



# Managing Risk in Innovative Designs

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# Course Description

“

Titanic, name and thing,  
will stand as a monument and warning  
to human presumption.

”

- Bishop of Winchester, 1912 -

Clients and owners are more frequently requesting and expecting innovative designs from professionals. A thorough risk analysis and a careful review of contract language are both strategic tools to help you understand your liability and mitigate your risk.

# Learning Objectives

## Participants will learn:

- 1 How implementing innovative designs or materials affects the standard of care;
- 2 The liabilities attached to the use of innovative designs and materials;
- 3 Project Agreement strategies to mitigate risk in innovative designs and materials; and
- 4 Personal strategies to mitigate risk in innovative designs and materials.

# “Innovation” Defined

## Innovate

Oxford Dictionary definition.

Make changes in something established, especially by introducing new methods, ideas, or products.

Origin: in- ‘into’ + novare ‘make new’.



# How Does Innovation Affect the Standard of Care for Design Professional?

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# Standard of Care Defined

## Standard of Care for Professionals

Exercise the degree of skill and care ordinarily exercised by other design professionals practicing under similar circumstances.

\*Failure to meet this standard of care constitutes professional negligence

# Elements – Negligence Claim

Whether or not you owe a duty, and whether or not you met that duty of care is determined, in part, by the standard of care.

- 1** **Duty**    Duty of care
- 2** **Breach**    Violation of duty of care
- 3** **Causation**    Actual and proximate cause
- 4** **Damages**    Harm suffered

# Perfection is NOT required!

“

The undertaking of a [design professional] implies that s/he possesses skill and ability, including taste, sufficient to enable him/her to perform the required services at least ordinarily and reasonably well; and that he will exercise an apply in the given case, his/her skill and ability, his/her judgment and taste, reasonably and without neglect. But the undertaking does not imply or warrant a satisfactory result. It will be enough that any failure shall not be by the fault of the architect. There is no implied promise that miscalculations may not occur. **An error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life.**

”

*Coombs v. Beede*, 89 Me. 187, 188-89 (1896).

# Innovation and the Standard of Care

## 1 Too Innovative

Experimental or “revolutionary” designs, materials, or processes can expose you to claims alleging a failure to act as a similarly situated design professional would have acted, therefore a failure to meet the standard of care.

## 2 Not Innovative Enough

As innovation becomes more mainstream, failure to keep pace can expose you to claims alleging a failure to act as a similarly situated design professional would have acted, therefore a failure to meet the standard of care.

# Impact on the Standard of Care

The standard of care changes



Advances in technology,  
efficiency, and performance

Standard of care  
improves



as innovations become more mainstream

# AIA Rules of Conduct

(American Institute of Architects)

## Sample Rules pertaining to health and safety:

### E.S. 1.5

Design for Human Dignity and the Health, Safety, and Welfare of the Public: Members should employ their professional knowledge and skill to design buildings and spaces that will enhance and facilitate human dignity and the health, safety, and welfare of the individual and the public.

\* Please note, these obligations can be heightened by other Rules of Conduct, for instance Rule 4.202, which obligates Members to ensure those under their supervision also conform to the code of conduct.

# NSPE Code of Ethics

(National Society of Professional Engineers)

## III Professional Obligations.

2. Engineers shall at all times strive to serve the public interest.

a. Engineers are encouraged to participate in civic affairs; career guidance for youths; and work for the advancement of the safety, health, and well-being of their community.

...

# ASCE Code of Ethics

(American Society of Civil Engineers)

## Canon 1.

Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties.



# NSPS Code of Ethics

(National Society of Professional Surveyors)

## Pledge

I pledge:

...

To place services before profit, honor and standing of the professional before personal advantage, and the public welfare above all other considerations.

# Public Spaces Reimagined



“Human Parking Spots”

Image Source: SF Gate



“Separate Greenhouse Dining”

Image Source: Mediamatic Eten

# Design For Distancing

## Baltimore City Requirements



### Framing + Vision

#### PRIORITY WAS GIVEN TO CONCEPTS THAT

- Are inclusive, healthy and equitable
- Focus on the concept of "physical distancing" vs. "social distancing"—we still want people to gather, but to gather safely
- Support a return to thriving business
- Create spaces that people actually use
- Employ clear, helpful messaging (in appropriate languages for the host community)
- Embrace the best practices, energy and warmth of pedestrian-oriented cities
- Reflect and amplify the existing character of the surrounding neighborhood
- Are executable in a very short time frame
- Are unique, warm, engaging, and safe
- Surprise, delight and reimagine

**Some of the key issues  
Design Teams were  
asked to consider.**



### Key Considerations

#### ALL SUBMITTED DESIGNS WERE REQUIRED TO

- Be temporary (while considering the possibility of permanent installation)
- Be low-cost (installation budget of \$30K to \$100K)
- Address the needs of food service, retail, and other service industries
- Be situated outdoors in public space (i.e. the sidewalk, closed streets, parking spaces, vacant lots, parking lots)
- Be people-focused (those using the streets, parks, public spaces and especially those patronizing local businesses)
- Both incorporate public health guidelines and communicate how to use spaces in order to maintain those guidelines
- Support the safety of users, and communicate that safety is being considered
- Consider a range of users and groups and support their safe interaction (from young children to seniors; from single person to large family, differently abled patrons, etc.)
- Prioritize durable, reusable, and sustainable materials and construction methods that allow pieces to be disassembled and reconstructed elsewhere
- Prioritize visibility, legibility, and easy compliance to the greatest extent possible

## LEED Safety First Pilot Credits:

Cleaning and disinfecting  
your space

Create and implement a policy and procedures that follow green cleaning best practices to support a healthy indoor environment and worker safety.

Re-enter  
your workplace

Assess, plan for, and evaluate re-entry taking into consideration sustainable requirements in building operations and human behavior to minimize the spread of COVID-19.

Building water system  
recommissioning

Take steps to address water quality and reduce the risk of exposure to degraded water quality (e.g. develop and implement a water management plan, coordinate with local water and public health authorities, communicate risks with building occupants).

Managing indoor air  
quality during COVID 19

Ensure indoor air quality systems are operating as designed and determine temporary adjustments to ventilation that may minimize the spread of COVID-19 through the air.

Pandemic planning

Help cities and communities prepare for, control and mitigate the spread of disease during a pandemic that poses a high risk to people. Provide education and training for community partners and other stakeholders.

Social equity in  
pandemic planning

Consider equity implications across all phases of the pandemic preparedness, planning and response process.

# Federal, State, and Local Laws

## Laws, Regulations, and Codes



Laws, regulations and codes on the federal, state, and local level may require sustainable design practices. The applicability of these laws, regulations and codes may vary, with some applying only to public projects, and others applying to all new construction and renovation projects (e.g. Baltimore Green Construction Code).

# Staying Up To Date

## Ways to stay up to date with the Standard of Care

Reading industry related publications

Staying up to date with building codes

Discussing issues with peers

Attending seminars, workshops, and other courses

Observing the work of peers

By doing – writing articles, giving presentations, teaching



What additional liabilities exist and how can you manage and mitigate those risks?

# Additional Liabilities

## Additional Risks

These risks are not specific to innovation, but are heightened by innovation.

- 1** Breach of contract
- 2** Misrepresentation
- 3** Third party liability



# Project Agreement Strategies

## Contract Tips

Managing risk in your agreements.

- 1** Address innovative designs and materials
- 2** Avoid warranties or guarantees
- 3** Consider the impact on scheduling and budget

# Addressing Innovation

## Provisions Addressing Innovation

Specifically address the use of innovative designs, materials, and processes in your Contract.



Will innovative practices be considered?

What must be presented in a recommendation?

Is formal testing required?

Who has the right to approve such changes?

What is the time frame for approval?

How will changes be implemented?

# No Innovative Design

Sample Language

“

Unless otherwise permitted in writing by Client, [Design Professional] shall not specify or recommend unique, innovative or sole source equipment, systems, or materials.

”

# Air Purification Technology

Needlepoint Bipolar Ionization System (NPBI)



Engineering Air for a Cleaner World™

## GPS-DM48-AC™

### *Auto-Cleaning Needlepoint Bipolar Ionization Air Purification Device*

The world's first auto-cleaning, lightweight duct-mounted NPBI electronic air cleaner. The maintenance free unit is designed for indoor or outdoor duct mounting and can handle up to **4,800 CFM or 12 tons**.



# Warranties & Guarantees

## Avoid Warranties & Guarantees

Warranties and guarantees can raise your standard of care and obligate you for damages beyond those proximately caused by your negligence in the rendering of your professional services. These may present an uninsured liability under the terms of your Professional Liability insurance.

# Warranty Disclaimer

AIA E204-2017 §6.1



The Owner, Contractor, and [Design Professional] acknowledge that achieving the Sustainable Objective is dependent on many factors beyond the Contractor's and [Design Professional]'s control, such as the Owner's use and operation of the Project; the work or services provided by the Owner's other contractors or consultants; or interpretation of credit requirements by a Certifying Authority. Accordingly, **neither [Design Professional] nor Contractor warrant or guarantee that the Project will achieve the Sustainable objective.**



# General Warranty Disclaimer

Sample Language

“

The [Design Professional] makes no warranties, either express or implied, with respect to services provided under this Agreement.

”

# Right to Rely

## Establish Your Right to Rely

Clarify that you have the right to rely upon information furnished by or on behalf of the Owner. Otherwise, you may be inadequately compensated for any changes that result from an unforeseen condition.

When using innovative materials or equipment, clarify that you have the right to rely upon any representations or information furnished by supplier's or manufacturer's of such materials or equipment.



# Right to Rely

AIA E204-2017 §2.5.2

“

The [Design Professional] may be unable to determine whether the material or equipment will perform as represented by the manufacturer or supplier...In the event the Owner elects to proceed with the use of such materials or equipment, the [Design Professional] shall be permitted to rely on the manufacturer's or supplier's representations and shall not be responsible for any damages arising from failure of the material or equipment to perform in accordance with the manufacturer's or supplier's representations.

”

# Case Law

The Chesapeake Foundation Inc.

Client



SmithGroup, Inc.

Design Professional

Clark Construction Group, Inc.

Contractor



Weyerhaeuser  
Manufacturer



Permapost Products Co.

Treatment

Project Owner, Contractor, and Architect file suit to recover remediation costs and other damages caused by errors in Manufacturer's representations.

# Consequential Damages

## Waiver of Consequential Damages

Having your Client waive their right to consequential damages, or agreeing to a mutual waiver of consequential damages can help you manage your exposure in the event a claim arises.

# Waiver of Consequential Damages

AIA B101-2017 §8.1.3

“

The [Design Professional] and Owner  
**waive consequential damages** for  
claims, disputes, or other matters in question,  
arising out of or relating to this Agreement...

”

# Case Law

Project Owner seeks damages for lost tax credit after project fails to achieve LEED Silver Certification Level.

Project Owner alleged:

“

In failing to comply with this contractual requirement [to construct in conformance with Silver Certification Level according to the LEED Rating System], Shaw Development will suffer damages in the amount of a \$635,000 tax credit.

”

# Scheduling and Budget

## Scheduling and budget considerations

These considerations can be directly incorporated into the agreement.

Additional services

Extra training for innovating designs or materials

Special installation requirements

Constraints in product availability

Specification of innovative materials/process

Costs associated with inherent uncertainties of innovation

# Personal Practices Strategies

## Personal Practices

Managing risk thru your daily practices.

- 1** Communicate clearly
- 2** Seek expert advice, if necessary
- 3** Have a back-up plan
- 4** Consider the effects of location, geography & micro-climate

# Communication

## Communicate with the Client

Understand the Client's goals,  
schedule, and expectations

Inform and help the Client  
establish realistic expectations

Document your  
communication

throughout the entire process



# Research and Expert Advice

## Conduct Independent Research



Research manufacturer's warranties

Consult with independent professionals

Test the materials, designs, or systems

Research implementation and maintenance

\*Be sure to document any research, testing, results, and additional findings.

# Have a Back Up Plan

## Consider Alternatives and Substitutions

Consider the availability of alternative methods and substitute materials, just in case.



### Example:

If your client seeks to achieve a specific level of LEED certification, aim for more points than needed and have alternative methods available to increase the likelihood of attaining the required point total.

# Account for the Project Site

## Location, Geography & Micro-Climate

Remember to account for the location, geography, and local weather conditions of the site.



### Things to consider:

Frequency of rain, snow, ice, and high winds

Elevation and changes in elevation

Exposure to sun and extreme temperatures

Proximity of surrounding buildings and infrastructure

# Key Takeaways

## Innovation Risk Management

Reduce uncertainty and risk thru your agreements and daily practices.

- 1** Stay current with trends and the Standard of Care
- 2** Address innovation directly in your agreement
  - Avoid warranties & guarantees
  - Clarify your right to rely
- 3** Mitigate risk through good personal practices
  - Clear communication
  - Due diligence in researching and testing

Thank you for your time!

# QUESTIONS?

**This concludes The American Institute of Architects  
Continuing Education Systems Program**

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