as between a structural wall and plaster or between a subfloor and wood flooring. (Moore Illustrated Construction Dictionary, 3d Unabridged, 2000, p. 209)

Standard: California Mechanical Code.

Garage Trench Drain Placement

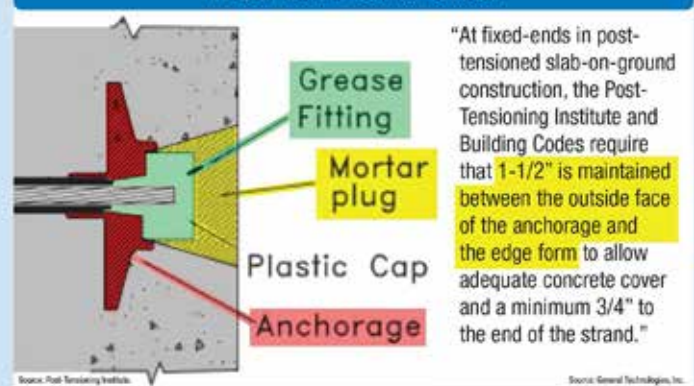
Properly Installed Trench Drain at Top of Slope



Standard: architectural plans.

Post-Tensioned Concrete

Proper Mortar-Sealed Tendon



Standards: industry trade and manufacturer's specification.

Yoke Vent Code Requirements

CPC § 907.1

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 undiminished 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.

CPC § 907.2

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.

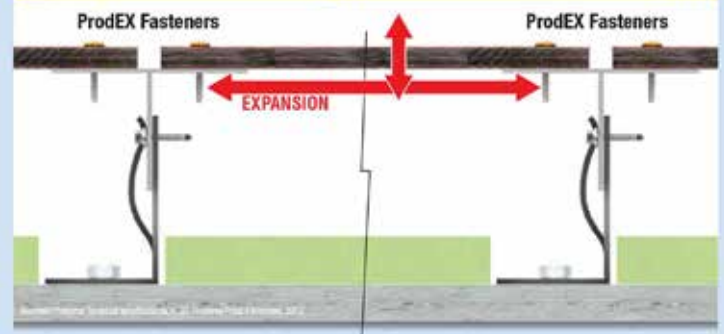


Standard: California Plumbing Code.

Exterior Wood Panels

Proper Installation: Dimensionally Stable Fasteners

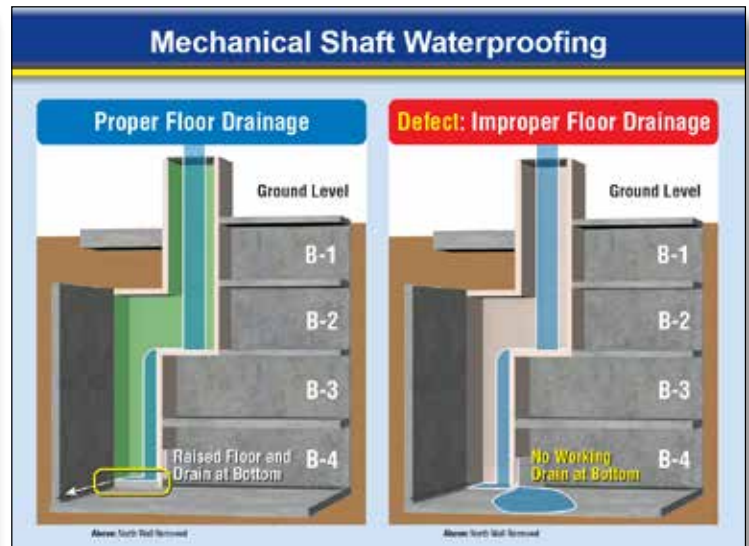
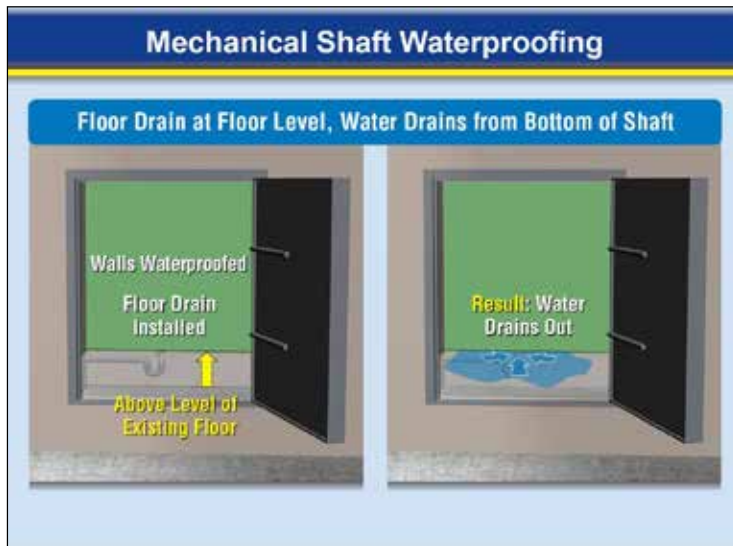
Physical properties		
Dimensional stability at elevated temperatures	0.30 0.60	Cumulative dimensional change (± 6 mm) % max



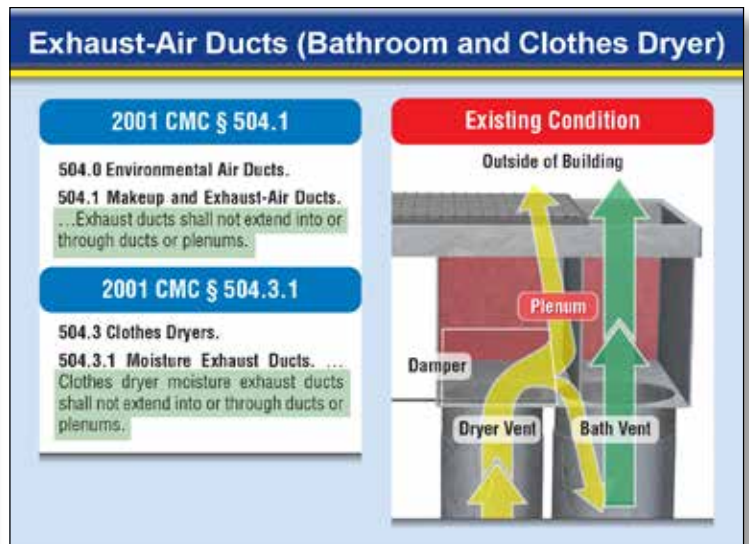
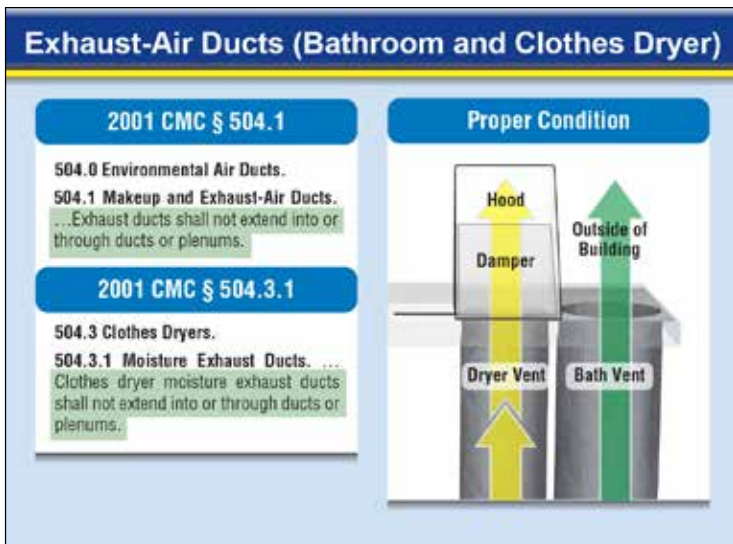
Standard: manufacturer's specification.

Compare proper and improper choices

Smart lawyers and experts know there are usually different ways to achieve proper performance besides to-the-letter Code language adherence. Answering “why wasn’t the correct choice made?” is convincing when you demonstrate actual or probable performance failure compared to the proper outcome.



Storm drainage. If common sense dictates a drain should be placed where water can reach it, why did defendant choose to position the opening several inches above the floor?



Dryer and bath venting. When Code language prohibits the constructed design, demonstrating performance outcome emphasizes how the wrong choice has negative consequences.

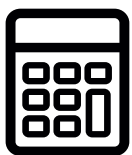
Challenge: keeping costs under control

What you can do



Request cost estimates in phases

Flexible cost estimation helps to manage everyone's expectations when project scope is unpredictable, or circumstances change as your case progresses.



Provide a budget range

Budget guidance allows us to tailor sensible solutions to your budget.



Discuss costs at the outset

Even if the scope is predictable and the budget is generous, putting costs on the table keeps everyone aware they're spending other-people's money.



Obtain client pre-approval

Help us meet our goal of "no surprises" by obtaining owner approval before the engagement begins.



Facilitate expert interaction

Experts can vary greatly in timely preparation, jury empathy, and perception of need for visual communication. Get us together early to promote creative thinking and eliminate duplicative effort and cost.

What we bring to the table



Sensible hourly rates

- **Hourly rates** lower than most experts will likely charge to create their own demonstratives
- **Up to 20% savings** off published standard hourly rates for larger projects
- **Single low rate** for all work including graphics consulting, design, and 3D animation
- Exact **to-the-minute** start/stop timekeeping and tenth-of-hour billing



Optional flat fee/all-in-one pricing

- Best choice for predictable scope of work
- Cap your cost outlay at a mutually acceptable amount



Optional phased-pricing

- Most appropriate when early tasks are predictable and later tasks are not
- Accommodates budget reconsideration or renegotiation at project milestones



Optional sliding scale volume engagement discounts

- Volume-base discounts passed to your clients makes you more competitive
- Accommodates multiple-case budgeting
- Year-end discount rate rolls over to next quarter and may be extended or increased depending on future volume
- Includes a dedicated graphics library available for similar litigation at no extra cost



Efficient creative time management

- Proactive measures to incentivize expert and attorney involvement in creative tasks
- Timely burn rate and budget status reports, and expenditure alerts during intensive production periods

Leverage our experience

Take advantage of over four decades of litigation support experience to produce visuals that will influence outcome.



Get ideas flowing. Sometimes, lawyers defer to experts or vice versa to initiate the creative process. We involve everyone in the creative process.



Advocate for the fact finder. We anticipate juror perception of need for visual communication, devise the best ways to meet the challenge, and vet every concept to ensure it benefits the fact finder.



Conceive compelling themes and stories. We'll help you and your experts craft storylines that resonate with the jury and maximize the impact your evidence and testimony will have 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 master. You'll leverage this experience every time you engage us.



Enhance expert testimony. Whether your expert has a trade or science background, they probably will need help to become expert visual communicators. We make sure that happens.



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

Construction, real estate, and land use practice 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

Visual Persuasion for Construction Litigation

Creative skills honed over four decades

- Graphics Consulting
- Graphic Design
- PowerPoint Presentations
- Interactive Multimedia
- 2D/3D Technical & Scientific Illustration and Animation
- Physical Models
- Professional Photography & Video
- Interactive Factual and Process Tutorials
- Expert Foundational Testimony
- Courtroom Technology
- Graphics Library and Database Management

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