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When Specialty Designs Cause Building Disasters: Responsibility for Shared Architectural and Engineering Services

Carl J. Circo

University of Arkansas, Fayetteville, ccirco@uark.edu

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I. INTRODUCTION

One hundred fourteen people died when skywalks over a crowded hotel lobby collapsed.¹ A steel fabricator—not the project's structural engineers—designed the skywalks' fatal connections. Stricter regulation of the design process might have prevented these deaths. Unfortunately, the primary legacy of the 1981 Kansas City Hyatt Regency Hotel catastrophe is not more aggressive legal controls over specialty design practices; it is, instead, contracting practices that more aggressively insulate project design professionals from specialty design errors.² There is growing evidence that specialty design practices since 1981 portend increasingly troublesome questions of contractual responsibility and legal liability.

Consider the design arrangements for an upscale office building damaged by the 1994 Northridge earthquake. The u-shaped building itself was unharmed, but the framework for the unique central atrium

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1. *Duncan v. Mo. Bd. for Architects, Prof'l Eng'rs & Land Surveyors*, 744 S.W.2d 524 (Mo. Ct. App. 1988) (recounting one of the most notorious of all construction disasters, which occurred in 1981 when skywalks in the Kansas City Hyatt Regency Hotel lobby collapsed during a Friday afternoon party). The court upheld revocation of three engineering licenses. *Id.* at 542. For a more detailed discussion of this case, see *infra* notes 179–84, 213–19 and the accompanying text.
 2. The Kansas City Hyatt Regency Hotel damage claims led to industry form contracts that more effectively protect project design professionals from responsibility for details provided in shop drawings. See generally 2 PHILIP L. BRUNER & PATRICK J. O'CONNOR, JR., *BRUNER AND O'CONNOR ON CONSTRUCTION LAW* § 7:137 (2002); Dale R. Ellickson, *Shop Drawings for Construction: Who Really is Responsible?*, 24 REAL PROP. PROB. & TR. J. 611, 629–32 (1990); Thomas J. Maloney, Comment, *Flirting with Disaster: The ALA Owner-Architect Agreement Shifts the Risk of Loss to Owners*, 36 LOY. L. REV. 409, 423–24 (1990).

skylight failed. The building contractor, the manufacturer of the frame system, the atrium ceiling subcontractor, and an engineering consultant all participated in the design process, although the reported case does not disclose whether design for the entire building was centralized under a project architect or engineer.³ Who should be responsible to the owner for over ten million dollars in lost rent and repair costs? Does the building contractor's warranty of quality work extend to the skylight's design furnished by a supplier who manufactured the framework for the subcontractor? Should tort law in such a case trump private contracts by imposing an expanded duty on all those involved with the specialty design? If so, should courts curb the economic loss rule to allow recovery of pecuniary loss caused by a specialty design firm to another participant in the construction process who had no contract with the specialty designer?

These notable cases dramatize the prominent role of shared, delegated, and specialty design practices in the history of construction industry calamities. They also serve as reminders that the risk of devastating personal injury, extreme property damage, and catastrophic economic loss permeates the building design and construction process.⁴

Over the last fifty years, advances in construction techniques, together with increasing project complexity, have caused project design to become more technically demanding and specialized—a fact grotesquely underscored by the threat of terrorist attacks that now place previously unimaginable demands on building security and safety.⁵ At the same time, developments in professional liability law and the dramatic growth in damage claims throughout the construction industry have radically increased the liability risk for those who participate

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3. See *Filmland Dev., Inc. v. Turner Constr. Co.*, Nos. B136497, B140556, 2002 WL 31693595 (Cal. Ct. App. Dec. 3, 2002). The court, presented primarily with evidentiary issues, affirmed a judgment in favor of the contractor, the subcontractor, and the engineer. Other defendants settled.
 4. See generally John J. McNamara, *Compensatory Damages*, in 2 CONSTRUCTION LAW HANDBOOK 1117 (Robert F. Cushman & James J. Myers eds., 1999); Justin Sweet, *Owner-Architect-Contractor: Another Eternal Triangle*, 47 CAL. L. REV. 645 (1959).
 5. Without suggesting the existence of a design defect, one engineer has asked whether a more integrative approach to structural design could have saved lives by delaying (but not preventing) the collapse of the two towers of the World Trade Center when terrorists slammed commercial airliners into them on September 11, 2001. See Thomas W. Eager & Christopher Musso, *Why did the World Trade Center Collapse? Science, Engineering and Speculation*, J. MINS., METALS, & MATERIALS SOC'Y, Dec. 2001, at 8. Even in more innocent times, however, construction professionals and construction lawyers have noted the impact of increased project complexity. See generally The American Bar Association Forum on the Construction Industry, *Getting it Right: How to Structure Complex Projects to Allocate Risks and Minimize Disputes* (2001) (collection of seminar papers discussing allocation of risks in complex industrial projects).

in design activities.⁶ All of these factors have led to a subtle shift in the responsibility of design professionals. Project design is increasingly a collaborative process involving several design professionals and trade specialists.⁷ While this trend reflects the realities of modern design and construction, it also blurs the traditional lines of professional responsibility and legal liability for design.

One might expect design specialization to create clear and exclusive lines of design responsibility for distinct specialty components of a construction project. Industry perspectives seem to hope for this result.⁸ More often than not, however, these shared design practices confound the liability analysis by sprinkling duties relating to specialty design among several participants having independent contractual relationships with different members of the project design and construction team.

The scholarly literature and trade publications have focused on the now popular design-build contracting practice, which places *all* design and construction responsibility on a single party.⁹ Modern shared design practices, however, mark an entirely distinct development—the emergence of a new design-build world in which design responsibility is diffused rather than centralized.

This Article examines the development, current legal status, and long-range legal implications of shared design. Of special interest is the practice of assigning significant responsibility for specialty design to those who have no direct contractual relationship with the owner of the project or the owner's primary design professional. This Article

6. See JUSTIN SWEET, *LEGAL ASPECTS OF ARCHITECTURE, ENGINEERING, AND THE CONSTRUCTION PROCESS* 325–27 (6th ed. 2000) (demonstrating that the major factors contributing to the increased risk of professional liability for architects and engineers have been at work for many years and parallel the development of tort law in general); Thomas J. Stipanowich, *Reconstructing Construction Law: Reality and Reform in a Transactional System*, 1998 WIS. L. REV. 463, 476; see also Note, *Architectural Malpractice: A Contract-Based Approach*, 92 HARV. L. REV. 1075, 1075–83 (1979).

7. See generally 5 BRUNER & O'CONNOR, *supra* note 2, § 17:70.

8. See Mark C. Friedlander, *Design-Build and M/E Systems: Some Legal Concerns*, CONSULTING-SPECIFYING ENGINEER, June 2001, at 13 [hereinafter Friedlander, *Legal Concerns*]; Mark C. Friedlander, *Shop Drawing "Approval" Liability*, CONSULTING-SPECIFYING ENGINEER, Nov. 2000, at 21 [hereinafter Friedlander, *Liability*]; James E. Rowings Jr. et al., *Design / Build Methods for Electrical Contracting Industry*, J. CONSTRUCTION ENGINEERING & MGMT., Jan.–Feb. 2000, at 15.

9. The design-build system has gained a steady share of the construction market in the United States over that past thirty years. See generally DESIGN-BUILD CONTRACTING HANDBOOK (Robert F. Cushman & Kathy Sperling Taub eds., 1992); Hal G. Block, *As the Walls Came Tumbling Down: Architects' Expanded Liability Under Design-Build / Construction Contracting*, 17 J. MARSHALL L. REV. 1 (1984); John W. Hinchey, *Karl Marx and Design-Build*, 21 CONSTRUCTION LAW, Winter 2001, at 46; Kenneth M. Roberts & Nancy C. Smith, *Design-Build Contracts under State and Local Procurement Laws*, 25 PUB. CONT. L.J. 645 (1996).

refers to that form of shared design as “specialty design–build” because it uses specialty designers, trade contractors, and specialty sub-contractors both to furnish the design and to build, fabricate, or install specialized components of a project for which the owner’s project architect or engineer (“project A/E”)¹⁰ furnishes the broad design concepts.

The widespread introduction of specialty design–build requires a new perspective on risk allocation. This new perspective must allow emerging industry practices for specialty design to achieve the legitimate expectations of the participants economically and rationally while at the same time recognizing important considerations of public policy, building safety, and the integrity of the regulated design professions.

Part II of this Article examines how specialty design–build fits into the context of established design and construction contract structures. Part III explores the contract and tort theories that govern the liability of project participants for design errors and defects and that will guide courts, arbitrators, and construction lawyers who face the shared design conundrum. Part IV reviews why and how the construction industry relies increasingly on shared design practices, particularly specialty design–build, and it challenges the current industry, legislative, and regulatory perspectives on specialty design–build. Part V identifies and offers proposals concerning the fundamental policy considerations that should inform legislatures, regulatory agencies, courts, mediators, arbitrators, and construction lawyers as they face the unique responsibility and risk allocation issues of this new design–build world.

Specialty design–build involves only one of several established contracting structures used in the construction industry. A brief review of the common industry methods for allocating design responsibility will help place the discussion in the proper context.

10. This Article adopts shorthand conventions to identify the roles of project participants. “Project A/E” is an architect or engineer retained by the owner to furnish the overall project design. “Owner” holds legal title during construction and retains the primary building contractor, here called the “prime contractor.” Industry literature often describes the latter role as the “general contractor” or simply “contractor.” See Alan B. Stover, *Construction and Design Contracts*, in CONSTRUCTION LAW § 3.01[2][d] (Steven G. M. Stein ed. 2002) [hereinafter STEIN, CONSTRUCTION LAW]; JUSTIN SWEET, SWEET ON CONSTRUCTION LAW 10–11 (1997). “Subcontractor” refers to any participant who has a contract, directly or indirectly derived from the prime contract, to perform work or services or to provide materials or equipment. Thus, specialty building contractors, sub-subcontractors, suppliers, manufacturers, fabricators, and specialty designers all may be subcontractors under this definition if the owner–prime contractor agreement encompasses their work or services. The terms “specialty trade” and “specialty firm” refer to those (often subcontractors) responsible for discrete components of a project.

II. ALLOCATING DESIGN RESPONSIBILITY—THE ESTABLISHED CONTRACT PATTERNS

The construction industry has developed several alternative contractual models for allocating responsibility and risk among the participants to the construction process.¹¹ These pattern contractual arrangements, or project delivery systems,¹² consist of a related series of bilateral contractual relationships that allocate some duties and risks to the owner, others to design professionals, and still others to building contractors and specialty trades. A project delivery system is "an effort to shape a relationship so as to solve a problem."¹³ The owner must select a contractual structure based on interdependent factors, the most critical of which are function, aesthetics, quality, cost, and schedule.¹⁴ Only feasibility and imagination limit the possible variations in project delivery systems. Each system defines roles for the participants to the design and construction process in different ways to achieve different objectives. For example, an owner may prefer one system for budgetary reasons; another owner may select a different system because it will save time or increase owner input and control.¹⁵

A. Design-Bid-Build

Currently in the United States, the most common project delivery system involves two sequential contractual arrangements.¹⁶ The first arrangement is between the owner and the project architect or engineer, the second is between the owner and the prime contractor. Within the construction industry, this structure is sometimes referred to as "design-bid-build" because it involves three distinct phases.¹⁷ In the design phase, the project A/E prepares comprehensive plans and specifications sufficiently definitive to permit lump-sum price estimates. In the bid phase, the owner submits the plans and specifica-

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11. See Stover, *supra* note 10, § 3.01; Stanley P. Sklar, *Selecting the Correct Delivery System and Negotiating the Right Construction Contract*, in 1 CONSTRUCTION LAW HANDBOOK, *supra* note 4, §§ 11.01-.05; SWEET, *supra* note 10, at 84-99.
 12. Professor Sweet also calls these alternative contractual arrangements "organizational variations." SWEET, *supra* note 10, at 84.
 13. Robert L. Meyers, III & Michael F. Albers, *Build-Own-Transfer: Continued Need for Coordinated Documents*, 391 PLI/REAL 7, 9 (1993).
 14. Stover, *supra* note 10, § 3.01[1][a].
 15. At least if one adopts an economic analysis, the construction and design industry should view all feasible systems as neutral alternatives. Pricing for design and construction services should respond to market conditions and should reflect the costs, including risk, involved. While a given design or construction firm may not be in a position to function efficiently in all project delivery systems, the industry as a whole should be able to respond to owner demands.
 16. See Stover, *supra* note 10, § 3.01[2]; SWEET, *supra* note 10, at 84.
 17. Hinchey, *supra* note 9, at 46.

tions to one or more prime contractors who either submit bids as part of a competitive award process or who submit proposals to the owner for negotiation.¹⁸ In the build phase, the prime contractor to whom the owner has awarded the job builds the project strictly in accordance with the plans and specifications.

Often, the project A/E continues to provide services to the owner throughout the construction period.¹⁹ These services may include inspecting construction progress, reviewing contractor submittals that illustrate proposed execution of the design, processing change orders, approving contractor payment applications, resolving owner-contractor disputes, and interpreting design documents.²⁰ As a result, the responsibilities covered by the owner-design professional agreement and the owner-prime contractor agreement overlap as to time and activities.

The design-bid-build system began to gain dominance in the United States early in the twentieth century as architecture and engineering emerged as professions distinct from the craft trades.²¹ This system fosters a strong design professional-client relationship. Most owners need professional help to manage the relationship with the prime contractor. Even in the most congenial and trusting circumstances, an owner and the owner's building contractor have significantly conflicting interests. The owner expects the contractor to deliver a project that meets functional and qualitative expectations and that is completed on time and within budget. Both parties know that the relationship will become adversarial if these expectations are not met. By establishing a professional relationship with the project A/E, the owner obtains not only technical design services but also advice and guidance from an independent specialist.

The design-bid-build process has other advantages as well. Its linear approach establishes a detailed project design that should provide an adequate basis for establishing a reliable budget and completion schedule before the owner engages a builder. It may also promote the quality of the work by allowing the professional who designed the project to render opinions that require an interpretation of construction documents.

One legal consequence of the design-bid-build project delivery system has overriding importance for design liability analysis. When the

18. Professor Sweet also refers to this project delivery system as "design-award-build" because a private owner using this system is at least as likely to award the construction contract to a prime contractor through a negotiated selection process as through a competitively bid process. SWEET, *supra* note 10, at 84.

19. *Id.* at 114-15.

20. For a more detailed description of services that a project architect often provides during the construction period, see *id.*

21. Stover, *supra* note 10, § 3.01[2][a].

owner elects the design–bid–build system, the owner and its project A/E—not the prime contractor and its subcontractors—bear the risk of design errors and defects.²² Under federal contract law, this principle has developed as the *Spearin* doctrine, named after *United States v. Spearin*,²³ in which the Supreme Court held that “if the contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be responsible for the consequences of defects in the plans and specifications.”²⁴ The *Spearin* doctrine is widely recognized by state courts as well as the federal courts.²⁵

This Article considers shared design practices primarily by examining specialty design–build as an emerging variation on the traditional design–bid–build system. While many of the issues discussed here are equally important whenever design responsibility is shared among multiple design participants, considering specialty design–build in the context of the design–bid–build project delivery system places the principle issues in sharp relief. A brief review of some alternative project delivery systems will help clarify why this is so.

B. Alternative Project Delivery Systems

The primary alternative to the traditional approach is the design–build project delivery system, which involves a single contract for both design and construction services rather than one contract for design and another for construction. The industry calls this system design–build because it combines into a single role the design responsibility of the project A/E and the building function of the prime contractor. The design–builder resembles the master builder, who, in a simpler time, provided project oversight for the owner from the preliminary design phase through final completion.²⁶ Throughout Europe and elsewhere outside of the United States, design–build has become entrenched as a prominent system.²⁷ Over the past thirty years, the design–build process has steadily gained favor in the United States as well.²⁸

In contrast to the design–bid–build system, in a design–build project the owner does not assume the risks of design errors and defects

22. See Bruce W. Ficken, *Construction Failures*, in 1 CONSTRUCTION LAW HANDBOOK, *supra* note 4, § 29.02[B][1].

23. 248 U.S. 132 (1918).

24. *Id.* at 136 (citations omitted).

25. See Ficken, *supra* note 22, § 29.02[B][1].

26. See Block, *supra* note 9, at 2.

27. See Kevin B. Lynch, *Design–Build Contracts in Virginia*, 14 U. RICH. L. REV. 791, 798 (1980).

28. See Michael C. Loulakis, *Single Point Responsibility in Design–Build Contracting*, in DESIGN–BUILD CONTRACTING HANDBOOK, *supra* note 9, at 1–3.

because the owner does not furnish the plans and specifications.²⁹ The owner may still be responsible, however, for preliminary design criteria or other design documentation or data the owner or its representatives furnish to the prime contractor.³⁰

The chief advantages of the design-build system are that it establishes a single point of responsibility for all aspects of the project and that it may save time and expense by combining design and execution functions.³¹ Design-build construction is especially attractive for projects that are not sensitive to aesthetic issues and ones in which engineering concerns dominate over architectural ones, such as industrial plants.³² When the parties define successful project completion by reference to performance specifications or other objective criteria, the design-build firm is free to make design decisions that facilitate the completion of the project on time and within budget without interference from the owner or an independent design professional representing the owner's interests.³³ Because design-build leaves important project details to the builder, who must balance quality, cost, and schedule concerns, it may lead to material disputes about results or quality after construction is complete.³⁴

Construction projects may also employ a number of variations on the design-bid-build and design-build systems, or they may adopt other established contracting structures. For instance, an owner may provide complete design plans and specifications for some aspects of the project while establishing only performance specifications for other facets of the project.³⁵ Another alternative is for the owner to coordinate and manage multiple, direct contracts for distinct aspects of the project.³⁶ In another system, construction management, the owner retains a representative to coordinate and manage a series of contracts.³⁷ In the project and program management systems the owner retains a consultant to coordinate design as well as construction activities and even other aspects of the overall development of the

29. *Aleutian Constructors v. United States*, 24 Cl. Ct. 372, 378 (1991); see Jeffrey S. Roehl & Jesse B. Grove III, *Performance Guarantees and Testing; Intellectual Property and Technology Transfer Issues*, in *DESIGN-BUILD CONTRACTING HANDBOOK*, *supra* note 9, § 13.4.

30. *Aleutian Constructors*, 24 Cl. Ct. 372.

31. See Loulakis, *supra* note 28, at 1, 3, 5-6.

32. See Lynch, *supra* note 27, at 378.

33. Sklar, *supra* note 11, § 11.01[J].

34. See Loulakis, *supra* note 28, at 14.

35. See Ficken, *supra* note 22, § 29.02[B][1].

36. See Stover, *supra* note 10, § 3.01[3][c]. This approach, which is common in simple projects or for owners who are experienced project managers, eliminates the fee that general contractors charge for project supervision.

37. See Richard D. Conner, *Contracting for Construction Management Services*, 46 *LAW AND CONTEMP. PROBS.* 5 (1983).

project.³⁸ The turnkey system leaves the entire responsibility and risk for the project with a developer, who owns the project until it has been completed to the owner's satisfaction.³⁹ In a more extreme version of the turnkey system, the developer also operates the project for a time after completion for the benefit of the ultimate user.⁴⁰ Phased or fast-track construction is yet another process, although it is not so much an arrangement to allocate responsibilities as it is a schedule management technique to allow construction on some aspects of the project to begin while design continues on others.⁴¹

In a broad sense, this Article addresses liability issues that may arise under any project delivery system when multiple participants share responsibility for related design activities. In a narrower sense, the focus here is on these issues when they arise in a design-bid-build project—that is, when both the owner's project A/E and one or more subcontractors (or in some cases the prime contractor) share related design responsibilities. The design-bid-build delivery system provides a more compelling platform for analyzing the issues than do the alternative systems because only the design-bid-build system necessarily requires that a design professional serving as the owner's representative must maintain some degree of responsibility for project-wide design.

C. Analyzing Design Liability in a Shared Design Context

Specialty design-build in a design-bid-build project does not merely involve the adaptation of design-build concepts to the traditional construction process. An essential characteristic of the design-bid-build system is the division of design and construction responsibility. Conversely, an essential character of design-build is single point responsibility for both design and construction. The introduction of specialty design-build into a design-bid-build project turns each of these characteristics on its head by spreading responsibility for design among multiple participants. Specialty design-build diffuses responsibility for design and increases the potential for design errors attributable to the acts and omissions of multiple actors. As a result, when the participants employ the practice in a design-bid-build project, they strain the boundaries of the contract and tort principles that govern liability for design errors and defects.

38. See Stover, *supra* note 10, § 3.01[4][b].

39. See *id.* § 3.01[4][d].

40. Meyers & Albers, *supra* note 13, at 7. Several variations on the build-own-transfer structure allocate risks in different ways, but all involve a developer who takes some risk or responsibilities retained by the owner in a traditional project. *Id.* at 23-26.

41. See Stover, *supra* note 10, § 3.01[3][e].

III. THEORIES OF DESIGN LIABILITY

The course of design liability theories straddles the boundary between contract and tort. Some authorities reflect the character of design and construction activities as essentially commercial endeavors, thereby promoting the dominance of contract law.⁴² However, a greater number of authorities emphasize the potential risks of harm presented by design and construction activities and, as a result, promote the expansion of tort principles to protect victims who suffer foreseeable harm.⁴³

The developing practice of specialty design-build presents a compelling invitation to revisit design liability principles. In some important areas, especially concerning remedies available to those not party to any contract for design services, that invitation requires further exploration of the policies that underlie the distinction between contract and tort remedies. This Part reviews established and developing theories of design liability that must inform an analysis of the new design-build world. Part V of this Article then draws on these theories to argue for a new perspective on design responsibility for projects using specialty design-build and other forms of shared design processes.

A. Design Liability Based in Contract

Clients normally retain design professionals pursuant to written agreements of varying levels of completeness and sophistication. It is this contract between client and design professional that establishes one important basis for analyzing the legal relationship. The use of detailed written contracts, while customary for design services, stands in significant contrast to the customs for legal, medical, and many other professional services. Even so, contract principles prove less significant than tort principles in the development of design liability law. In part, this is because relatively few design contracts prescribe standards of professional responsibility,⁴⁴ and some that do merely adopt a standard equivalent to the tort standard of care.⁴⁵ For this reason, many claims brought against design professionals by their clients turn on a tort rather than a contract analysis. This section begins with a review of the applicable contract principles, an exercise that will quickly redirect attention to tort principles.

42. SWEET, *supra* note 6, § 14.11(C).

43. *See, e.g.*, *Caldwell v. Bechtel, Inc.*, 631 F.2d 989, 996-97 (D.C. Cir. 1980); *Rousseau v. K.N. Constr., Inc.*, 727 A.2d 190, 192-93 (R.I. 1999).

44. Although the primary industry form documents traditionally did not specify a standard, and the forms promulgated by the American Institute of Architects still do not, some industry forms specifically articulate the professional standard of care. SWEET, *supra* note 6, § 14.07.

45. *See id.* § 17.04(C).

1. *Defective Design Constituting Breach of Contract*

An early Pennsylvania case, *Follansbee Brothers Co. v. Garrett-Cromwell Engineering Co.*,⁴⁶ provides an unusually direct illustration of how a defective design can breach an express contract term. The defendant engineering company agreed with the plaintiff to "furnish all necessary working drawings for a pair of 25 ton basic open hearth furnaces similar to those we constructed for the C. Pardee Works at Perth Amboy, N.J."⁴⁷ At trial, the plaintiff introduced evidence to show that the drawings were not similar to those used to build the New Jersey furnaces. The trial court, applying a tort standard, held that the plaintiff had the burden to establish that the defendant's plans "were not in accordance with ordinary engineering skill as of the date when they were made."⁴⁸ On appeal, the court reversed the judgment in favor of the defendant and held that the plaintiff could establish a viable contract claim "if the plaintiff could show that the design according to which it built was dissimilar from the New Jersey furnaces in important respects and that because of this dissimilarity the plaintiff's furnaces could not be made to work successfully."⁴⁹ The contract theory of the *Follansbee* case is unremarkable: the engineer was liable for damages caused by a breach of the contract terms. The case is unusual, however, because relatively few design defect cases arise out of a breach of an express term of the design contract.

*Peter Kiewit Sons' Co. v. Iowa Southern Utilities Co.*⁵⁰ provides another striking instance of faulty performance of design services as a potential breach of contract. There, a contract required the engineer to perform its services "in accordance with the highest standards of the engineering profession."⁵¹ While this contract provision suggests the novel instance of an express contract duty of professional care going well beyond the tort standard, the case did not present an opportunity for the court to construe the provision.⁵² Although there may be instances in which the parties to a design contract adopt a standard for performance of professional design services that is either higher or

46. 48 Pa. Super. 183 (1911).

47. *Id.* at 186.

48. *Id.* at 190.

49. *Id.*

50. 355 F. Supp. 376 (S.D. Iowa 1973).

51. *Id.* at 379.

52. The case involved only the prime contractor's claim against the project engineer and the owner, while the contract imposing the "highest standard" was between the owner and the project engineer. The court rejected the prime contractor's arguments for third-party beneficiary status. *Id.* at 392.

lower than the professional standard of care imposed under tort law, relatively few reported cases consider such contract provisions.⁵³

Breach of express contractual obligation is the most direct theory that may govern design liability, but it is not the most common one disclosed by the reported cases. The courts more often rely on theories that start with the contract between design professional and client but then move beyond the express contract terms.

2. *Implied Contractual Obligations*

Courts have often declined to imply into a design contract a warranty that the design will be free from defects or will achieve a specific result.⁵⁴ The primary basis for this is that design professionals cannot guarantee results.⁵⁵ A design professional "is not liable for fault in construction resulting from defects in the plans because he does not imply or guarantee a perfect plan or a satisfactory result."⁵⁶

By contrast, courts may imply into a design-build contract a warranty that the design-build contractor will furnish a design fit for the intended purpose.⁵⁷ *Prier v. Refrigeration Engineering Co.*⁵⁸ involved construction of an ice rink. The defendant provided the specifications for the refrigeration system and for the base upon which the ice sheet would rest. The court held that the plaintiff could proceed on an implied warranty theory. "Where a person holds himself out as qualified to furnish, and does furnish, specifications and plans for a construction project, he thereby impliedly warrants their sufficiency for the purpose in view."⁵⁹ Although the holding seems to expand liability for design activities generally, one could argue that it is limited to design furnished under a design-build contract.⁶⁰

A 1966 Minnesota case recognized an implied warranty of fitness in a design-build contract:

53. See generally SWEET, *supra* note 6, § 17.04; Kenneth I. Levin, *Duties and Liabilities of the Architect-Engineer to the Owner*, in 1 CONSTRUCTION LAW HANDBOOK, *supra* note 4, § 4.01[A].

54. See, e.g., *City of Mounds View v. Walijarvi*, 263 N.W.2d 420, 423-25 (Minn. 1978) (rejecting the owner's argument for rule implying into all contracts for architectural services a warranty that a structure built in accordance with the architect's plans will be fit for its intended purpose); *White v. Pally*, 247 P. 316, 319 (Or. 1926) (regarding a defective foundation; no evidence that the architect gave any warranty as to results); *Surf Realty Corp. v. Standing*, 78 S.E.2d 901, 907 (Va. 1953) (finding no implied warranty where architect designed sliding roof that performed poorly).

55. *White*, 247 P. at 317.

56. *Surf Realty Corp.*, 78 S.E.2d at 907.

57. See generally SWEET, *supra* note 6, § 14.07.

58. 442 P.2d 621 (Wash. 1968).

59. *Id.* at 624.

60. See Note, *supra* note 6, at 1093-94.

[U]nder circumstances where (1) the contractor holds himself out, expressly or by implication, as competent to undertake the contract; and the owner (2) has no particular expertise in the kind of work contemplated; (3) furnishes no plans, design, specifications, details, or blueprints; and (4) tacitly or specifically indicates his reliance on the experience and skill of the contractor, after making known to him the specific purposes for which the building is intended.⁶¹

The case involved a design-build contract for construction of a grain elevator by a lumber company. The opinion affirmed the judgment for the owner based on the trial court's finding that the owner had relied on the lumber company for all design details, including the structural details.⁶² Subsequently, the Minnesota Supreme Court characterized the case as one governing construction contracts rather than contracts for design services.⁶³

If the design contract requires the design professional to furnish cost estimates for the project to the owner, some courts have implied a warranty that the estimates will be reasonably accurate.⁶⁴ For example, in another Minnesota case the court held that the owner could recover for breach of implied warranty without introducing any expert testimony to show negligence where the evidence established "a gross underestimation of costs."⁶⁵

Other than the implied warranty cases, the design liability cases that rely on contract principles provide little grist for the analytic mill. Indeed, some of the most interesting opinions that imply obligations into a contract for design services do so by crossing into the intersection of contract and tort principles. Take, for example, an opinion out of Virginia:

An architect, in the preparation of plans and drawings, owes to his employer the duty to exercise his skill and ability, his judgment and taste reasonably and without neglect. In his contract of employment he implies that he possesses the necessary competency and ability, to enable him to furnish plans and specifications prepared with a reasonable degree of technical skill.⁶⁶

In recognizing an implied warranty of fitness in the sale of a new residence, the Missouri Supreme Court adopted the language of the court of appeals, which drew extensively from product liability analysis.⁶⁷ A recent West Virginia case⁶⁸ took the analysis a step further by implying a design warranty into a non-contractual relationship. There the court held that the owner's project A/E impliedly warranted to the

61. *Robertson Lumber Co. v. Stephen Farmers Co-op. Elevator Co.*, 143 N.W.2d 622, 626 (Minn. 1966).

62. *Id.*

63. *City of Mounds View v. Walijarvi*, 263 N.W.2d 420, 424 (Minn. 1978).

64. *See e.g., Kostohryz v. McGuire*, 212 N.W.2d 850 (Minn. 1973); *Durand Assoc. v. Guardian Inv. Co.*, 186 Neb. 349, 183 N.W.2d 246 (1971).

65. *Kostohryz*, 212 N.W.2d at 854.

66. *Surf Realty Corp. v. Standing*, 78 S.E.2d 901, 907 (Va. 1953) (citations omitted).

67. *Smith v. Old Warson Dev. Co.*, 479 S.W.2d 795, 798-99 (Mo. 1972) (en banc).

68. *E. Steel Constructors, Inc. v. City of Salem*, 549 S.E.2d 266 (W.Va. 2001).

prime contractor that the plans and specifications were prepared with the ordinary skill, care, and diligence required of the profession. Applying tort principles, the court reasoned that a special relationship existed between the design professional and the contractor that imposed on the design professional a duty of care in favor of the contractor. In this manner, the courts today can make the transition from contract to tort principles—a transition that is central to the development of design liability law and its application to specialty design.

B. Duty and the Implied Warranty of Reasonable Care—The Transition to Tort Theory

Tort theory, rather than contract theory, dominates in design liability cases.⁶⁹ However, as a general rule, a breach of contract is not a proper basis for a tort claim.⁷⁰ On what basis, then, is a design professional who provides services pursuant to a contract subject to tort liability in the first place?

Consider a contract for design services that describes the services the design professional will provide, but establishes no standard for the quality of the services and expressly disclaims any warranty that the services will achieve any specific result.⁷¹ If the design professional provides the services required by the contract, on what basis can errors or deficiencies in the design justify tort remedies?

The answer stems from the special relationship tort law recognizes between design professional and client. "In most instances, a negligence action will not lie when the parties are in privity of contract. When, however, there is a special relationship between the alleged tortfeasor and the injured party not arising in contract, the breach of that duty of care will support a tort action."⁷² A remedy in tort is available only if a legal duty apart from the contractual obligation itself exists. Although the reference to a relationship "not arising in contract" seems to exclude the design professional-client relationship created by contract, it does not. While courts sometimes refer to the separate duty imposed under tort law as one that is "independent" from the contract,⁷³ the separate legal duty may be dependent on the contract in the sense that the duty that gives rise to tort liability may arise out of the contractual relationship. "This legal duty must spring

69. See generally Levin, *supra* note 53, §§ 4.01–03.

70. *Clark-Fitzpatrick, Inc. v. Long Island R.R.*, 516 N.E.2d 190, 193 (N.Y. 1987).

71. One of the most popular industry form contracts for architectural services is such a contract. AMERICAN INSTITUTE OF ARCHITECTS, AIA DOCUMENT B141™-1997, STANDARD FORM OF AGREEMENT BETWEEN OWNER AND ARCHITECT WITH STANDARD FORM OF ARCHITECT'S SERVICES (1997) [hereinafter AIA ARCHITECT'S SERVICES].

72. *Tommy L. Griffin Plumbing & Heating Co. v. Jordan, Jones & Goulding, Inc.*, 463 S.E.2d 85, 88 (S.C. 1995) (citations omitted).

73. *Clark-Fitzpatrick, Inc.*, 516 N.E.2d at 193.

from circumstances extraneous to, and not constituting elements of, the contract, although it can be connected with and dependent upon the contract."⁷⁴

A Minnesota court explained the transition from contract to tort theory in a case where a client sued a design professional for damages resulting from professional errors and omissions.⁷⁵

Under Minnesota law, "one who undertakes to render professional services is under a duty to the person for whom the service is to be performed to exercise such care, skill, and diligence as men in that profession ordinarily exercise under the circumstances." . . . Forest [client] can maintain a claim for negligent design of the sawmill against Ligna [engineer] because Ligna owed a duty to perform its design services using the care, skill, and diligence that sawmill designers ordinarily exercise.⁷⁶

Liability under tort law arises out of a judicial policy decision to impose a duty on the design professional to conform his or her conduct to a judicially defined standard of care. While this transition to tort theory is analytically significant, it does not render the contract irrelevant. Because the design professional's tort duty of care arises out of the special relationship established by the contract for professional services, contract interpretation often provides the framework for defining the duty underlying the tort theory. Design contracts may establish many different roles for design professionals, ranging from plenary control over the project to specialized activities such as estimating costs, inspecting work in progress, and approving contractor payments. Each role defines its own scope for professional malpractice.⁷⁷ Absent special public policy considerations, the express terms of the contract should control if the contract expressly establishes or disclaims a duty. Thus, courts refer to the terms of the contract to determine the nature and extent of the duty recognized for purposes of tort law. An important consequence is that the design professional is under a duty of professional care in connection with every professional service, function or activity that the contract covers.⁷⁸

A corollary to the principle that a design professional must perform contractual design services in accordance with the professional standard of care is that the design professional's duty of care is normally coextensive with the scope of the contractual duty. In *Moundsvie Independent School District v. Buetow & Associates, Inc.*,⁷⁹ the con-

74. *Id.* at 194.

75. *Minn. Forest Prods., Inc. v. Ligna Mach., Inc.*, 17 F. Supp. 2d 892 (D. Minn. 1998).

76. *Id.* at 915 (quoting *City of Eveleth v. Ruble*, 225 N.W.2d 521, 524 (Minn. 1974).

77. See Levin, *supra* note 53, § 4.03[C] (discussing malpractice cases involving several distinct design roles).

78. Presumably, breach of a non-professional obligation, such as the obligation the project A/E might undertake to pay consultants, would not give rise to a tort duty.

79. 253 N.W.2d 836 (Minn. 1977).

tract between the owner and the architect included a provision for the architect to make periodic visits to the project site, but only for limited purposes. The contract also provided: "The Architect shall not be responsible for the acts or omissions of the Contractor, or any Subcontractors, or any of the Contractor's or Subcontractors' agents or employees, or any other persons performing any of the Work."⁸⁰ The court held that this disclaimer was controlling when considered together with the contract terms that provided for "general supervision" services rather than a "full-time project representative."⁸¹

The *Moundsview* court correctly recognized the importance of giving effect to the parties' economic bargain. Fee negotiations for professional services inevitably reflect the nature and extent of the services included. While the law should impose on the design professional a duty of care concerning each service upon which the fee is based, the courts will generally not impose on the design professional a duty of care with respect to functions and activities not encompassed by the contract.

*Brown v. Gamble Construction Co.*⁸² also addressed an architect's contractual duty to supervise. The action arose out of an accident in which a roofer fell through a hole in a roof under construction. The contracts included provisions that made the prime contractor responsible for safety, as well as a provision that recognized that the architect was not responsible for "construction means, methods, techniques, sequences of procedures, or for safety precautions and programs in connection with the Work."⁸³ The court held that an architect has no duty to assure job safety absent an express agreement.⁸⁴

C. Design Liability Based in Tort

1. Elements of a Design Malpractice Claim

A plaintiff bringing a professional malpractice claim must satisfy the familiar elements of a tort claim: the existence of a duty of care owed to the plaintiff by the defendant; breach of that duty by the defendant; and recoverable damages proximately caused by the breach of duty.⁸⁵ The professional standard of care for design professionals is similar to the standards applied to other professionals in their relationships to their clients or patients. "[T]he responsibility of an architect does not differ from that of a lawyer or physician. When he possesses the requisite skill and knowledge, and in the exercise

80. *Id.* at 838.

81. *Id.* at 839.

82. 537 S.W.2d 685 (Mo. Ct. App. 1976).

83. *Id.* at 687.

84. *Id.*

85. See Constance Frisby Fain, *Architect and Engineer Liability*, 35 WASHBURN L.J. 32, 34 (1995).

thereof has used his best judgment, he has done all the law requires."⁸⁶ The standard is also sometimes expressed in a more expanded version:

The generally accepted standard of professional liability is that a person who holds himself or herself out to the public in a professional capacity is of average ability in the profession and will be presumed in law to (1) possess the requisite degree of learning, skill, and experience ordinarily possessed by similarly-situated professionals in the community, (2) use reasonable and ordinary care and diligence in the exercise of this skill to accomplish the purpose for which the professional is employed and (3) use his or her best judgment.⁸⁷

Although significant issues arise in design malpractice cases relating to such matters as the precise formulation or application of the professional standard of care,⁸⁸ the nature of the evidence required to establish design malpractice,⁸⁹ and causation issues in construction cases,⁹⁰ those issues are not peculiarly relevant to an analysis of design liability arising out of specialty design-build. What are of immediate interest, for reasons already suggested,⁹¹ are the principles established by the cases concerning the existence and extent of the duty of care and related questions concerning the circumstances in which a design professional may be held liable for the acts and omissions of others or may be liable to those other than clients.

2. *Design Professional's Duty of Care*

A design professional's duty of care to the client serves as the common basis for imposing tort liability.⁹² The most direct application of design malpractice principles arises when a design professional provides defective plans or specifications.⁹³ Liability for design malpractice, however, extends well beyond such instances. Design

86. *Bayne v. Everham*, 163 N.W. 1002, 1008 (Mich. 1917).

87. Robert L. Meyers, III et al., *Risk Allocation From the Designer's Perspective*, 452 *PLI/REAL* 129, 133 (2000).

88. A small number of authorities seem to hold a design professional to a higher standard under which the design professional effectively warrants that the design services will be fit for the intended purposes. See SWEET, *supra* note 6, § 14.07; Murray H. Wright & David E. Boelzner, *Quantifying Liability under the Architect's Standard of Care*, 29 *U. RICH. L. REV.* 1471 (1995). The standard in some jurisdictions requires design professionals to stay abreast of new developments in their professions. See Fain, *supra* note 85, at 35 n.15. Authorities also differ on less fundamental issues, such as how to determine the locality or community element of the standard. Meyers et al., *supra* note 87, at 135-36.

89. Although expert testimony is normally required to establish breach of the professional standard of care, courts differ in their recognition and application of exceptions to the general rule. See SWEET, *supra* note 6, § 14.06.

90. See Fain, *supra* note 85, at 37.

91. See *supra* text accompanying notes 57-78.

92. See, e.g., *Minn. Forest Prods., Inc. v. Ligna Mach., Inc.*, 17 *F. Supp. 2d* 892 (D. Minn. 1998); see also *supra* section III.B.

93. See, e.g., *Eggers Partnership*, 82-1 B.C.A. (CCH) ¶ 15,630 (IBCA 1982) (finding architect negligent in failing to provide specifications for installation of roofing

professionals—project architects and project engineers in particular—perform many other functions in connection with construction projects. Nearly every professional service holds the potential for professional malpractice liability. Professor Sweet has identified almost three dozen common activities or circumstances that may give rise to design malpractice claims.⁹⁴ A few examples will help illustrate the varied circumstances that may lead to design malpractice claims.

Design professionals frequently provide cost estimates or other budget advice. While a design professional will not normally give assurances regarding project costs,⁹⁵ an architect or engineer who furnishes estimates or other services relating to cost control must do so in accordance with the professional standard of care.⁹⁶ The same standard applies to a design professional who agrees to supervise or inspect construction,⁹⁷ approve payments,⁹⁸ or perform other professional services.⁹⁹

An illustration of the relationship between the contractual scope of services and the professional standard of care involves product, equipment, and installation specifications. For example, an architect who prepares specifications for the installation of manufactured products and materials cannot necessarily avoid malpractice liability by relying on the manufacturer's information and instructions if, under the circumstances, a reasonably diligent architect would have done otherwise.¹⁰⁰ This is so even though the architect is not a specialist in the product or material involved. The special training and knowledge of the architectural profession extends to decisions whether or not to rely on the manufacturer's information and instructions.

Simply stated, design professionals must exercise a professional level of care and diligence in performing all of the varied services they perform. A particular design services agreement may establish a more or less extensive scope of services, but each activity that calls for the application of professional expertise also imposes on the design

material appropriate for the special conditions applicable to the project); Fain, *supra* note 85, at 41–42.

94. SWEET, *supra* note 6, § 14.03.

95. See e.g., *Durand Assoc., Inc. v. Guardian Inv. Co.*, 186 Neb. 349, 355, 183 N.W.2d 246, 251 (1971); *Cobb v. Thomas*, 565 S.W.2d 281, 287–88 (Tex. Civ. App. 1978); cf. *Zannoth v. Booth Radio Stations, Inc.*, 52 N.W.2d 678, 684 (Mich. 1952) (en banc) (architect not entitled to fee for preparing plans that far exceeded cost limitations expressly imposed by the owner).

96. *Durand Assoc., Inc.*, 186 Neb. at 351–55, 183 N.W.2d at 249–51.

97. *Aetna Ins. Co. v. Hellmuth, Obata & Kassabaum, Inc.*, 392 F.2d 472, 476 (8th Cir. 1968).

98. *Westerhold v. Carroll*, 419 S.W.2d 73, 76 (Mo. 1967).

99. See Levin, *supra* note 53, § 4.03[D][2].

100. *Scott v. Potomac Ins. Co.*, 341 P.2d 1083, 1087–88 (Or. 1959) (involving an error in installation methods specified for substituted material as approved by the manufacturer and a consultant).

professional a duty of professional care coextensive with the contractual responsibility involved. This principle has important implications whenever a project A/E undertakes any role relating to specialty design services provided by others.

3. *Beyond Malpractice—Negligent Misrepresentation and Strict Liability*

Professional negligence is the most common tort theory for maintaining a claim based on a design defect or error, but it is not the only one. Although an extended analysis of alternative theories is beyond the scope of this Article, it is important to note briefly their potential relevance to claims arising out of specialty design defects and errors.

a. *Negligent Misrepresentation*

A negligent misrepresentation by a design professional may give rise to liability.¹⁰¹ For example, under New York law, an engineer may be liable for damages caused by the negligent preparation of a report based on a negligent misrepresentation theory.¹⁰² Unless the plaintiff and the engineer are in privity of contract, a negligent misrepresentation claim brought for recovery of pecuniary loss requires “(1) awareness that the reports were to be used for a particular purpose or purposes; (2) reliance by a known party or parties in furtherance of that purpose; and (3) some conduct by the defendants linking them to the party or parties and evincing defendant’s understanding of their reliance.”¹⁰³ On a similar basis, in some jurisdictions, the negligent performance of a contract by a design professional may give rise to liability to another participant in the construction project who is not the design professional’s client.¹⁰⁴

b. *Strict Liability*

Following the development of product liability theory, courts began to consider applying the same analytic approach to defective design of structures.¹⁰⁵ Some courts have articulated rationales that seem

101. See SWEET, *supra* note 6, § 14.08(D).

102. *Ossining Union Free Sch. Dist. v. Anderson LaRocca Anderson*, 539 N.E.2d 91 (N.Y. 1989).

103. *Id.* at 95.

104. *M. Miller Co. v. Cent. Contra Costa Sanitary Dist.*, 18 Cal. Rptr. 13, 17 (Ca. Ct. App. 1961) (finding prime contractor whose bid relied on soils report prepared for owner could maintain claim against engineer for negligent preparation of the report). *Cf. Presnell Constr. Managers, Inc. v. EH Constr., LLC*, 134 S.W.3d 575, 582 (Ky. 2004) (finding contractor could maintain negligent misrepresentation action against owner’s construction manager for supplying faulty information).

105. See *Inman v. Binghamton Hous. Auth.*, 143 N.E.2d 895, 898–99 (N.Y. 1957) (holding that, under the theory announced in *MacPherson v. Buick Motor Co.*, 111 N.E. 1050 (1916), privity was not required for a child, who fell off a porch

broad enough to allow recovery on a strict liability theory for injury or damage attributable to defective project design. For example, a Missouri case applied product liability standards in holding that the owner of a renovated underground warehouse stated a cause of action against the participants who designed and installed defective refrigeration equipment in the warehouse.¹⁰⁶ The court held that, without reference to negligence, the jury could find that support brackets used by the defendants in the installation of the refrigeration system "were defective in design when supplied and installed, which in that condition were unreasonably dangerous to plaintiff as a user."¹⁰⁷ Although the application of product liability principles to design defects could presage a significant development in the law of specialty design liability, the theory normally surfaces only in claims against defendants who have functioned in a design-build role.¹⁰⁸

4. *Design Professional's Responsibility for Acts and Omissions of Others*

Under the design-bid-build system, the project A/E, although trained and licensed only in one design discipline, customarily agrees to provide all or substantially all of the design for the project and to review or coordinate all or most of the design services provided by others.¹⁰⁹ Thus, an architect, with no engineering credentials, may agree, as the owner's design professional for the project, to furnish all of the civil, electrical, and mechanical engineering required for the project and to review or take action with respect to design details and submittals prepared by subcontractors, suppliers, and manufacturers. The project architect retains engineering and other design consultants to provide the design services outside the architect's expertise.

Under these circumstances, the project architect assumes a duty of professional care toward the client that extends beyond the architectural plans. The authorities are not entirely consistent in establishing

unprotected by a railing, to state a claim against the architect and builder who constructed the residence, but that the allegations were insufficient to establish that any defect in the porch was latent, as required under the *McPherson* case).

106. *Commercial Distrib. Ctr., Inc. v. St. Regis Paper Co.*, 689 S.W.2d 664, 670 (Mo. Ct. App. 1985).

107. *Id.*

108. See Levin, *supra* note 53, § 4.02[A]. Note also the similarity between strict liability and the implied warranty when applied to design activities in cases involving construction projects. See generally SWEET, *supra* note 6, § 14.07 (contrasting the professional negligence theory, as followed in most jurisdictions with respect to design liability, with the implied warranty theory adopted in a minority of jurisdictions); see also *infra* Part III.

109. See Steven G. M. Stein, *Architect's Duties and Responsibilities*, in STEIN, CONSTRUCTION LAW, *supra* note 10, § 5A.03[2][f]; Mirko A. Milicevich, Note, *Contracts: Liability of Architect to Owner for Defects in Plans Furnished by a Consultant*, 48 CAL. L. REV. 151 (1960).

the boundaries of this additional duty.¹¹⁰ At a minimum, absent contractual or statutory limits on liability, a project A/E whose contract includes specialty design services furnished by consultants thereby assumes a duty to the client to use care in selecting qualified consultants.¹¹¹ If the contract provides for the project A/E to review, approve, or coordinate designs by the consultants and to coordinate the design work, the project A/E must do so in accordance with the same professional standard of care that applies to the project A/E's own design product. These principles governing the extent of duty and the standard of care in such circumstances provide a critical framework for analyzing liability issues that arise with specialty design-build.

The project A/E's liability for a consultant's acts and omissions may depend on whether the consultant is an agent of the project A/E or an independent contractor. If a principle-agent relationship exists, then the project A/E will be liable for the consultant's acts and omissions even though the project A/E does not have the training and qualifications required for performance of the specialized services.¹¹² Under agency law, the status of the consultant as agent or independent contractor will depend on such factors as the degree of supervision and control the project A/E exercises over the consultant.¹¹³

A written agreement for consulting services will likely characterize the consultant as an independent contractor. Even in that instance, however, a project A/E may be vicariously liable for the negligence of design consultants retained as the project A/E's subcontractor. In *Johnson v. Salem Title Co.*,¹¹⁴ the court viewed the project architect's engineering consultant as an independent contractor, not an agent, but the court held that the architect could be liable for the engineer's negligence in furnishing a design that violated the building code because the architect had a non-delegable duty to design the project in

110. See Levin, *supra* note 53, § 4.02[D].

111. See *John Grace & Co. v. State Univ. Constr. Fund*, 472 N.Y.S.2d 757, 759 (N.Y. App. Div. 1984) (holding, in third-party claim by owner against contractor's engineering consultant, that finder of fact could reasonably conclude that the consultant was professionally negligent for failing to inquire into the qualifications of a manufacturer who specified inappropriate materials for use in heat exchangers even though owner had recommended selection of the manufacturer), *aff'd as modified*, 475 N.E.2d 105 (N.Y. 1984) (adopting the concurring in part and dissenting in part opinion of three judges of the Appellate Division and ordering dismissal of owner's third-party complaint against consultant on the basis that there was no expert testimony in the record to support finding of malpractice); Stein, *supra* note 109, § 5A.03[2][f].

112. See Milicevich, *supra* note 109, at 154.

113. See *id.* at 156.

114. 425 P.2d 519 (Or. 1967).

conformity with the code.¹¹⁵ Some authorities seem to declare that design services in general are non-delegable.¹¹⁶ However, even if a project A/E may delegate specialty design responsibility to consultants serving as independent contractors, the project A/E remains contractually obligated to the owner for all of the services included in the agreement with the owner. These overlapping principles create a degree of uncertainty with regard to the liability of the project A/E for the acts and omissions of specialty design consultants. Despite this uncertainty, except in the case of a non-delegable duty, a project A/E should not be vicariously liable for specialty design in the common situation in which the prime contractor or a subcontractor, not the project A/E, hires the specialty designer.

5. *Liability to Third Parties*

Few socially beneficial endeavors involve greater risk of harm than building construction. Construction workers, remote users, consumers, and members of the general public can neither avoid the risks involved nor protect themselves by contract. For these, tort law must intervene, and the courts must struggle to resolve important policy issues that control the outer limits of tort liability.

a. *From Privity to Duty*

Historically, the courts limited the liability of a design professional for professional errors and omissions solely to the party who retained the professional.¹¹⁷ This restriction reflected the legal concept of privity.¹¹⁸ The same rule has been applied to other instances of professional liability: the legal relationship upon which liability rests is that of professional and client.¹¹⁹

In a traditional design-bid-build setting in which the owner hired the project A/E, the older cases generally limited the design professional's liability to the owner-client. In most construction projects, many other persons are at risk from design errors and omissions, but the privity concept left them largely without recourse. Thus, the historical privity concept shielded the design professional from liability to third parties for negligent professional services.

One not party to the design contract might seek a route around the privity roadblock by claiming to be a third-party beneficiary, but that

115. *Id.* at 523. For a more detailed discussion of the application of the non-delegable duty exception to the independent contractor rule, see subsection III.E.2.

116. See Stein, *supra* note 109, § 5A.03[2][f].

117. For a historical perspective on the liability of architects and engineers based on negligence principles, see Fain, *supra* note 85; Note, *supra* note 6.

118. See Fain, *supra* note 85, at 39; Note, *supra* note 6, at 1077, 1081-82.

119. *Barcelo v. Elliott*, 923 S.W.2d 575, 579 (Tex. 1996) (holding that a lawyer's duties should not extend to persons he never represented).

route often proves to be a narrow one.¹²⁰ The courts have not often been receptive to this argument in construction cases.¹²¹ An Iowa case in which a prime contractor sued the owner's project engineer for allegedly preparing defective plans and specifications reflects a traditional third-party beneficiary analysis. The court held that to maintain a breach of contract claim against the engineer the contractor had to establish that the owner intended to satisfy the owner's obligations to the contractor by contracting for the engineer's services.¹²²

The court quoted from *Iowa Power & Light Co. v. Abild Construction Co.*¹²³ for the traditional doctrine allowing third-party contract rights only to donee beneficiaries (i.e., the contract promisee intends to make a gift to the third party via the contract) and creditor beneficiaries ("performance of the promise will satisfy an actual or supposed or asserted duty of the promisee to beneficiary").¹²⁴ All others who may benefit from the contract are merely incidental beneficiaries who have no legal rights. Contemporary cases may de-emphasize the traditional labels, but they continue to deny third-party remedies if the evidence merely shows that the contract will benefit a third party but not that the parties intended third-party benefits.¹²⁵

The privity defense in negligent design liability cases fell under attack and began to crumble early in the second half of the twentieth century as courts expanded the theoretical underpinnings of the products liability movement.¹²⁶ In 1958, the United States District Court

120. See, e.g., *Pelletier v. Sordoni/Skanska Constr. Co.*, 825 A.2d 72, 86 (Conn. 2003) (holding that an injured worker is not a beneficiary of inspection contract); *Shroyer v. County of Mecklenburg*, 571 S.E.2d 849, 850 (N.C. Ct. App. 2002) (holding that a homeowner is not a beneficiary of design-build subcontract for septic system); *Blecick v. Sch. Dist. No. 18*, 406 P.2d 750, 755 (Ariz. Ct. App. 1965) (holding that a prime contractor is not a beneficiary under contract between owner and project architect), *overruled by* *Donnelly Constr. Co. v. Oberg/Hunt/Gilleland*, 677 P.2d 1292, 1296 (Ariz. 1984) (overruling *Blecick* to the extent that it holds that a contractor may not recover in tort from an architect for negligent preparation of plans).

121. See SWEET, *supra* note 6, § 14.08(B).

122. *Peter Kiewit Sons' Co. v. Iowa S. Utils. Co.*, 355 F. Supp. 376, 392-93 (S.D. Iowa 1973).

123. 144 N.W.2d 303, 312 (Iowa 1966).

124. *Id.*

125. See, e.g., *Pelletier*, 825 A.2d at 86 (noting the test to be whether contracting parties mutually intended promisor to assume a direct obligation to the third party); *Nelson v. Anderson Lumber Co.*, 99 P.3d 1092, 1100 (Idaho Ct. App. 2004) (denying third-party status in absence of evidence that the parties expressed an intent to benefit the third party).

126. See, e.g., *Inman v. Binghamton Hous. Auth.*, 143 N.E.2d 895 (N.Y. 1957); *United States v. Rogers & Rogers*, 161 F. Supp. 132 (S.D. Cal. 1958). See generally William L. Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 YALE L.J. 1099 (1960) (describing the declining use of privity defense in product liability cases); William L. Prosser, *The Fall of the Citadel*, 50 MINN. L. REV. 791 (1966) (continuing his previous discussion, Prosser speaks further on the in-

for the Southern District of California held that privity should no longer be required for a malpractice claim against an architect, noting that tort liability

to a third person not in privity is a matter of policy and involves the balancing of various factors, among which are the extent to which the transaction was intended to affect the plaintiff, the foreseeability of harm to him, the degree of certainty that the plaintiff suffered injury, the closeness of the connection between the defendant's conduct and the injury suffered, the moral blame attached to the defendant's conduct, and the policy of preventing future harm.

....

... Altogether too much control over the contractor necessarily rests in the hands of the supervising architect for him not to be placed under a duty imposed by law to perform without negligence his functions as they affect the contractor. The power of the architect to stop the work alone is tantamount to a power of economic life or death over the contractor. It is only just that such authority, exercised in such a relationship, carry commensurate legal responsibility.¹²⁷

Many later cases confirm the erosion of the privity shield for design professionals.¹²⁸ This movement has greatly increased the exposure of design professionals to third-party claims, but it has not left them defenseless. Rather, abandonment of the formalistic defense based on privity brought to the forefront the need for thoughtful analysis whenever a court considers whether or not to impose on a design professional a legal duty of professional care in favor of someone who has no contract rights in relation to the design professional. In particular, many cases turn on whether a design professional's contractual obligation to a client creates a relationship between the design professional and a third party that is sufficient to create a professional duty of care.

b. Personal Injury Cases

Cases involving personal injury to construction workers or members of the public present the duty question in a setting familiar to tort law. Courts have recognized a duty in favor of the injured person if, but only if, the design professional's contractual role supports a legal duty of care in relation to the person and injury involved.¹²⁹

crease of products liability cases and the decline of the use of the privity defense in these cases).

127. *Rogers & Rogers*, 161 F. Supp. at 135-36 (quoting *Biakanja v. Irving*, 320 P.2d 16, 19 (Cal. 1958) (rejecting the privity defense)).
128. See Jeffrey L. Nischwitz, Note, *The Crumbling Tower of Architectural Immunity: Evolution and Expansion of Liability to Third Parties*, 45 OHIO ST. L. J. 217 (1984).
129. See, e.g., *Black v. Gorman-Rupp*, 791 So. 2d 793 (La. Ct. App. 2001); *Baker v. Sweet Assocs., Inc.*, 717 N.Y.S.2d 426 (N.Y. App. Div. 2000); *Domenech v. Associated Eng'rs*, 683 N.Y.S.2d 67 (N.Y. App. Div. 1999); *Harvey v. Sear-Brown Group*, 692 N.Y.S.2d 547 (N.Y. App. Div. 1999); *Herczeg v. Hampton Township Mun. Auth.*, 766 A.2d 866 (Pa. Super. Ct. 2001).

Courts often exonerate design professionals from liability to injured construction workers by concluding that a design professional has no duty relating to job safety if the architectural services contract does not extend to on-site safety.¹³⁰ This defense may apply even to an inspecting engineer who is present at the time of an accident and who allegedly knew that certain working conditions were both unsafe and contrary to his firm's engineering specifications.¹³¹ Another court adopted a similar analysis in a personal injury case against an architect who gratuitously advised a public body concerning actions to arrest deterioration of a county courthouse.¹³² The court held that the narrow purpose of the architect's voluntary services was insufficient to create a duty to the injured man even if a reasonably prudent architect should have noticed the unsafe condition that caused the injury.

Just as the limited scope of the design professionals' contractual duty may exonerate a design professional from a duty to a third party, an expanded scope of engagement may create a duty in favor of a third party. *Caldwell v. Bechtel, Inc.*¹³³ arose out of the construction of the Washington D.C. metropolitan subway system. The transit authority contracted with Bechtel for engineering services, including "safety engineering services."¹³⁴ The plaintiff, a construction worker who contracted silicosis working in the subway tunnel, alleged that Bechtel was aware or should have known of the dangers posed to workers by the high levels of silica dust and inadequate ventilation but failed to take steps to protect workers from the risk. The court framed the issue as whether Bechtel's contractual role "created a special relationship between Bechtel and Caldwell under which Bechtel owed a duty to Caldwell to take reasonable steps to protect him from the foreseeable risk to his health posed by the dust laden Metro tunnels."¹³⁵ The court held that it did.

Bechtel placed itself in the position of assuming a duty to appellant in tort. The particular circumstances of this case, including the Bechtel-WMATA contract, Bechtel's superior skills and position, and Bechtel's resultant ability to foresee the harm that might reasonably be expected to befall appellant, cre-

130. See, e.g., *Black*, 791 So. 2d at 796 (finding that a contract that provided for an engineer to prepare plans and monitor prime contractor's work for compliance with plans did not impose responsibility on engineer for site safety); *Krieger v. J.E. Greiner Co.*, 382 A.2d 1069, 1079 (Md. 1978) (finding that contract imposed no duty on engineers to supervise the methods of construction); *Brown v. Gamble Constr. Co.*, 537 S.W.2d 685, 687 (Mo. Ct. App. 1976) (holding that a project architect had no duty to supervise safety precautions during construction absent specific contractual obligation); *Baker*, 717 N.Y.S.2d at 429 (finding that a project engineer's contract created duties solely to the owner and not to an injured construction worker).

131. *Herczeg*, 766 A.2d at 874 (affirming the dismissal of a wrongful death action).

132. *Peeler v. DeWitt*, 3 S.W.3d 894, 895-96 (Mo. Ct. App. 1999).

133. 631 F.2d 989 (D.C. Cir. 1980).

134. *Id.* at 992.

135. *Id.* at 993.

ated a duty in Bechtel to take reasonable steps to prevent harm to appellant from the hazardous conditions of the subway tunnels.¹³⁶

A project A/E with on-site responsibilities may have a duty to protect construction workers if the design services agreement creates a role for the design professional that is sufficient to establish a special responsibility for job safety.¹³⁷ To some considerable extent, the impact of this line of cases may have been mitigated by modifications in the most popular forms of industry contracts that now routinely, and in express terms, exclude site safety from the project A/E's responsibilities and more plainly place responsibility for construction means and methods exclusively on the prime contractor and the subcontractors who perform the work.¹³⁸

The historic demise of privity bequeathed the determination of tort liability for design errors to evolving notions of duty. As the court stated in *Caldwell*: "Unlike contractual duties, which are imposed by agreement of the parties to a contract, a duty of due care under tort law is based primarily upon social policy. . . ." ¹³⁹ The court next discussed to whom a duty is owed: "While in contract law, only one to whom the contract specifies that a duty be rendered will have a cause of action for its breach, in tort law, society, not the contract, specifies to whom the duty is owed, and this has traditionally been the foreseeable plaintiff."¹⁴⁰

The liability of design professionals to third parties depends primarily on a duty analysis under tort law. While the duty analysis in personal injury claims by third-parties involves relatively simple policy considerations, claims not involving personal injury inexorably move the analysis toward the outer boundaries of tort law.

c. *Property Damage and Pecuniary Interest Claims*

Design malpractice may damage the property and economic interests of multiple participants, including those who have no client relationship with the design professional. For example, no matter who

136. *Id.* at 997. Although Bechtel's contractual role went beyond the normal responsibilities of an owner's project engineer and specifically included on-site safety, Professor Sweet characterizes *Caldwell* as a case adopting an expansive view of the duties of a project A/E. SWEET, *supra* note 6, §14.08.

137. *See, e.g.,* Cutlip v. Lucky Stores, Inc., 325 A.2d 432, 443-44 (Md. 1974) (finding the additional supervisory duties taken on by the A/E exposed him to liability for the death of a construction worker); Simon v. Omaha Pub. Power Dist., 189 Neb. 183, 201-02, 202 N.W.2d 157, 168-69 (1972) (holding that because architectural firm undertook supervisory role at construction site, it had a duty to protect the safety of the workers at that site).

138. The American Institute of Architects many years ago introduced changes to its form documents to de-emphasize the role of the architect in matters such as safety and supervision of construction activity. Note, *supra* note 6, at 1086.

139. *Caldwell*, 631 F.2d at 997-98.

140. *Id.* at 998.

provides the structural design for a project, many of the project participants depend on the integrity of the resulting structural components. Similarly, the ability of a trade to complete its work may depend on design services provided by the project A/E or a specialty designer retained by another trade. Furthermore, many participants must depend upon one another to maintain the project schedule. The risk of property damage or economic loss in all these situations is both significant and foreseeable.

These circumstances produce many situations in which a design participant's contractual obligations arguably create a special relationship in favor of a non-client participant that would justify the recognition of a duty of care. A participant who is responsible for a defective design may be liable in tort for damages caused to the property of another participant whether or not the two participants share a contractual relationship.¹⁴¹

These principles become more complex when professional negligence causes purely economic damages to another project participant. Recognition of a duty of care is a critical policy determination involved in these cases, but it is not the only one.

d. The Economic Loss Rule

The courts developed the economic loss rule in product liability cases to limit the class of plaintiffs who might seek damages by reason of defective products.¹⁴² As originally developed in that context, the rule holds that a plaintiff who suffers no personal injury or property damage may not recover for purely economic loss caused by a defective product.¹⁴³ Eventually, some courts applied an analogous rule to limit recovery for purely economic loss in connection with other tort claims, including design professional malpractice claims.¹⁴⁴

Although courts may apply the economic loss rule to bar tort claims brought by one contracting party against the other,¹⁴⁵ in construction claims the doctrine has the greatest significance with respect to tort claims brought by a plaintiff who has no contractual relationship with

141. *Commercial Distrib. Ctr., Inc. v. St. Regis Paper Co.*, 689 S.W.2d 664 (Mo. Ct. App. 1985) (finding owner of facility did state cause of action against subcontractors who designed and built defective refrigeration system that caused damage to merchandise stored at the facility).

142. *See, e.g., E. River S.S. Corp. v. Transamerica Delaval, Inc.*, 476 U.S. 858 (1986); *Moorman Mfg. Co. v. Nat'l Tank Co.*, 435 N.E.2d 443 (Ill. 1982).

143. *Moorman Mfg. Co.*, 435 N.E.2d 443.

144. *See, e.g., GAF Corp. v. Zack Co.*, 445 So. 2d 350 (Fla. 1984); 2314 Lincoln Park W. Condo. Ass'n v. Mann, Gin, Ebel & Frazier, Ltd., 555 N.E.2d 346 (Ill. 1990).

145. *See, e.g., Joseph v. David M. Schwarz/Architectural Servs., P.C.*, 957 F. Supp. 1334 (S.D.N.Y. 1997); *City Express, Inc. v. Express Partners*, 959 P.2d 836 (Haw. 1998).

the defendant.¹⁴⁶ The application of the economic loss rule has even resurrected privity of contract as a relevant factor in design liability cases.¹⁴⁷ Most authorities, however, would probably agree that “[t]he crux of the doctrine is not privity but the premise that economic interests are protected, if at all, by contract principles, rather than tort principles.”¹⁴⁸

Some courts decline to apply the economic loss rule to preclude recovery in tort against a design professional.¹⁴⁹ Where the courts have rejected the economic loss rule as a bar to recovery against design professionals, the scope of the services for which the design professional is retained has often helped to define the extent of the duty and to identify those to whom the professional owes a duty of care. For example, the Oklahoma Supreme Court held that a project architect who had responsibility under a contract to certify payments to the general contractor had a duty to the subcontractors to ensure that the general contractor furnished a statutorily required payment bond before certifying the payments.¹⁵⁰

There is much debate over the application of the economic loss rule to claims arising out of design and construction activities.¹⁵¹ Spe-

146. See, e.g., *Joseph*, 957 F. Supp. 1334; *Moransais v. Heathman*, 744 So. 2d 973 (Fla. 1999); *Tommy L. Griffin Plumbing & Heating Co. v. Jordan, Jones & Goulding, Inc.*, 463 S.E.2d 85 (S.C. 1995); *Berschauer/Phillips Constr. Co. v. Seattle Sch. Dist. No. 1*, 881 P.2d 986 (Wash. 1994).

147. *IT Corp. v. Ecology & Envtl. Eng'g, P.C.*, 713 N.Y.S.2d 633 (N.Y. App. Div. 2000). In that case the prime contractor sued the owner's engineer for damages the prime contractor allegedly suffered because the bidding documents the engineer prepared did not accurately reflect the relevant site conditions. In affirming the trial court's dismissal of the contractor's claim founded on negligence and negligent misrepresentation, the court of appeals held:

It is well settled that engineers, like other professionals, may be held liable for economic injury arising from the negligent preparation of a report. However, before a party may recover in tort for pecuniary loss sustained as a result of another's negligent misrepresentations there must be a showing that there was either actual privity of contract between the parties or a relationship so close as to approach that of privity.'

Id. at 636 (citations omitted).

148. Martha Crandall Coleman, *Liability of Design Professionals for Negligent Design and Project Management*, 33 TORT & INS. L.J. 923, 934 (1998) (quoting Sidney R. Barrett, Jr., *Recovery of Economic Loss in Tort for Construction Defects: A Critical Analysis*, 40 S.C. L. REV. 891, 895 (1989)).

149. See, e.g., *Boren v. Thompson & Assoc.*, 999 P.2d 438 (Okla. 2000); *Tommy L. Griffin Plumbing & Heating Co.*, 463 S.E.2d at 88.

150. *Boren*, 999 P.2d 438.

151. See Steven B. Lesser, *Economic Loss Doctrine and Its Impact Upon Construction Claims*, CONSTRUCTION LAW., Aug. 1994, at 21; Michael T. Terwilliger, *Economic Loss in the Construction Context: Should Architects be Liable For the Commercial Expectations of the Contractors?*, 31 VAL. U. L. REV. 257 (1996); Emily M. Usow, *Redefining the Professional Service Contract: The Evolution and Deconstruction of Florida's Economic Loss Rule*, 8 U. MIAMI BUS. L. REV. 1 (1999). For a discussion of the economic loss rule in products liability cases, see Comment, *Manufac-*

cialty design-build will inevitably lead to further debate as participants in the construction process seek redress for purely economic loss caused by other participants.

D. Bargained-For Limits on Design Liability—A Return to Contract Principles

Beginning in the middle of the twentieth century, developments in tort law have expanded professional liability for design errors and defects.¹⁵² The increasingly complex nature of construction, as well as the demand for accelerated project schedules and more highly specialized design and construction techniques, have contributed to the liability risk for design professionals. One logical response proposed by those who advise design professionals is exculpatory provisions in design services contracts.¹⁵³ Advocates for design professionals argue that contracts should allocate the risk of liability to the design professional only if the risk is within the design professional's control and the design professional is compensated for assuming the risk.¹⁵⁴

Common methods to limit a design professional's liability by contract include: capping damage liability; limiting damage liability to the amount of available insurance coverage; excluding liability for lost profits and other special damages; limiting liability for design errors exclusively to the obligation to correct errors rather than to pay damages; and permitting the design professional to pay a liquidated amount to compensate the client for a shortfall in project performance.¹⁵⁵ Courts will often uphold the enforceability of contractual liability limits in agreements between commercially sophisticated parties.¹⁵⁶ However, liability limitations in consumer contracts may be unenforceable,¹⁵⁷ especially in contracts for residential construction.¹⁵⁸ Also, the public policies that underlie the licensing and regu-

turers' Liability to Remote Purchasers for "Economic Loss" Damages—Tort or Contract?, 114 U. PA. L. REV. 539 (1966); Note, *Economic Loss in Products Liability Jurisprudence*, 66 COLUM. L. REV. 917 (1966).

152. See generally SWEET, *supra* note 6, § 14.01; Fain, *supra* note 85, at 32–33.

153. SWEET, *supra* note 6, § 15.03.

154. See AVA J. ABRAMOWITZ, ARCHITECT'S ESSENTIALS OF CONTRACT NEGOTIATION (2002).

155. See SWEET, *supra* note 6, § 15.03(D); Susan R. Brooke, *Protecting Design-Builder with Appropriate Contract Clauses*, in DESIGN-BUILD CONTRACTING HANDBOOK, *supra* note 9, § 11.6. For a discussion of contractual limits on liability and sample contract provisions used in owner-contractor agreements, see Charles M. Sink & Mark D. Petersen, *Indirect, Consequential and Punitive Damages*, in 2 CONSTRUCTION LAW HANDBOOK, *supra* note 4, §§ 31.01–06.

156. See, e.g., Valhal Corp. v. Sullivan Assoc., Inc., 44 F.3d 195 (3rd Cir. 1995); Markborough Cal., Inc. v. Superior Court, 277 Cal. Rptr. 919 (Cal. Ct. App. 1991).

157. See, e.g., Estey v. MacKenzie Eng'g, Inc., 927 P.2d 86 (Or. 1996), *rev'g* 902 P.2d 1220 (Or. Ct. App. 1995).

158. See SWEET, *supra* note 6, § 15.03(D).

lation of design professionals impose some countervailing considerations.¹⁵⁹ Safety considerations may dictate that construction plans be prepared by licensed, qualified professionals who retain liability for design errors.¹⁶⁰ Even after giving each of these considerations due regard, in many jurisdictions the parties should generally be free to negotiate efficient limits on liability, provided that they do so deliberately and clearly.

E. Contractual Reallocation of Design Responsibility

Another response on behalf of project A/Es to the expanded risk of design liability is to re-allocate responsibility for specialty designs to others. One method is to delegate certain design responsibilities to parties having expertise in the specialty work.¹⁶¹ An alternative is to define narrowly the scope of the design professional's responsibility so that the project A/E's contractual scope of services does not include certain specialty design components.¹⁶² These alternatives may produce markedly different results under contract law.

Delegation does not strip the delegating party of the original contractual responsibility, although it may substantially alleviate the risk of tort liability for negligent performance of the design services.¹⁶³ By contrast, if the contract with the project A/E wholly excludes the specialty design from the project A/E's scope of work, then arguably the project A/E may completely avoid any risk of liability associated with the specialty design. This potentially powerful exculpatory approach is consistent with the specialty design-build trend in construction. The crux of the movement toward specialty design-build is the judgment that it is often more efficient and technically sound to divide design tasks among several trade specialists rather than to place global design responsibility in a project A/E. Specialty design-build expressly shifts specialty design responsibility from the project A/E to the specialty trades. If, by this contractual device, the participants in the construction process pass down to trade subcontractors a part of the design responsibility traditionally as-

159. See *infra* section V.B.

160. See generally Michael D. Turner, *Paradigms, Pigeonholes, and Precedent: Reflection on Regulatory Control of Residential Construction*, 23 WHITTIER L. REV. 3 (2001).

161. See, e.g., *Bd. of Educ. v. URS Co.*, No. 64496, 1994 WL 520862 (Ohio Ct. App. Sept. 22, 1994), *aff'd in part and rev'd in part*, 648 N.E.2d 811 (Ohio 1995) (involving delegation of planetarium dome design).

162. See *St. Paul Cos. v. Constr. Mgmt. Co.*, 96 F. Supp. 2d 1094 (D. Mont. 2000) (involving an owner who contracted directly with specialty trades, rather than primary design-builder, for wiring of pool controls, garage doors and sound system). For a discussion of the AIA Allocation Clause, which provides for this method of allocating design responsibility, see text accompanying *infra* notes 256-57.

163. See *infra* subsection III.E.1.

sumed by a project A/E, they may in that manner also limit the project A/E's duty to the other participants in the construction project and to members of the public who may suffer loss or damage due to design errors. As the discussion that follows shows, however, there are important policy limitations on the extent to which a design professional can avoid liability through delegation.

1. *Delegation of Design Duties under Contract Law*

A party to a contract generally may delegate that party's contractual duties to another.¹⁶⁴ As between the original obligor and the party who accepts the delegation, the latter is liable for performance of the delegated duty.¹⁶⁵ This does not, however, mean that a design professional can effectively avoid liability for a contractual design duty by delegating that duty to another.

When a duty is delegated, however, the delegating party continues to remain liable. If this were not so, every solvent person could obtain freedom from his debts by delegating them to an insolvent. Delegation involves the appointment by the obligor of another to render performance on his behalf. It does not free the obligor from his duty to see to it that performance is rendered.¹⁶⁶

As a result, a project A/E who wishes to be exonerated completely from liability for a specialty design service generally cannot do so by entering into a contract with the owner to furnish that service and then delegating the specialty design to another.¹⁶⁷

2. *Delegation of Design Duties under Tort Law*

As cases already discussed show, once a design professional agrees to provide services, tort law imposes a duty to render those services in accordance with the controlling standard of professional care.¹⁶⁸ Under the law governing independent contractors, however, a party who assumes a design duty by contract and then delegates that duty

164. RESTATEMENT (SECOND) OF CONTRACTS § 318 (1981).

165. 17 Vista Fee Assoc. v. Teachers Ins. & Annuity Ass'n., 693 N.Y.S.2d 554 (N.Y. App. Div. 1999) (involving a design-builder who, after settling building owner's claims arising from a defective smoke purge system, had a common law indemnity claim against its engineering subcontractor).

166. Commercial Distrib. Ctr., Inc. v. St. Regis Paper Co., 689 S.W.2d 664, 667-68 (Mo. Ct. App. 1985) (quoting CALAMARI AND PERILLO, THE LAW OF CONTRACTS § 18-24 (2d ed. 1977) (finding a subcontractor who agreed in its contract with the prime contractor to design and build a refrigeration system remained liable for the portion of the work further subcontracted to a mechanical firm).

167. See *St. Paul Cos.*, 96 F. Supp. 2d at 1097 (finding that a builder and affiliated architects could not avoid their contractual duty to build a quality residence by engaging an independent contractor (subcontractor) to perform the work); *Guilani v. Penny*, Nos. 95-0175, 95-0163, 1998 WL 1198695 (Mass. Super. Aug. 20, 1998) (holding that contracting party remains liable no matter who performs the contract obligation).

168. See *supra* section III.B.

to an independent contractor should not normally be responsible for damages caused by the independent contractor's negligence.¹⁶⁹ Conversely, when a specialty firm agrees by subcontract with the prime contractor to undertake a portion of the project design work, the specialty firm may be liable to the prime contractor for the damages attributable to the negligence of the specialty firm in performing the delegated design services.¹⁷⁰

Public policy considerations introduce a further complication when a design professional delegates a design duty imposed under tort law. Courts sometimes declare certain duties imposed by tort law to be non-delegable.¹⁷¹ In construction and design cases, the non-delegable duty analysis often applies if the damage or injury arises out of the violation of a statute¹⁷² or administrative code or regulation¹⁷³ relating to safety. The same argument may apply to delegation of a contractual duty.¹⁷⁴ This does not mean that the person upon whom tort law imposes the duty cannot discharge that duty through an agent or independent contractor. Rather, it means that the duty is such that the person primarily responsible for performance of the duty will be vicariously liable for performance by the designee, even if the designee is an independent contractor.¹⁷⁵

3. *Delegation of Design Duties under Professional Licensing Law*

Licensing statutes and regulations may impose non-delegable duties on design professionals. Arguably, this is an implicit effect of licensing schemes that prohibit unlicensed persons from performing professional services except if they do so under the direction of a licensed professional.¹⁷⁶ One court offered a categorical argument for non-delegable design duties by declaring that when an architect "un-

169. See Milicevich, *supra* note 109.

170. *17 Vista Fee Assoc.*, 693 N.Y.S.2d at 559-60 (concluding that, in addition to indemnity claim, prime contractor had malpractice claim against engineering firm that contracted with prime contractor to perform services).

171. See 2 DAN B. DOBBS, *THE LAW OF TORTS* § 337 (2001).

172. *Id.*

173. See, e.g., *Johnson v. Salem Title Co.*, 425 P.2d 519 (Or. 1967) (holding that project architect who delegated structural design to an engineering consultant had non-delegable duty to satisfy the structural design requirements of the building code).

174. See *Block v. Lohan Assoc., Inc.*, 645 N.E.2d 207 (Ill. App. Ct. 1993) (involving a plaintiff who argued that a precast concrete specialty firm had a non-delegable duty under its contract for the design, fabrication, and installation of concrete panels, but the court did not reach that argument).

175. See DOBBS, *supra* note 171, § 337.

176. See *State Bd. of Registration for Prof'l Eng'rs v. Rogers*, 120 So. 2d 772, 775 (Miss. 1960).

dertakes a project, he alone will be held responsible therefor. If he delegates any part of his duties, he does so at his peril."¹⁷⁷

Even if the licensing scheme itself does not imply that all professional services subject to the licensing requirement impose non-delegable duties on the project A/E, a court may conclude that statutes or regulations that require a professional seal on certain design documents impose a non-delegable duty of care on the licensee whose seal appears on the documents. Some licensing laws expressly provide that a design professional who affixes his or her seal to a design document accepts full responsibility for the document, even if it was prepared by another.¹⁷⁸

In *Duncan v. Missouri Board for Architects, Professional Engineers and Land Surveyors*,¹⁷⁹ the court upheld the revocation of the license of Jack Gillum, a supervising engineer whose seal was affixed to structural drawings that were the basis for the fabricator's shop drawings that provided for a defective design.¹⁸⁰ The court held that the provisions of the licensing statutes governing the use of a professional seal imposed a non-delegable duty on Gillum with regard to the structural components of the project, including changes to steel connections introduced by the fabricator's shop drawings, because Gillum was the project's supervising structural engineer. This was so even though Gillum's seal apparently was not on the shop drawings themselves and even though another licensed engineer working under Gillum had direct responsibility to approve the shop drawings that provided for the defective design.¹⁸¹

The *Duncan* court's holding was based on public policy considerations in light of a statute providing that an engineer who sealed any plans for an engineering project was responsible for the entire project absent the engineer's signed statement identifying the specific plans for the project the engineer intended to authenticate by his seal and expressly disclaiming responsibility for all other plans in connection with the project.¹⁸² The court held that the responsibility for the structural integrity of the steel connections was a non-delegable duty, although the court did not explain the basis for that holding.¹⁸³

177. *Id.* (dictum).

178. See MO. REV. STAT. § 327.411 (2001). *Cf. In re Reilly v. Bd. of Regents*, 672 N.Y.S.2d 495 (N.Y. App. Div. 1998) (holding an engineer properly disciplined for failing to maintain detailed records required under regulation with regard to plans prepared by another and sealed by the engineer).

179. 744 S.W.2d 524 (Mo. Ct. App. 1988).

180. *Id.* at 537.

181. See *id.* at 542.

182. *Id.* at 535-36, 542. The statute has since been amended. See MO. REV. STAT. § 327.411 (2001), which is discussed in the text accompanying *infra* notes 269-71.

183. *Duncan*, 744 S.W.2d at 541. In support of this holding, the court cited *State Board of Registration for Professional Engineers v. Rogers*, 120 So. 2d 772 (Miss.

4. *The Implications of the Non-Delegable Design Duty*

When a court declares that a professional design duty is non-delegable, as the *Duncan* court did with respect to the structural engineer's duty for the steel connections, the court gives notice of an important restriction on ordinary freedom of contract principles. Public safety and welfare considerations require safeguards to ensure the safety of structures, and contractual delegation cannot evade that requirement. This public policy does not, however, necessarily require that all design responsibility must rest on a single professional. As previously noted, the most common project delivery systems involve a project A/E who undertakes contractual responsibility to the owner for the entire project, but who normally retains several design consultants to provide specialty design. This was the case in the project involved in the *Duncan* case. The owner hired a project architect to furnish all of the normal architectural and engineering services, and the architect in turn retained the structural engineer as a consultant.¹⁸⁴ Presumably, the project architect did not have the training, experience, or license to provide structural engineering. The architect merely had a contractual duty to furnish structural engineering for the project to the owner; at least so far as one can determine from the *Duncan* opinion, the duty was delegable by the architect.

The notion of a non-delegable design duty raises several questions relevant to the specialty design-build practice and other forms of shared design responsibility. Under what circumstances should a court declare a design duty non-delegable? Does public policy limit the freedom to divide design responsibility into multiple layers? May a licensed design professional delegate a contractual design duty to another licensed design professional? One might argue that the parties to the project contracts should be free to divide design responsibility in any way they deem appropriate so long as all critical design functions are performed by professionals licensed for the design activities involved. In a given case, however, the evidence might establish that a single licensed professional must retain ultimate responsibility for certain related design functions or at least for their coordination into an integrated design.

The concept of a non-delegable design duty may portend extraordinary implications for analyzing liability in cases of design details furnished by subcontractors and specialty firms. To the extent that the design responsibility of a project architect or project engineer is non-delegable on public policy grounds, any division of design responsibil-

1960), a case in which the state regulatory agency sought to enjoin the unlicensed practice of engineering. The statement by the Mississippi Supreme Court concerning the non-delegable nature of design duties is dicta. See *id.* at 775.

184. *Duncan*, 744 S.W.2d at 527 n.2.

ity may leave at risk those design professionals who have (either by contract or by virtue of professional responsibility) any authority or responsibility to review, approve, or coordinate the final detailed design.

F. Shared Design Services—Blurring the Lines of Responsibility

Whenever multiple participants work in concert on a construction project, each participant faces a liability risk for resulting defects. If design responsibility in a design-bid-build project is shared, the project A/E will almost always be implicated to some extent by a duty to review, approve, coordinate, or at least advise the owner with respect to the design services provided by others. Additionally, when the design defect involves services of a subcontractor, the prime contractor is at risk, as is any subcontractor at a tier above that of the subcontractor who provided the design.

A residential construction case¹⁸⁵ provides an interesting illustration. The defendants included Construction Management Company, Ltd., which was the builder, Nick Fullerton Architects, P.C., and Nick Fullerton individually. Apparently, Nick Fullerton was directly involved with the ownership or operation of both Construction Management and Nick Fullerton Architects, P.C. The court referred to Nick Fullerton and Nick Fullerton Architects, P.C. collectively as the "Fullerton defendants." Even though the contract between the owner and Construction Management was a design-build arrangement,¹⁸⁶ the opinion addressed some issues that are fundamental to the analysis of specialty design-build in a design-bid-build project.

An electrical fire destroyed the residence when construction was approximately ninety percent complete. The owner's insurance company paid the owner under the policy, settled with the electrical subcontractor who allegedly caused the fire by negligent installation of wiring, and then brought a subrogation action against Construction Management and related entities involved in the project.¹⁸⁷ The court denied the defendants' motion for summary judgment. Among other things, the court held that a general contractor could be vicariously liable to the owner for the negligence of the subcontractor who had the status, under Montana law, of the general contractor's independent

185. *St. Paul Cos. v. Constr. Mgmt. Co.*, 96 F. Supp. 2d 1094 (D. Mont. 2000).

186. *Id.* at 1095. The opinion states that the Fullerton defendants designed the residence and that Construction Management, which was operated by Nick Fullerton and another individual, served as the general contractor. *Id.* Presumably, Construction Management had the direct contract with the owners for design and construction of the residence and the Fullerton defendants furnished the design to Construction Management.

187. *Id.* at 1095 n.2, 1096.

contractor.¹⁸⁸ In stating the basis for this holding, the court did not seem to distinguish between the vicarious liability of Construction Management, which presumably entered into the subcontract with the allegedly negligent electrical subcontractor, and the Fullerton defendants, who apparently only provided design services for the project. It is not clear how the Fullerton defendants, if they only furnished design services, could be vicariously liable for the negligence of Construction Management's subcontractor.¹⁸⁹

In the instant case, it is indisputable that Construction Management and the Fullerton defendants had an agreement with the Ericksons to design and build a home. In Montana, a contractor has a common law duty to construct a home in a good and workmanlike manner. Thus, the agreement for construction of the home imposed upon Construction Management and the Fullerton defendants a duty to build the home in a good and workmanlike manner. They are not permitted to avoid this duty simply by engaging the services of others to fulfill their obligation to perform.¹⁹⁰

In a holding of potentially greater significance for cases involving specialty design-build, the court also denied the Fullerton defendants' motion for partial summary judgment on the plaintiff's negligence claim. The court held that the plaintiff presented genuine issues of material fact regarding the involvement of the related defendants in the project as a whole. The court noted the plaintiff's argument that

it is not alleging negligence in design services rendered by the Fullerton defendants. Rather, it argues, its negligence claim flows from its contention that the Fullerton defendants played a broader role in the construction of the home, including the design, creation and construction of the home contained in the design/build concept the defendants employed in producing the home.¹⁹¹

The court held that "genuine issues of material fact exist regarding the involvement of the Fullerton defendants in the home construction project as a whole that preclude the summary dismissal of St. Paul's negligence claim."¹⁹² This cryptic holding may suggest, by analogy, that when a design professional provides services to a design-build subcontractor, as commonly occurs with specialty design-build, the

188. *Id.* at 1097. The court characterized this issue as one of first impression under Montana law. *Id.* at 1096.

189. Perhaps the court viewed Construction Management and the Fullerton defendants as joint venturers, however, that reading cannot be easily reconciled with the court's statement that Construction Management, as the "general contractor," hired the electrical subcontractor. *Id.* at 1097. The court also explained in a footnote that Nick Fullerton and Nick Fullerton Architects, P.C. each held a one-third ownership interest in Construction Management, but the court did not suggest that this fact alone could make the Fullerton defendants vicariously liable for the negligence of Construction Management's subcontractor. *See id.* n.3.

190. *Id.* at 1097 (citations omitted). Arguably, the opinion's greatest significance is that it reflects a consumer protection bias for residential construction. *See infra* note 323 and accompanying text.

191. *St. Paul Cos.*, 96 F. Supp. 2d at 1098-99.

192. *Id.* at 1099.

design professional could be liable for the subcontractor's defective work.¹⁹³

Although reported cases are only beginning to consider the legal ramifications of specialty design-build, the construction industry has significant experience with diffused design responsibility through the long-standing process of finalizing certain design details through shop drawings. Cases involving defective shop drawings provide a helpful analogy for considering liability issues that arise under the specialty design-build practice.

G. The Shop Drawing Cases—Prelude to Specialty Design-Build

Shop drawings are plans and other graphic data prepared by the prime contractor or a specialty subcontractor, supplier, manufacturer, or fabricator to illustrate fabrication, installation, or construction details.¹⁹⁴ For example, shop drawings may provide the type and size of connectors between two components of an assembly, electrical, and mechanical line sizes and similar matters. The shop drawing process recognizes that a project architect cannot "completely cover the constructive details of all the trades employed upon the work" or accurately speak "the language of the very shop in which the work is to be made."¹⁹⁵

The shop drawing process differs from the specialty design-build process primarily in degree. Although specialty design-build shifts the design function for a project component more completely to the construction team, while shop drawings involve more limited design details omitted from the project A/E's plans, both processes raise simi-

193. The court also held that the plaintiff could pursue a claim under the *res ipsa loquitur* doctrine. *Id.* at 1097–98. While that holding is not relevant for purposes of this Article, the facts the defendants cited on the issue are. The owners contracted directly with five additional specialty trades that installed electrical wiring for the home for different purposes. Thus, even in the residential context, multiple contractual arrangements involving related construction and design functions may add significant complexity to liability issues.

194. See *Trataros Constr., Inc. v. Gen. Serv. Admin.*, 2001-1 B.C.A. (CCH) ¶ 31,306, 2001 WL 171294 (Gen. Servs. Adm. B.C.A. 2001) (involving a contract that provided for shop drawings showing in detail the proposed fabrication and assembly of structural elements and the installation of materials, including attachment details); see also AMERICAN INSTITUTE OF ARCHITECTS, AIA DOCUMENT A201™-1997, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, § 3.12.1 (1997) [hereinafter AIA GENERAL CONDITIONS] (defining shop drawings to include drawings and other data from the prime contractor, trade subcontractors, or suppliers that illustrate parts of the construction). For a further discussion of the use of shop drawings in the context of a traditional project design process, see Ellickson, *supra* note 2.

195. See Ellickson, *supra* note 2, at 614 (quoting AMERICAN INSTITUTE OF ARCHITECTS, THE HANDBOOK OF ARCHITECTURAL PRACTICE 65 (1920)).

lar legal issues by providing for shared design responsibility between the design team and the construction team. As a result, the contracting practices and case law developed concerning shop drawings are relevant to many specialty design-build issues.

The Federal Acquisition Regulation establishes the prevailing federal contract provision governing the shop drawing process.¹⁹⁶ That provision (the "Federal Shop Drawing Clause") requires the prime contractor to coordinate, review and approve all shop drawings. Although the government's contracting officer must also approve or disapprove the shop drawings, that action does not relieve the contractor from responsibility for the shop drawings.

Private contracts often include provisions similar to the Federal Shop Drawing Clause.¹⁹⁷ The current edition of the AIA General Conditions includes a detailed provision¹⁹⁸ (the "AIA Shop Drawing Clause") that assigns responsibility for shop drawing design to the prime contractor (and derivatively to its subcontractors and suppliers).¹⁹⁹ Under the AIA General Conditions, the architect will review and approve shop drawings "but only for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents."²⁰⁰ The architect's review does not relieve the contractor of any of its responsibilities or constitute the architect's approval of the construction activities.²⁰¹ The architect's approval of shop drawings does not operate to approve or accept design changes reflected in the shop drawings unless the contractor advised the architect in writing of the change and the architect approved the specific change involved.²⁰²

When shop drawings lead to disputes, participants in the process often point accusing fingers at one another and offer conflicting contract interpretations.²⁰³ Several cases involve the contractor's respon-

196. 48 C.F.R. § 52.236-21(e)-(f) (2001).

197. See, e.g., *Fauss Constr., Inc. v. City of Hooper*, 197 Neb. 398, 249 N.W.2d 478 (1977) (involving a provision that may have been based on an earlier version of the AIA Shop Drawing Clause discussed in the text).

198. AIA GENERAL CONDITIONS, *supra* note 194, ¶¶ 3.12.

199. AIA GENERAL CONDITIONS, *supra* note 194, ¶¶ 3.12.5-3.12.6.

200. AIA GENERAL CONDITIONS, *supra* note 194, ¶ 4.2.7.

201. AIA GENERAL CONDITIONS, *supra* note 194, ¶¶ 3.12.8, 4.2.7.

202. AIA GENERAL CONDITIONS, *supra* note 194, ¶ 3.12.8.

203. See, e.g., *Hercules Constr. Co. v. C. J. Moritz Co.*, 655 S.W.2d 779 (Mo. Ct. App. 1983) (involving a general contractor who replaced defective supply air fan at owner's demand and then sued the installation subcontractor, the owner's consulting engineer, the fan manufacturer, and the fan supplier to recover costs of replacing the fan), *overruled on other grounds by Wyrozynski v. Nichols*, 752 S.W.2d 433, 437 (Mo. Ct. App. 1988) (procedural point only); *John Grace & Co. v. State Univ. Constr. Fund*, 472 N.Y.S.2d 757 (N.Y. App. Div. 1984), *aff'd as modified*, 475 N.E.2d 105 (N.Y. 1984) (involving a general contractor who sued to collect repair costs from owner, who impleaded general contractor's engineer, who in turn impleaded equipment manufacturer whom owner had recommended to engi-

sibility to the owner to conform the shop drawing design to the more demanding or costly design criteria specified in the contract documents,²⁰⁴ the additional costs of a design change introduced by shop drawings,²⁰⁵ or the costs of corrective design and construction.²⁰⁶ Not surprisingly, the courts have been reluctant to readjust the parties' allocation of responsibility if the contract terms are unambiguous.²⁰⁷

Several cases involve claims against those indirectly involved with the defective shop drawing design. In these cases, the contract terms may be vague or incomplete. For example, the project A/E may incur liability to the owner for approving a contractor's or subcontractor's defective shop drawing design, but probably only if the owner can

neer); Steven M. Siegfried & Stanley P. Sklar, *Protecting Subcontractor with Appropriate Contract Clauses*, in DESIGN-BUILD CONTRACTING HANDBOOK, *supra* note 9, at 323, 332-36.

204. See, e.g., Sun Gold, Inc. & Inland Empire Builders, Inc., 61-1 BCA ¶ 2878, 1960 WL 303 (Armed Servs. B.C.A. 1960) (finding that contractor could not satisfy its contractual responsibility by installing lavatory vents in accordance with shop drawings that complied with the applicable building code but not with more stringent design requirements also included in the contract drawings).
205. See, e.g., Elec. & Missile Facilities, Inc., 65-2 BCA ¶ 5122, 1965 WL 776 (Armed Servs. B.C.A. 1965) (finding that government was liable for costs incurred to substitute materials because the contract specifications were ambiguous and the contracting officer initially approved a shop drawing adopting one interpretation).
206. See, e.g., Limbach Co., 75-1 BCA ¶ 11,258, 1975 WL 1379 (Gen. Servs. Adm. B.C.A. 1975) (finding that subcontractor was not entitled to additional compensation for the cost of changing the location of piping to conform to the contract requirements after completing installation in accordance with the shop drawings).
207. See *Aleutian Constructors v. United States*, 24 Cl. Ct. 372 (1991) (holding a government contractor was not allowed to recover costs of correcting defective roofing design even though the government provided relatively detailed design specifications for the roof and the contracting officer approved the design details proposed by the contractor's shop drawings). A plethora of cases have rejected the argument that one party authorized or implicitly accepted a design change merely because that party or its design representative knew of, or even expressly approved, the design details illustrated in a shop drawing. See, e.g., *Petrocelli Elec. Co. v. Crow Constr. Co.*, 1999 WL 791683 (S.D.N.Y. 1999) (finding that prime contractor's approval of subcontractor's shop drawings did not relieve the subcontractor of responsibility for all work required by the contract documents); *Fauss Constr., Inc. v. City of Hooper*, 197 Neb. 398, 249 N.W.2d 478 (1977) (holding that approval by owner's architect of shop drawing providing for one material did not operate to modify the requirement of the contract documents calling for different material); *D.C. McClain, Inc. v. Arlington County*, 452 S.E.2d 659 (Va. 1995) (finding an owner did not authorize a change by approving a shop drawing not conforming to the contract documents); *Alexander v. Gerald E. Morrissey, Inc.*, 399 A.2d 503 (Vt. 1979) (concluding that approval by owner's architect of a design deviation shown in prime contractor's submittal did not bind the owner). See generally *Managing the Submittal Process, Part II*, CONSTRUCTION CLAIMS MONTHLY, May 2000, at 1 (summarizing several federal and state cases). For an extensive collection of federal contract opinions applying the Federal Shop Drawing Clause, see Paul D'Aloisio, *The Design Responsibility and Liability of Government Contracts*, 22 PUB. CONT. L.J. 515 (1993).

show that the project A/E was professionally negligent in doing so.²⁰⁸ The controlling principle is that the approving design professional is subject to the normal professional duty of care for whatever professional services he or she renders in connection with the process. So long as a design professional serves any role in the shop drawing process, the potential for professional liability is inherent. "Submittal review is one of the most sensitive activities performed by the architect."²⁰⁹

A Texas case illustrates how the uncertain division of labor inevitably created by shop drawing practices may leave both the project A/E and the prime contractor vulnerable for design defects attributable to a subcontractor's design. In *Great American Insurance Co. v. North Austin Municipal Utility District No. 1*,²¹⁰ the Texas Supreme Court upheld the liability of the prime contractor for an inadequate design where the plans and specifications furnished by the owner to the prime contractor failed to address the particular design detail and a subcontractor provided, and the owner's engineer approved, a shop drawing detailing the inadequate design. According to the opinion of the Texas Court of Appeals,²¹¹ the trial court had entered judgment against the general contractor as well as the engineer and the subcontractor even though the jury had found that the engineer's negligence proximately caused the structural defect in question. In affirming the trial court's judgment against the general contractor, the court of appeals held that there may be more than one proximate cause.²¹²

Cases involving death or personal injury represent a special category in which courts may apply heightened scrutiny to the role of any licensed design professional in the shop drawing process. The Kansas City Hyatt Regency Hotel skywalk collapse in 1981 tragically focused attention on the arcane shop drawing process. Approximately one year after completion of the hotel, two walkways in the hotel lobby collapsed during a Friday afternoon tea dance attended by over fifteen hundred people. One hundred fourteen people died, and an additional one hundred eighty-six were injured. The primary reported court de-

208. Compare *John Grace & Co. v. State Univ. Constr. Fund*, 475 N.E.2d 105 (N.Y. 1984), *affirm'g as modified* 472 N.Y.S.2d 757 (N.Y. App. Div. 1984) (finding a project engineer not liable for approving shop drawings where the defects were not apparent on the face of the drawings), with *Alexander*, 399 A.2d 503 (finding a project architect responsible for approving substitution of inferior material proposed by prime contractor).

209. JUSTIN SWEET & JONATHAN J. SWEET, *SWEET ON CONSTRUCTION INDUSTRY CONTRACTS* § 5.17 (3d ed. 1996).

210. 908 S.W.2d 415 (Tex. 1995).

211. *Great Am. Ins. Co. v. N. Austin Mun. Util. Dist. No. 1*, 902 S.W.2d 488 (Tx. Ct. App. 1993), *rev'd in part*, 908 S.W.2d 415 (Tex. 1995) (affirming the Court of Appeals with respect to the design liability issues, but reversing as to matters of surety law).

212. *Great Am. Ins. Co.*, 902 S.W.2d at 495.

cision concerning this colossal disaster arose out of disciplinary actions against the structural engineers.²¹³

Expert analysis concluded that the walkways failed due to a design defect in a critical steel connection in the system of rods from which the walkways were suspended from the lobby ceiling.²¹⁴ The steel fabricator proposed the fatal detail in shop drawings, and the structural engineers retained by the owner's project architect approved those drawings.²¹⁵ Evidence showed that the steel fabricator employed its own engineers who were qualified to design the connections and that the shop drawing process calling for the steel fabricator to design steel connections was consistent with prevailing industry practices.²¹⁶ The structural engineers argued that they properly provided structural drawings that left the connection design to the fabricator. Although the engineers approved the shop drawings, they claimed that they did so only for aesthetic purposes, and they denied any duty to verify the structural integrity of the fabricator's design. Consequently, the engineers argued that their reliance on the fabricator's shop drawing design was not negligent.

Based on the duty imposed on the structural engineers under the licensing statutes,²¹⁷ the court disagreed and held that:

Design of connections is, on the facts of this record, a matter requiring engineering expertise. The statute imposes on the project engineer the responsibility for the design of such connections whether he in fact designs them himself or not. . . . [I]t is inconceivable that the legislature contemplated relieving certified engineers of responsibility for engineering decisions made by non-certified engineers or laymen. Design of connections is, under the statute, a matter for which the engineer is responsible. Custom, practice, or "bottom line" necessity cannot alter that responsibility.²¹⁸

Although the *Duncan* case arose in the context of a disciplinary action against the engineers, the case should serve as an important precedent in many disputes involving shared design responsibility. As the Missouri Court of Appeals' opinion reflects, an analysis of the legal responsibility of a design professional who participates in a shared design process begins by examining the contractual source and scope of the design professional's duty, but it does not end there. Licensing

213. *Duncan v. Mo. Bd. for Architects, Prof'l Eng'rs & Land Surveyors*, 744 S.W.2d 524 (Mo. Ct. App. 1988) (affirming revocation of the engineering licenses of two engineers and the engineering firm that employed them; the civil damage claims were settled).

214. *Id.* at 540.

215. *Id.* at 529-30.

216. *Id.*

217. The principle statute in effect at the time, Mo. REV. STAT. § 327.411 (1978) (amended 1999), imposed project-wide responsibility on any engineer who affixed his or her professional seal to plans for an engineering project. See text accompanying *infra* notes 269-71 for a summary of the pertinent provisions of this statute in its current form, Mo. REV. STAT. § 327.411 (2001).

218. *Duncan*, 744 S.W.2d at 537.

statutes and public policy considerations may impose duties on the design professional beyond any contractual understandings and without regard to customs and practices in the industry. This principle is especially compelling when personal injury or public safety is involved. The *Duncan* court held that "the level of care required of a professional engineer is directly proportional to the potential for harm arising from his design . . ."219

Other personal injury cases illustrate that shared design responsibility may blur the boundaries of liability. In *Jaeger v. Henningson, Durham & Richardson, Inc.*,²²⁰ an architect who failed to recognize that a shop drawing of a stairway and landing called for lighter gauge steel than the construction drawings specified was held liable to a worker who was injured when the landing collapsed. By contrast, in *Waggoner v. W&W Steel Co.*,²²¹ the Oklahoma Supreme Court held that a project architect's liability for injuries attributable to a shop drawing error was limited by the architect's contractual scope of responsibility. The plaintiff, a worker injured when a steel framework fell, sued the project owner, the steel fabricator, and the project architect. The plaintiff claimed that shop drawings submitted to the prime contractor and approved by the architect should have provided for temporary bracing. The court of appeals reversed a directed verdict for the architect entered on the basis that the architect "undertook to supervise the construction project."²²² The supreme court, however, held that under the contract, which was consistent with the AIA Shop Drawing Clause, the architect had no duty to assure the safety of the steel framework design. Accordingly, the supreme court reinstated the directed verdict.²²³

The shop drawing cases show that shared design responsibility both obscures traditional roles and complicates liability analysis. Contractual provisions similar to the Federal Shop Drawing Clause or the AIA Shop Drawing Clause may adequately allocate responsibility for many common situations, but not for all. Especially in cases of personal injury or damage to innocent third parties, the courts may impose on the project A/E a greater responsibility than the contract documents reflect based on the notion that "the level of care required . . . is directly proportional to the potential for harm arising from" the services of a design professional.²²⁴ In all events, each design professional who assumes a role in the process will be liable for failure to

219. *Id.* at 540.

220. 714 F.2d 773 (8th Cir. 1983).

221. 657 P.2d 147 (Okla. 1982).

222. *Id.* at 149 (quoting from the opinion of the court of appeals).

223. *Id.* at 151.

224. *Duncan*, 744 S.W.2d at 540.

perform that specific role in accordance with the professional standard of care.

IV. SHARED AND DELEGATED DESIGNS—THE NEW DESIGN-BUILD WORLD

A. Evolution of Specialty Design-Build

As the shop drawing discussion demonstrates, specialty subcontractors, manufacturers, and suppliers have long provided some of the detailed design peculiar to their trades or products even when a project architect or project engineer nominally furnishes the complete design for the project. There are also other common examples of divided design responsibility in a design-bid-build project. For example, material and equipment manufacturers and suppliers often design major components called for in the project plans and specifications.²²⁵ Although these instances of shared design responsibility are significant, they do not involve the wholesale reallocation of design responsibility for a project component from the owner's design team to the construction team. Specialty design-build purports to do exactly that.

Current industry literature, as well as changes to common industry contract forms, reflect the distinct shift in the industry to a greater division of design responsibility among several participants in the construction process.²²⁶ What accounts for this trend? Developments affecting design and construction contracting practices often evolve in response to technical developments in the industry and the omnipresent demand for greater control over project costs and schedules. These considerations encouraged the well-documented movement toward the design-build and construction management project delivery systems.²²⁷ They also explain the increasing use of specialty design-build.

One industry commentator has noted that the traditional design-bid-build system, while conservative in its approach toward de-

225. See, e.g., *Trus Joist Corp. v. Safeco Ins. Co.*, 735 P.2d 125 (Ariz. Ct. App. 1986) (finding non-engineer employees of steel truss manufacturer designed trusses under a contract with the prime contractor, and consulting engineer retained by manufacturer negligently approved the manufacturer's defective design).

226. Friedlander, *Liability*, *supra* note 8 (noting that a specialty subcontractor, rather than the project architect or the architect's engineering consultant, often provides the construction drawings for the entire heating, ventilating, and air conditioning system for a project and that the steel fabricator, rather than the structural engineer for the project, may design the structural steel connections); see also Iris D. Tommelein & Glenn Ballard, *Coordinating Specialists*, J. CONSTRUCTION ENGINEERING & MGMT, April 1998, at 1 (noting that a subcontractor's first involvement with a project may be completion of specialty design).

227. See SWEET, *supra* note 6, §§ 17.04(D)-(F); Milton F. Lunch, *Liability Concerns Reshaping Legal Environment*, BUILDING DESIGN & CONSTRUCTION, Oct. 1990; Meyers & Albers, *supra* note 13, at 7.

sign, is flawed in part because it “relies on the premise that the most advanced construction technology and knowledge of the most practical construction methods lie with architects and engineers. In fact, today, that knowledge lies more with specialty contractors and building product manufacturers.”²²⁸ Another commentator has observed that the owner’s design professional “does not hold a monopoly on all design knowledge necessary to complete a successful, modern construction project, and it is often prudent for him or her to rely upon the expertise of an experienced contractor or supplier to design certain components of the required work.”²²⁹ For the sake of efficiency, the process of allocating greater design responsibility to specialty trades is now commonplace for some trades, and the practice is gaining prevalence in others.²³⁰

Another telling indication of the increased industry attention to specialty design–build emerged in the 1997 edition of the American Institute of Architects’ bellwether General Conditions.²³¹ The AIA General Conditions apply expressly to projects using the traditional design–bid–build project delivery system in which the contractor builds in accordance with a design furnished by the owner’s project architect. As noted in section III.G, for many years, the AIA General Conditions have addressed the subject of shop drawings. The 1997 version of the AIA General Conditions, however, is far more explicit in dealing with the trend toward allocation of design responsibility to specialty trades.²³² One construction industry source describes the AIA’s approach to the division of design responsibility in the 1997 edition of the AIA General Conditions as controversial, even while conceding that it arguably reflects established practices in the industry.²³³

The few reported cases that involve specialty design–build highlight some important legal implications of the practice. Chief among these are the complex legal relationships that often result and the potential that specialty design–build has to embroil multiple parties in design liability disputes.

A case involving serious injury to a construction worker illustrates the potential for multiple and competing assertions of blame whenever design responsibility is divided among two or more participants

228. Hinchey, *supra* note 9, at 46.

229. Nancy R. Potter, *Design Delegation Provisions of AIA Document A201, 1997 Edition*, CONSTRUCTION LAW, July 1998, at 27.

230. Friedlander, *Legal Concerns*, *supra* note 8.

231. See *supra* note 194 and accompanying text.

232. See Potter, *supra* note 229. The text accompanying *infra* notes 256–57 discusses the relevant clause in the AIA General Conditions.

233. Milton F. Lunch, *Revised A201 Leaves Many Design Delegation Issues Unclear*, BUILDING DESIGN & CONSTRUCTION, Dec. 1997, at 29.

in the design and construction process.²³⁴ The project design called for precast concrete panel connections to be welded onto the outside of a building. A construction worker fell from a ladder while preparing to perform the task. The injured worker's wife sued a long list of defendants who played overlapping roles relating to the design and installation of the precast panels. The court's analysis of the negligence claims²³⁵ against the distinct defendants provides an instructive catalogue of potential theories inherent in the specialty design-build process.

The plaintiff claimed that both the owner's project architect and the engineer retained by the architect failed to adhere to the professional standard of care in supervising, coordinating, and inspecting the work.²³⁶ The court affirmed summary judgments in favor of the architect and the engineer because the "contract documents uniformly and clearly limit [the architect's] responsibility to design and determination as to design conformance, and do not extend to worker safety."²³⁷

With that important distinction in mind, the court's reversal of summary judgment for the prime contractor is not surprising. Under the contract documents, the prime contractor was responsible "to initiate, maintain and supervise safety precautions and programs; take reasonable precautions for the safety of workers and to provide all reasonable protection to prevent damage, injury and loss to employees on the work . . . and to erect and maintain . . . all reasonable safeguards for safety."²³⁸ The court held that the record supported the negligence claim against the prime contractor on the grounds, among others, that there was a genuine issue of material fact as to whether the prime contractor failed to provide a safe working environment by failing to require the precast subcontractor to submit a required erection procedure.²³⁹ Although erection procedures directly involve a prime contractor's customary responsibility for construction means, methods, and procedures, the specification of an erection procedure is also arguably an engineering service. Thus, one can read the court's opinion as recognizing that, although the owner's contract with the prime contractor was not a design-build contract in the normal sense, the prime contractor had some responsibility for those design functions included in the scope of the design-build subcontract between the prime contractor and the precast subcontractor. This conclusion is consistent

234. *Block v. Lohan Assoc., Inc.* 645 N.E.2d 207 (Ill. App. Ct. 1993).

235. The plaintiff also sued certain defendants under an Illinois statute, but those claims are beyond the scope of this Article.

236. *Block*, 645 N.E.2d at 222-24.

237. *Id.* at 222.

238. *Id.* at 214.

239. *Id.*

with concept that a subcontractor's scope of work must logically be a subset of the prime contractor's.

The court also held that the plaintiff raised genuine issues of material fact as to the negligence of the precast subcontractor, which had direct contractual responsibility for the design, fabrication, and erection of the precast concrete. The plaintiff's experts testified that because an erection plan was required, the precast subcontractor was responsible for either preparing the plan or seeing to its preparation. The record before the court supported an inference that the appropriate process for devising an erection plan required coordinated participation by at least two key participants.

The experts agreed that the plan of erection chosen at the job site was unsafe but that a plan of erection should be the product of discussions between the precaster and the erector, with the precaster usually devising the plan since it is in the best position to interpret the architect's specifications.²⁴⁰

That evidence underscores the unique interdependence of roles that often characterizes specialty design-build. In the first place, the expert opinions provided direct evidence that the erection plan could only result from the cooperation of at least two specialty trades. Additionally, as evidenced by the court's holding with regard to the prime contractor, in this instance the prime contractor also had indirect, but critical, responsibility for the erection plan.

The testimony regarding the process for developing the erection plan also highlights another basis upon which the project architect could have been subject to liability. The experts noted that development of the erection plan required someone to interpret the architect's specifications. In an appropriate case involving a situation such as this, a plaintiff might adduce evidence to show that the project architect negligently provided unclear or otherwise insufficient plans. This is merely to note once again that specialty design-build, in moving comprehensive design responsibility away from the project A/E, does not necessarily relieve the project A/E from all potential liability relating to the specialty design.

Also instructive is the plaintiff's argument seeking reversal of summary judgment for the precast concrete subcontractor's engineering consultant who designed the precast panels. One can infer from the opinion that the plaintiff conceded that the consultant's contract expressly excluded any responsibility for participating in the erection plan or procedures. Instead, the plaintiff argued that because the engineering consultant had overall responsibility for the precast design, the consultant necessarily bore the responsibility "to determine the method of temporary bracing of the precast . . . because that determination requires an engineering judgment based upon the designer's knowledge of the forces that must be tolerated in erecting the precast.

240. *Id.* at 220.

Plaintiff argues that . . . bracing is fundamental to responsibility for the structural integrity of the precast panels."²⁴¹ The court rejected this argument solely on the basis that the consultant's contract did not require the consultant to participate in the construction in any way.²⁴²

The court added an emphatic statement that suggests the questionable conclusion that circumstances can never impose a duty on a design professional that goes beyond the scope of services specified in the professional services contract. "The limited responsibilities of [the consultant] cannot be enlarged by the avalanche of expert testimony on collateral issues to impose a duty upon [the consultant]."²⁴³ This conclusion may be too broad. The court neither rejected nor accepted the plaintiff's position that the determination regarding temporary bracing required an engineering judgment. The opinion does not disclose whether those who made the determination in this case were qualified, licensed engineers. Arguably, if the determination required professional engineering services, then some professional involved in issuance of the relevant design documents, whether the precast engineer or the project architect, should have required an appropriate submission to be prepared, signed, and sealed by a qualified design professional.²⁴⁴

A case involving the highly specialized expertise required for a planetarium project illustrates the potential risks that shared design practices hold for a project A/E.²⁴⁵ The Cleveland City School District hired an architectural and engineering firm (URS) to design a school that included a planetarium. Because of the unique nature of planetarium dome design, URS disclaimed the ability to provide the dome design, but it was involved extensively in selecting Dow Chemical Company to design and build the dome, and URS also helped obtain building department approval for the dome design.²⁴⁶ Following the initial design process, URS served as project manager for the entire project but Dow operated under a subcontract with the prime contractor for the project. The school district sued both Dow and URS for defects in the dome. Although the primary issues on appeal involved only whether URS's cross-claims against Dow were barred by the ap-

241. *Id.* at 221.

242. *Id.*

243. *Id.*

244. The court also reversed the trial court's grant of summary judgment in favor of the company that provided and operated the crane hoisting equipment involved in the accident. That ruling, however, involved only allegations of negligent construction activity and not anything relating to design or other professional services. *Id.* at 221-22.

245. *Bd. of Educ. v. URS Co.*, No. 64496, 1994 WL 520862 (Ohio Ct. App. Sept. 22, 1994), *aff'd in part and rev'd in part*, 648 N.E.2d 811 (Ohio 1995).

246. *Id.* at *1-2.

plicable statutes of limitation or repose, the underlying claims of the school district illustrate that any significant involvement by a project A/E in the specialty design process may expose the project A/E to liability.

A case arising out of defects in a refrigeration system for an underground cold storage facility applied fundamental design liability principles to design defect claims against multiple parties involved in specialty design.²⁴⁷ The owner sued several parties when the overhead support for the refrigeration system failed. The defendants included the prime contractor responsible for the overall project to convert an underground area into a cold storage facility, the refrigeration subcontractor hired by the prime contractor to design and install the refrigeration system, and the company that the refrigeration subcontractor in turn hired to install the system. The court of appeals affirmed a directed verdict for the prime contractor because the evidence failed to establish that the prime contractor "ever undertook to design, manufacture or supply" the defective support brackets.²⁴⁸ This court, however, reversed directed verdicts in favor of the refrigeration system subcontractor and the installation firm on the basis of substantial evidence that each had contractual responsibility for both the design and the construction of the refrigeration system.²⁴⁹ The court acknowledged that the contract between the refrigeration company and the installer did not specifically provide for the installation firm to design, manufacture, and install the brackets, but the court concluded that the evidence on the record was sufficient to allow the jury to conclude that both firms in fact participated in these functions. The court held that the plaintiff was entitled to have its case against these defendants go to the jury on a product liability theory,²⁵⁰ as well as on a negligent design theory.²⁵¹

Although specialty design-build practices have yet to produce many reported decisions, these cases show that any shared design process may blur conventional liability boundaries. Even in the relatively rare instance in which the circumstances or the contracts clearly delineate the distinct responsibilities relating to the specialty work, it may be difficult to categorize each step in the process as exclusively

247. *Commercial Distrib. Ctr., Inc. v. St. Regis Paper Co.*, 689 S.W.2d 664 (Mo. Ct. App. 1985).

248. *Id.* at 667.

249. *Id.* at 667-68.

250. *Id.* at 669-71.

251. *Id.* at 670-71. The court held that under Missouri law, the absence of privity between the plaintiff and the defendants did not bar recovery based on negligence because, under the evidence, the jury could find that the failure of the brackets due to the negligent design was foreseeable to the defendants. *Id.*

within one scope or the other.²⁵² Often, the project A/E, the prime contractor, and the specialty designer (and perhaps others) will have overlapping responsibility for interdependent aspects of the process by which the specialty design is developed, approved, coordinated, and integrated into the project. All of these factors will tend to distribute to several participants some risk of liability associated with specialty design.

B. Industry Perspectives on Specialty Design

Within the construction industry, the increasing use of specialty design-build has raised some controversy. An editorial in an engineering periodical addresses the propriety of shifting design responsibility from the owner's design team to the prime contractor and its subcontractors.

Design firms in control of projects obviously should not be allowed to force contractors and other non-design firms to assume responsibility for design work that is not properly their own or to curtail professional liability exposure. But those firms should be able to voluntarily perform design work collateral to their construction or supply activities under the careful supervision of licensed professionals. The objective is to keep design details from falling through the cracks in the construction process and causing unsafe conditions. That should not keep qualified firms from participating in design activities.²⁵³

In a New York case, a trade association for contractors challenged the legitimacy of a licensing regulation that expressly permitted a project A/E to arrange for specialty design to be provided through a prime contractor and its subcontractors.²⁵⁴ The case reveals a bitter split within some factions of the construction industry on the merits of specialty design-build. The court quoted the argument from the contractors association's brief that the regulation permitting a practice akin to specialty design-build improperly authorized design professionals to "utilize contractors and subcontractors, often against their wishes, as integral participants in the performance of professional design work that they are neither licensed nor qualified to perform."²⁵⁵

At the opposite extreme from the position taken by the New York contractors association is subparagraph 3.12.10 of the AIA General Conditions, which endorses the specialty design-build process. This

252. Cf. *Hickman v. Cracker Barrel Old Country Store, Inc.*, No. 99-1959, 2000 WL 635426 (E.D. La. May 17, 2000) (involving a painting contractor who unsuccessfully argued that a decision whether or not to add abrasive material to curb paint was a matter of design specifications for which the contractor was not responsible).

253. *Editorial*, ENGINEERING NEWS-REC., Sept. 30, 1991, at 110.

254. *Gen. Bldg. Contractors of N.Y. State, Inc. v. N.Y. State Educ. Dep't*, 670 N.Y.S.2d 697 (N.Y. Sup. Ct. 1997).

255. *Id.* at 698 (citation omitted). For a further discussion of the regulation, see text accompanying *infra* notes 287-300.

provision was introduced as a new concept in the 1997 edition of that influential industry form, and it constitutes an unmistakable harbinger of the importance of specialty design-build in the current industry environment. This provision (the "AIA Allocation Clause") establishes a procedure by which the owner and its project architect can require the prime contractor to provide professional design services "for a portion of the work."

If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Subparagraph 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.²⁵⁶

The AIA Allocation Clause is not a restatement of the long-standing shop drawing practice, nor is it limited to design services that are incidental to construction activities. It endorses the practically unlimited division of design responsibility between the design team and the construction team, provided that the contractor's design responsibility only encompasses a portion of the work.

The AIA Allocation Clause includes several important components that warrant careful attention. First, note that the clause assigns to the owner and the project architect the responsibility to "specify all performance and design criteria that such services must satisfy." Except in a situation in which the owner itself has design expertise, this must contemplate that the project architect will establish and communicate to the prime contractor whatever performance and design criteria apply to the specialty design services. As a result, the project architect will have a duty to provide that information consistent with the professional standard of care that applies to all other design ser-

256. AIA GENERAL CONDITIONS, *supra* note 194, ¶ 3.12.10. Although this provision mainly concerns design services required of the prime contractor, it also governs design certifications the contractor must provide. When the contract documents include performance specifications, it is common to require certifications by design professionals relating to certain systems, materials, or equipment.

vices provided by the project architect. One can anticipate that some disputes will periodically arise with reference to the sufficiency, correctness, or clarity of the performance and design criteria provided by the project architect. Indeed, disputes may well arise over the meaning of the undefined but seemingly broad concept of "performance and design criteria."

Note further that the AIA Allocation Clause requires the contractor to arrange for all design services through a duly licensed professional, who must sign and seal all design documentation involved. Although situations may arise in which the prime contractor's own personnel directly perform these services, in many cases the prime contractor will merely serve as an intermediary to arrange for the specialty design by a subcontractor or supplier to the prime contractor. Even though under those circumstances the prime contractor, and perhaps one or more specialty subcontractors, will do little more than accommodate the design process, the AIA Allocation Clause will result in the specialty design services being within the prime contractor's and relevant subcontractor's contractual responsibility. Among other things, that will raise the prospect that the prime contractor and any subcontractor involved may have warranty liability for the design services they secure from design consultants.²⁵⁷

Note also that the AIA Allocation Clause provides that the owner and the architect may rely on the design services furnished through the general contractor and its subcontractors, provided that the owner and its architect specify "all performance and design criteria that such services must satisfy." While these provisions may prove adequate for many situations in which the owner and its project architect elect specialty design-build for selected aspects of the project, they will no doubt produce controversies in other situations. At a minimum, the project architect will be subject to the accusation that the performance and design criteria furnished are not adequate or otherwise reflect a failure to conform to the requisite standard of care. Additionally, the project architect must still review or approve the contractor's submittals but (consistent with the AIA provisions relating to shop drawings discussed in section III.G) "only for the limited purpose of checking for conformance with information given and the design concept expressed" in the contract documents prepared by the architect. This provision should be fertile ground for disputes and finger pointing.

The AIA Allocation Clause reflects the emerging industry view that design responsibility for a traditional design-bid-build project may be divided among the owner's project design team on the one hand and any number of specialty trades on the other. This Article

257. This is an anomalous circumstance because the consultant will probably be liable only to the extent of any professional malpractice. See *infra* notes 319-20 and accompanying text.

accepts without question the proposition that such a division of design responsibility often will achieve efficiencies that both enhance the quality of the overall project design and reduce the project cost and completion time. Under sanctity of contract principles, the owner and the project A/E normally should be free to determine how best to allocate design responsibility. What this Article questions is how contract and tort principles should apply when the parties choose specialty design-build.

C. A Legal Perspective on Shared Design—Delegating Duties and Allocating Risks

Although industry commentators may speak of delegation when discussing specialty design-build in general, and the AIA Allocation Clause in particular,²⁵⁸ in a legal sense the industry in fact is more concerned with allocating responsibility and risk than delegating duties. The project A/E can delegate design duties to others only if the project A/E's contractual duties include the delegated tasks. This is an important distinction under contract and tort theories.²⁵⁹

The project A/E is contractually liable for performance of delegated tasks, although not necessarily liable in tort for errors and omissions in those tasks.²⁶⁰ That is, a project A/E should be liable for breach of contract (as distinguished from professional negligence) if a specialty designer fails to furnish delegated services as required. For example, if an architect's contract establishes design standards for the specialty work that the architect delegates to others²⁶¹ and the specialty designer fails to meet those standards, the architect may be liable to the owner as a matter of contract.²⁶² If, by contrast, the architect's contract excludes the specialty design and contemplates that the prime contractor will retain the specialty designer, the architect should have no contractual liability for performing the excluded services. Even in the latter case, however, the architect may be contractually obligated to provide design criteria for the specialty task or to review the specialty design. If so, the architect will have a tort duty of professional care based on the architect's distinct role concerning the specialty design.

258. See, e.g., SWEET, *supra* note 6, § 12.08(C); LUNCH, *supra* note 233; POTTER, *supra* note 229.

259. See *supra* section III.E.

260. See *Commercial Distrib. Ctr., Inc. v. St. Regis Paper Co.*, 689 S.W.2d 664, 667-68 (Mo. Ct. App. 1985).

261. See, e.g., *Follansbee Bros. Co. v. Garrett-Cromwell Eng'g Co.*, 48 Pa. Super 183 (1911) (involving a contract that specified that commercial furnaces would be designed similarly to furnaces constructed for an earlier project).

262. See *generally* 5 BRUNER & O'CONNOR, *supra* note 2, § 17:71.

To take a simple example, a project architect's contract for design of a warehouse may include only the building design and may leave specification and procurement of material handling equipment to the prime contractor. If an equipment design defect causes an injury, the architect should have no liability because the architect undertook no duty relating to the equipment. In a construction project involving multiple design parties working on interrelated project components, the analysis will seldom be so simple.

In part, the AIA Allocation Clause places specialty design-build into the proper conceptual context by defining distinct contractual duties for the architect, on the one hand, and the prime contractor and its subcontractors, on the other. The architect is responsible to define criteria for the specialty design and to incorporate the design into the overall project design, while the construction team provides the specialty design itself. Where the AIA Allocation Clause falls short is in its failure to recognize the many complications that such an arrangement may involve. The AIA Allocation Clause is a suitable beginning for structuring the complex relationships created by specialty design-build, but it is not sufficient for that purpose.

D. Legislative and Regulatory Controls Affecting Specialty Design-Build

Design professional licensing regimes in each state create the general framework for regulating architects and engineers.²⁶³ These statutes and regulations reflect the public interest in building safety. They generally prohibit the practice of architecture, engineering, and other design professions except by a person who has the appropriate academic credentials and state license. They also regulate the design professions to protect the public from unethical practices and other professional misconduct.

On public policy grounds, one might argue that a single architect or engineer "of record" for a project should be responsible for project safety.²⁶⁴ From such a perspective, a state legislature or administrative body might aggressively regulate any practices that either sprinkle design responsibility among independent design professionals or that create the risk that unlicensed personnel might design any significant components of a project. In general, the widely divergent state

263. See STATE-BY-STATE GUIDE TO ARCHITECT, ENGINEER, AND CONTRACTOR LICENSING (Stephen G. Walker et al. eds., 1999); A STATE-BY STATE GUIDE TO CONSTRUCTION AND DESIGN LAW: CURRENT STATUTES AND PRACTICES (Carl J. Circo & Christopher H. Little eds., 1998).

264. Cf. Stipanowich, *supra* note 6 (arguing for greater codification and uniformity in construction law generally, including the possible adoption of a uniform construction law code); Turner, *supra* note 160 (arguing, among other things, for consumer protection regulation over residential construction).

licensing and regulatory schemes have not taken such a sweeping approach.

Because specialty design-build has only begun to attract attention, it is not surprising that only a relatively small number of jurisdictions appear to regulate the practice in any significant or direct manner. The concluding section of this Part considers legislative and regulatory provisions in four states that have either a direct or indirect effect on specialty design-build.²⁶⁵ These jurisdictions represent four distinct regulatory perspectives. In the first two jurisdictions, Massachusetts and Missouri, the impact is indirect, and it is largely an inadvertent side effect of each state's general licensing regime. Regulatory agencies in the other two states, Florida and New York, have adopted regulations that more directly govern specialty design-build, perhaps recognizing that the practice creates significant policy concerns.

1. *Indirect Authority for Specialty Design-Build—Massachusetts and Missouri*

a. *Massachusetts*

Massachusetts tacitly allows unregulated specialty design-build practices. As is true for most states, Massachusetts prohibits the practice of architecture and engineering by those not holding the appropriate license issued by the state.²⁶⁶ The Massachusetts legislation, however, allows unlicensed persons to perform certain architectural and engineering services. No engineering license is required in connection with "the preparation of plans, specifications or shop drawings by any person, firm or partnership, corporation or association practicing any such trade, for work to be installed or being installed by the same person, firm, partnership, corporation or association preparing such plans, specifications or shop drawings."²⁶⁷

At a minimum, this exception permits unlicensed specialty trades to furnish design details typical of the shop drawing process. What is more significant is that this exemption also seems to permit a trade subcontractor, even one that employs no licensed engineers, to furnish

265. Although this Article makes no attempt to catalogue statutes and regulations in other states that have a potential impact on specialty design-build, it is certain that many states recognize licensing exemptions and include other licensing provisions that bear indirectly on specialty design-build, but it does not appear that many have adopted provisions as germane to the topic as are the Florida and New York regulations discussed here. See generally STATE-BY-STATE GUIDE TO ARCHITECT, ENGINEER, AND CONTRACTOR LICENSING, *supra* note 263.

266. MASS. GEN. LAWS ch. 112, §§ 60(A)–60(M) (2003) (architecture); *id.* §§ 81(D)–81(R) (engineering).

267. *Id.* § 81(R)(a). A similar exception exists with respect to architectural services. *Id.* § 60(L)(3).

the entire design for those components of the project that the trade contractor will install. Presumably, the statutory exemption authorizes unlicensed personnel to design significant aspects of a project. For example, if the owner and the project A/E decide to leave substantially all of the mechanical design to the mechanical subcontractor, then Massachusetts law seems to allow all of the mechanical engineering work to be performed by employees of the subcontractor even if none of those employees hold engineering degrees or licenses.²⁶⁸

b. Missouri

A Missouri statute also indirectly authorizes the specialty design-build process. Missouri law requires that every architect, professional engineer, and professional land surveyor affix his or her seal to all final plans and other design documents prepared by him or her, or under his or her immediate personal supervision.²⁶⁹ The architect or engineer is “personally responsible for the contents of all such documents sealed by such licensee.”²⁷⁰ This statute, however, does not require that a project A/E accept project-wide design responsibility merely because he or she is the primary or sole design professional acting for the owner. The statute allows the project architect or engineer to circumscribe his or her design responsibility by the simple expedient of adding an exculpatory legend to his or her plans “disclaiming any responsibility for all other plans, specifications, estimates, reports, or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.”²⁷¹

The Missouri statute seems to permit a project A/E to disclaim completely professional responsibility for designated components of the project. This result comports well with specialty design-build practices in which the project A/E’s scope of services expressly excludes the design of certain aspects of the project left to trade subcontractors. Especially when construction documents are included in a bid package or a comprehensive project manual, the Missouri statute provides a simple procedure by which a design professional can unequivocally disclaim professional responsibility for design documents prepared by others that may relate to the design professional’s services and duties. While this statute is not directed at specialty de-

268. See Jo-Ann M. Marzullo, *Design Delegation and Various Design-Build Hybrids Now Used for Construction Projects* (Apr. 26, 2001) (unpublished paper presented at the American Bar Association Section of Real Property, Probate and Trust Law 2001 Annual Spring Symposia, on file with the NEBRASKA LAW REVIEW).

269. MO. REV. STAT. § 327.411.1 (2001).

270. *Id.*

271. *Id.* § 327.411.3.

sign-build, it should provide significant protection to a project A/E whose scope of services excludes a specialty design.

The statute does not state whether the effect of the disclaimer is to relieve the design professional from all liability associated with the design documents disclaimed. Presumably, the courts will still look to the terms of the relevant design contracts to determine whether and to what extent a design professional has contractually undertaken some duty relating to design services covered by a disclaimer. For example, a project A/E who disclaims responsibility for specialty design documents may still have liability arising under a contractual duty to review the disclaimed design documents for conformance with the performance and design criteria furnished by the project A/E.²⁷²

The Massachusetts and Missouri statutes reflect the mostly uncontroversial proposition that a private contract may define a design professional's responsibility for a project. The Massachusetts statute not only allows the owner and the project A/E to assign certain design functions to specialty trades, but it even permits a limited category of unlicensed persons to perform specialty design services. The Missouri statute merely requires that if a design professional wishes to avoid liability for certain design activities he or she must make a formal record for that purpose.

2. *Direct Authority for Delegating Design Responsibility— Florida and New York*

At least two states have adopted regulations more immediately pertinent to specialty design-build practices. In one case (New York), the regulation reacts directly to industry attitudes and concerns attributable to the rising popularity of design by specialty trades.

a. *Florida*

Although Florida has not targeted specialty design-build specifically, it has adopted a broad regulatory framework that governs professional responsibility in situations in which multiple engineers share related design functions.²⁷³ These regulations contemplate distinct roles for the owner's "prime professional" and for engineers "of record" and any "delegated engineer." The prime professional is the engineer "who is engaged by the client to provide any planning, design, coordination, arrangement and permitting for the project and for construction observations in connection with any engineering project, service or creative work."²⁷⁴ An engineer of record is the engineer "who is in responsible charge for the preparation, signing, dating,

272. See AIA GENERAL CONDITIONS, *supra* note 194, §§ 3.12.10, 4.2.7.

273. FLA. ADMIN. CODE ANN. r. 61G15-30 to r. 61G15-34 (2003).

274. *Id.* r. 61G15-30.002(2).

sealing and issuing of any engineering document(s) for any engineering service or creative work.”²⁷⁵ A delegated engineer is an engineer “who undertakes a specialty service and provides services or creative work (delegated engineering document) regarding a portion of the engineering project.”²⁷⁶ A delegated engineer, in turn, “is the engineer of record for that portion of the engineering project.”²⁷⁷ Specific standards establish the delegated engineer’s responsibility for the delegated services.²⁷⁸

The Florida regulations implicitly recognize that the owner’s project engineer (called the prime professional engineer) may or may not have direct, primary responsibility as the engineer of record for particular engineering documents.²⁷⁹ The regulations impose limited responsibility on a prime professional engineer who is not the engineer of record for specific engineering documents. “It is the responsibility of the prime professional engineer to retain and coordinate the services of such other professionals as needed to complete the services contracted for the project.”²⁸⁰ In connection with recognized categories of engineering, such as structural engineering, mechanical engineering, and electrical engineering, the regulations include specific rules governing the responsibilities of both the engineer of record and any delegated engineer.²⁸¹ In this manner, the Florida regulations both permit and regulate the division of engineering functions among several engineers.

The Florida regulations reflect an assumption, presumably based on public policy considerations,²⁸² that an engineer of record (but not necessarily the owner’s prime professional engineer) should ordinarily retain significant professional responsibility for a particular category of engineering (such as the structural engineering) even when the contract documents provide that another engineer will have primary responsibility for a specialty aspect of that category. It is not clear,

275. *Id.* r. 61G15-30.002(1).

276. *Id.* r. 61G15-30.002(3).

277. *Id.*

278. *Id.* r. 61G15-30.006.

279. *Id.* r. 61G15-30.002(2) (prime professional engineer *may* be an engineer of record for the project).

280. *Id.* r. 61G15-30.007.

281. *See, e.g., id.* r. 61G15-31.001 (general responsibility of engineer of record for a structure); *id.* r. 61G15-31.007 (design of pre-engineered structures); *id.* r. 61G15-31.008 (design of foundations); *id.* r. 61G15-31.009 (design of structural steel systems); *id.* r. 61G15-32.001 (general responsibility rules for fire protection engineering); *id.* r. 61G15-33.001 (general responsibility rules for electrical systems); *id.* r. 61G15-34.001 (general responsibility rules for mechanical systems).

282. The general purpose of the department’s responsibility rules common to all engineers is “to safeguard the life, health, property and welfare of the public by promoting proper conduct in the practice of engineering and due care and regard for acceptable engineering principles and standards.” *Id.* r. 61G15-30.001.

however, that the regulations necessarily mandate that result if the participants decide, for sound reasons, to allocate design responsibility in some other way that does not place a single engineer of record in charge of all aspects of the engineering documents for the engineering category in question.²⁸³

A key section of the regulations establishes standards that govern whenever an engineer of record delegates design responsibility to a specialty engineer.²⁸⁴

Request for and Review of Delegated Engineering Documents.

(1) An engineer of record who delegates a portion of his responsibility to a delegated engineer is obligated to communicate in writing his engineering requirements to the delegated engineer.

(2) An engineer of record who delegates a portion of his design responsibility to a delegated engineer shall require submission of delegated engineering documents prepared by the delegated engineer and shall review those documents for compliance with his written engineering requirements and to confirm the following:

(a) That the delegated engineering documents have been prepared by an engineer.

(b) That the delegated engineering documents of the delegated engineer conform with the intent of the engineer of record and meet the written criteria.

(c) That the effect of the delegated engineer's work on the overall project generally conforms with the intent of the engineer of record.

The Florida regulations broadly allow for a division of design responsibility, but they leave unanswered several important questions concerning the professional duties of engineers who share design responsibility. In the first place, it is not clear to what extent the regulations restrict the freedom of the participants to allocate design liability as they deem best by dividing a project into distinct engineering subprojects.²⁸⁵ Additionally, the regulations do not clarify what liabil-

283. *See id.* That regulation explains the purpose of the department's responsibility rules for engineers and states that the rules "are intended to apply as general guidelines where no contractual relationship exists between the parties addressed herein. These rules are not intended to take precedence of contractual relationships developed between the parties, so long as those contractual relationships do not violate Chapter 471, F.S., or any other rule promulgated pursuant thereto." *Id.*

284. *Id.* r. 61G15-30.005. This regulation is reminiscent of the AIA Allocation Clause discussed at *supra* text accompanying notes 256-57, because it requires that the engineer of record provide to the specialty designer the design intent and written design criteria and then review the specialty design. The regulation, however, differs from the AIA Allocation Clause in one important respect. The Florida regulation allocates responsibility between a specialty engineer and an engineer of record, but only to the extent that the specialty design is "a portion of" the engineer of record's responsibility. That is, the regulation is concerned only with true delegation. The AIA Allocation Clause is not concerned with delegation of contractual duties; rather, it allows the participants to divide design duties between the design team and the prime contractor's team. *See supra* text accompanying notes 256-57.

285. *See infra* note 316.

ity the engineer of record incurs by reason of having the responsibility to require and review the delegated engineering documents. Presumably, the engineer of record may be subject to penalties if the delegated engineering documents are not prepared by a qualified delegated engineer, or if the engineer of record fails to comply with one of the other requirements applicable to delegated design.²⁸⁶ Would such a violation also be a basis for liability to the project owner? Finally, it is not clear whether these regulations impose any non-delegable duties on either the owner's prime professional or an engineer of record for a specific category of engineering documentation.

b. New York

New York provides a fascinating example of a regulatory response targeted specifically at specialty design-build. The regulation takes the innocuous form of a technical rule designed to guard against unprofessional conduct by licensed architects and engineers. The New York Board of Regents licenses and regulates design professionals.²⁸⁷ Part of the regulatory scheme addresses unprofessional conduct.²⁸⁸ No current rule directly prohibits specialty design-build or design delegation or declares those practices unprofessional.²⁸⁹ Rather, the regulation declares that participation by a licensee in design delegation does not constitute unprofessional conduct under the following circumstances:

- (2) participation as a delegator, or delegatee in delegating or accepting delegation, through an intermediate entity not authorized to provide professional design services, of specifically defined work involving the performance of a design function requiring a professional license, under the following terms, conditions and limitations:
 - (i) such specifically defined design work shall be limited to project components ancillary to the main components of the project;
 - (ii) the delegator shall specify in writing to the delegatee all parameters which the design must satisfy;
 - (iii) the design function shall be required to be performed in accordance with performance specifications established by the delegator;

286. See FLA. ADMIN. CODE ANN. r. 61G15-30.005 (2004) (stating that engineers may avoid disciplinary actions by observing the responsibility rules, although a deviation or departure may be justified by specific circumstances and sound professional judgment).

287. N.Y. EDUC. LAW §§ 6506, 7205, 7303 (McKinney 2001).

288. N.Y. COMP. CODES R. & REGS. tit. 8, § 29.3 (2002).

289. As revealed by *Gen. Bldg. Contractors of New York State, Inc. v. New York State Educ. Dep't*, 670 N.Y.S.2d 697 (N.Y. Sup. Ct. 1997), prior to adoption of the regulation, an administrative interpretation of the then-applicable regulations took the position that delegation of design through an unlicensed intermediary constituted unprofessional conduct. See *infra* notes 293-300 and accompanying text.

- (iv) the delegatee shall be required to be licensed or otherwise legally authorized to perform the design work involved and shall be required to sign and certify any design prepared;
- (v) the delegator shall be required to review and approve the design submitted by the delegatee for conformance with the established specifications and parameters and such determination shall be in writing; and
- (vi) the delegator shall be required to determine that the design prepared by the delegatee conforms to the overall project design and can be integrated into such design and such determination shall be in writing.²⁹⁰

The definitions of the terms “intermediate entity”²⁹¹ and “delegatee”²⁹² make it plain that the Board of Regents adopted the regulation specifically with regard to a common specialty design-build practice by which the owner’s project A/E prepares plans that call for the prime contractor to arrange the specialty design through a trade subcontractor. In many respects, the New York regulation is similar to Florida’s regulation governing delegation by an engineer of record. Both require the delegating professional to specify design requirements for the specialty services and to insure that the specialty designer is properly licensed. Further, both require the delegating professional to review the specialty design for conformance with design parameters.

However, New York’s regulation adds two significant elements not found in the Florida regulation. First, only design work ancillary to the main components of the project may be delegated under the regulation. Second, the regulation specifically contemplates that the specialty work will be delegated through a contractor or subcontractor performing construction work. These additions show that the New York regulation has in mind specialty design-build as discussed in this Article.

The most intriguing insight into the background and purpose of the New York regulation arises out of a challenge to the rule by trade groups for general contractors and a specialty trade. In *General Building Contractors of New York State, Inc. v. New York State Educa-*

290. N.Y. COMP. CODES R. & REGS. tit. 8, § 29.3(b)(2) (2002).

291. See *id.* § 29.3(b)(3)(ii) (“Intermediate entity means a person or entity, typically a contractor or subcontractor, responsible for performing the work under the contract for construction.”).

292. See *id.* § 29.3(b)(3)(iii) (“Delegatee means a design professional, licensed and registered in accordance with articles 145, 147 or 148 of the Education Law, who is employed or retained by the intermediate entity to produce design work in compliance with the performance requirements and parameters specified by a delegator.”). Although the New York regulation uses language of delegation, it is not primarily concerned with situations involving true delegation of contractual duties. The regulation operates expressly on the process by which a project A/E allocates design responsibility to the contractor’s team rather than to the owner’s design team. Project A/Es may find that they can avoid the regulation by carefully defining the scope of their contractual duties to exclude certain specialty design services.

tion Department,²⁹³ the state contractors' and steel fabricators' associations in New York challenged the Board of Regents' design delegation rule. The New York State Society of Professional Engineers, on the other hand, filed an *amicus curiae* brief in support of the Board's delegation rule. The court's opinion explained that the challenged rule represented a change from prior administrative determinations that design delegation by an architect or engineer through an intermediate entity such as a contractor or subcontractor would constitute "unprofessional conduct."²⁹⁴

The contractors' and steel fabricators' associations argued that the amended rule authorized design professionals to "utilize contractors and subcontractors, often against their wishes, as integral participants in the performance of professional design work that they are neither licensed nor qualified to perform."²⁹⁵ The engineers' society argued to the contrary that the rule was justified, among other reasons, because it "accurately reflects the true nature of the design and construction environment."²⁹⁶

The opinion revealed that the issue of design delegation had been the subject of considerable debate before the Department for several years before the adoption of the new rule. In the years leading up to the rule change, the Department had initially taken the express position that delegation of design through contractors or subcontractors constituted unprofessional conduct because "it is the responsibility of the principal design firm to coordinate these efforts and be sure that the finished product meets all the design requirements, and functions properly and safely as an integrated system."²⁹⁷ The Board of Regents' original position on the issue engendered a significant debate in New York and attracted considerable attention in the industry. In part, that debate called into question the legitimacy of specialty design-build itself.²⁹⁸

The court upheld the Board of Regents' delegation rule, primarily based on established case law validating design-build contracting practices against public policy and safety attacks.²⁹⁹ The court concluded that a design professional retained through an unlicensed in-

293. 670 N.Y.S.2d 697 (N.Y. Sup. Ct. 1997).

294. *Id.* at 699-700.

295. *Id.* at 698 (quoting from the petitioners' reply memorandum of law).

296. *Id.*

297. *Id.* at 699 (quoting from a memorandum issued by the Deputy Commissioner for the Professions, State Education Department).

298. See Milton F. Lunch, *Delegation of Design Issue Rekindled*, BUILDING DESIGN & CONSTRUCTION, Jan. 1992, at 27; Milton F. Lunch, *Delegation of Design Remains a Contentious Issue*, BUILDING DESIGN & CONSTRUCTION, Nov. 1996, at 25; *Editorial, supra* note 253, at 110.

299. *Gen. Bldg. Contractors of N.Y. State, Inc.*, 670 N.Y.S.2d 697, 700-01 (citing *Charlebois v. J. M. Weller Assocs, Inc.*, 531 N.E.2d 1288 (N.Y. 1988)).

termediary as the delegatee of a principle design professional, just like a design professional engaged by a design-build contractor, has an obligation to act independently of unlicensed oversight in the exercise of professional judgment. It is interesting that the court found secondary, although not definitive, support for its conclusion in the fact that a major contractor's association had endorsed the 1997 General Conditions that include the AIA Allocation Clause.³⁰⁰

E. The New Design-Build World

The growing popularity and importance of specialty design-build is defining a new design-build world. This is not the now familiar design-build world of single point responsibility, but a world in which design-build practices dominate some critical aspects of a project even while the primary responsibility for design and construction remain divided along traditional lines between the project design team and the construction team. The concluding Part of this Article discusses how to bring legal order to this new design-build world.

V. A NEW PERSPECTIVE FOR THE NEW DESIGN-BUILD WORLD

A. Rethinking Responsibility for Specialty Design

From an industry perspective, specialty design-build is an efficient option that makes only subtle changes to the working relationships involved in a traditional design-bid-build project. The specialty design-build practice maintains the fundamental design principle of the traditional system, which is that the owner's design team provides project-wide design and coordinated project administration.³⁰¹ When viewed from a legal perspective, however, specialty design-build represents a revolutionary change because it fundamentally alters traditional legal relationships. If the parties choose specialty design-build without thoroughly reevaluating conventional contracting practices, unanticipated legal consequences may result. The effect may be exaggerated in many projects because the participants, without deliberating over legal distinctions, may use customary industry contract language.³⁰² Lawyers, courts, arbitrators, regulatory agencies, and legislatures may all need to adjust their perspectives to recognize the new reality of specialty design-build.

While some of the issues this new reality presents should primarily interest lawyers negotiating contracts on behalf of specific participants, others raise important policy considerations for legislatures,

300. *Id.* at 700.

301. See SWEET, *supra* note 6, § 17.03(A) (noting that the design function is separate and independent of the construction function).

302. Stipanowich, *supra* note 6, at 522-28.

courts, and regulatory agencies. It is these policy considerations that are of greatest interest for the purposes of this Article. This concluding Part discusses some of the issues having policy implications that are beginning to percolate through the layers of contractual relations affected by specialty design-build.

Although specialty design-build (and other shared design practices) may be employed in a wide variety of circumstances, for present purposes it will be helpful to consider the key policy issues in the context of a common pattern for commercial projects that use specialty design-build. In this pattern the owner retains a project architect who prepares plans that call for the prime contractor to arrange for the specialty design through a trade subcontractor who may have in-house design capabilities or who may in turn secure the specialty design from another (often an engineering consultant, but sometimes a manufacturer, fabricator, or supplier). This method, therefore, injects a design-build subcontract into the traditional design-bid-build project delivery system. The AIA Allocation Clause discussed at length earlier in this Article contemplates this form of specialty design-build.³⁰³

The defining attribute of the design-build subcontract approach is that the participants allocate the responsibility for an important design activity to a specialty designer who is part of the construction team rather than part of the owner's design team. Under this arrangement, the project follows the traditional design-bid-build system except for the design-build subcontract covering the specialty work. Because the owner's project architect retains overall dominion over the project design concept, the design documents prepared by the owner's project architect and its team of consultants include architectural drawings that provide the design concept for the entire project, including the specialty work. The bidding documents issued by the owner's design team, however, provide for the prime contractor to arrange for the final, detailed design for the discrete portion of the project that constitutes the specialty work. Under this structure, the project architect and its consultants will review the specialty design, but solely for the purpose of confirming that it is consistent with their design intent.

Facilitated by this construct, this Part draws on the principles reviewed in Parts III and IV to propose a new perspective on risk allocation for projects that use specialty design-build. The discussion focuses on selected issues that highlight why specialty design-build heralds a new design-build era for legislative, regulatory, and judicial purposes.

303. See *supra* section IV.B.

B. Licensing and Regulatory Concerns

1. *Adapting Existing Public Safety and Professional Conduct Regulations*

The public has a strong interest in assuring that a qualified and licensed design professional provides, and accepts responsibility for, the design of any specialty work that may affect worker or public safety. Existing building codes, licensing statutes, and regulations governing the design professions should serve as a first line of defense for these purposes. In many jurisdictions, existing laws and regulations may protect adequately against unprofessional conduct, such as might appear if a licensed design professional approves critical specialty design submittals for a project without reviewing them carefully.³⁰⁴ A typical licensing and regulatory scheme also requires that construction plans must be signed and sealed by an appropriately licensed design professional. The question is whether states should refine their existing licensing and professional conduct codes in light of contemporary specialty design practices.

At a minimum, policy considerations counsel state legislatures and licensing agencies to assure that qualified, licensed design professionals remain accountable for important specialty design decisions and documents throughout the process that produces the final, detailed design. Simple modifications to existing laws and regulations may prove adequate for this purpose. Properly crafted professional conduct regulations, for example, could prohibit the project architect from excluding a specialty design service from the architectural services contract if the effect of the exclusion would be to allow an unlicensed specialty trade to perform that design service. Moreover, if a project requires specialty design, then the project architect should have a duty under the regulatory regime to provide sufficient design criteria and other design information to direct the specialty firm to engage a properly licensed design professional for specialty design services.

Licensing and regulatory changes may also be necessary to clarify the boundaries between professional design activities and limited design functions that unlicensed trade personnel may properly perform. There may be situations in which a proposed division of design responsibility is itself unsound under professional standards. This might be so if the structural integrity of the project as a whole depends on the integrity of the specialty component and the process proposed by the owner's design team fails to provide for the appropriate coordination and integration of separate designs. At a more activist level, some legislatures or regulatory agencies may wish to consider whether reg-

304. This, in effect, is the nature of the professional misconduct that was at issue in *Duncan v. Missouri Board for Architects, Professional Engineers & Land Surveyors*, 744 S.W.2d 524 (Mo. Ct. App. 1988).

ulated design professionals, builders, and specialty trades should be under any obligation to disclose to owners the extent to which professional liability insurance covers project design services.

Building code administrators and licensing agencies may not be in a position to monitor requirements of this nature proactively, but they can impose appropriate procedures and safeguards through updated regulations that define unprofessional conduct. Doing so will not only encourage compliance by licensees, but it will also provide a sufficient basis for enforcement actions and the assessment of liability when design professionals fail to adhere to the specified standards and procedures.

Perhaps state legislatures and regulatory agencies should establish special protections for residential construction to guard against practices by which licensed design professionals shun responsibility for life and safety matters. Legislatures concerned about this risk should first determine whether specialty design practices for residential construction circumvent professional responsibilities to consumers. The implied warranty that most jurisdictions impose on residential builders and sellers of new construction³⁰⁵ may serve to protect consumers adequately. That may not be the case, however, when specialty design-build practices threaten a public interest in sound construction that goes beyond the interests of an individual home buyer. Perhaps consumer protection goals at least warrant legislation requiring licensed professionals to prepare or approve certain critical design documents for residential projects.

If special consumer protections are warranted, building codes may provide the most direct avenue for these protections because the codes and the building permit processes they regulate can function to require construction plans to be signed and sealed by properly licensed design professionals who assume responsibility for critical safety aspects of the project. Building codes and building permit processes, however, are local and may not provide the uniform protection that state legislatures may prefer. For that reason, states may choose to prescribe a role for an architect or engineer "of record" for the structural, electrical, or other aspects of residential projects that involve risk of personal injury or that otherwise threaten unsafe or inadequate construction.³⁰⁶ Special regulation of residential projects may not be feasible or likely, however, because these projects rarely involve novel or complex designs or unusual risks, and because industry

305. See generally 3 BRUNER & O'CONNOR, *supra* note 2, § 9:72.

306. For a discussion of special regulatory concerns and objectives appropriate to transactions involving residential construction, see Stipanowich, *supra* note 6, at 502-05; Turner, *supra* note 160.

groups will lobby state legislatures to avoid imposing costly regulations on residential construction.³⁰⁷

Even if additional, direct regulation of residential design practices are not warranted, legislatures might consider requiring residential builders to disclose whether or not all designers involved in the project have a minimum level of professional liability insurance and whether or not there is an insured, licensed professional of record who will accept responsibility for the entire design. While all of these special concerns relating to residential construction may be legitimate, they are unlikely to receive serious consideration in those states that exclude residential design even from the professional licensing laws.³⁰⁸

Legislatures may also consider imposing special protections for public projects to assure the use of sound design practices.³⁰⁹ In this regard, the primary question is whether public agencies, unaided by special legislative or regulatory mandates, can reliably determine for themselves the manner in which design responsibility may be divided among the project architect or project engineer (who will sometimes be a public official or an employee of the agency) and specialty designers.³¹⁰

2. *Direct Regulation of Specialty Design-Build*

One could argue for a regulatory approach that requires a single design professional serving as the licensed designer of record accept ultimate responsibility for all design aspects of the project or for predefined portions of the project. Aside from the New York and Florida regulations already mentioned,³¹¹ however, there seems to be little support for that approach in existing state licensing laws.³¹² A more sensible and workable approach might seek to regulate the divi-

307. Some state licensing schemes exclude residential construction, at least to some extent, from requirements that design services may only be performed by licensed design professionals. *See, e.g.*, CAL. BUS. & PROF. CODE § 6737.1 (West 2002); *Ga. State Bd. of Architects v. Arnold*, 292 S.E.2d 830 (Ga. 1982).

308. *See supra* notes 306–07.

309. For example, California imposes special restrictions on the division of design responsibilities for public school construction. *See, e.g.*, CAL. CODE REGS. tit. 21, § 16 (2004). *Cf. Roberts & Smith, supra* note 9.

310. *See* Ralph C. Nash & John Cibinic, *Delegation of Design Responsibility to Construction Contractors: What Are the Risks?*, NASH & CIBINIC REP., Nov. 1993, at 65 (criticizing the growing practice of shifting significant design responsibility to contractors in public construction projects).

311. *See supra* subsection IV.D.2.

312. *Cf. STATE-BY-STATE GUIDE TO ARCHITECT, ENGINEER, AND CONTRACTOR LICENSING, supra* note 263 (containing summaries of state engineering licensing requirements that generally reflect requirement that engineering services for individual engineering specialties, such as structural design, be undertaken only by those holding the appropriate professional licenses).

sion of design responsibility only to the extent required by considerations of safety or professionalism.

New regulations that merely restrict improper delegation of design functions will have little effect on specialty design-build practices.³¹³ If regulation governs only design delegation, then owners and design professionals who wish to divide design responsibility for a project between the owner's project A/E and one or more specialty trades will do so without delegating. They will simply redefine the scope of the project A/E's contractual responsibilities to exclude rather than to delegate the specialty design.

With that observation in mind, the New York regulatory reaction to specialty design-build seems misdirected, at least if read literally. It appears to focus exclusively on licensed design professionals who delegate their professional responsibilities.³¹⁴ As long as the project A/E and the project A/E's consultants have no contractual duty to design a particular component, any regulation similar to the New York delegation provision might be rendered impotent by the simple and logical device of imposing contractual responsibility for a specialty component in the first place solely on a specialty designer or specialty trade firm. While it is not always objectionable for the project A/E to exclude responsibility for a specialty design, the New York approach fails to address those situations in which the unregulated exclusion of the project A/E from the specialty design may threaten public safety or the integrity of the professional licensing requirements.

The Florida regulations, on the other hand, may represent a somewhat more valid approach because they recognize that the contract documents may properly allocate to distinct engineers of record responsibility for different categories of design, such as structural, mechanical, and electrical engineering, *provided that a qualified engineer of record takes responsibility for each discrete category of design*. The Florida regulations impose controls over a shared design scheme in the first instance by recognizing that strong public policy considerations dictate that all significant design services for a construction project should be furnished by, or come under the direct control and supervision of, a properly licensed design professional who accepts responsibility for that distinct component of the project design. At the same time, the regulations comport with industry trends by recogniz-

313. Of course, licensing and regulatory agencies may be aware of instances in which design professionals inappropriately delegate duties they have assumed, but those instances have no logical connection to specialty design-build practices, which do not necessarily involve a design professional delegating any of his or her duties to others.

314. To the extent the New York regulation merely attempts to prohibit unprofessional practices by which a design professional undertakes a design duty and then delegates that duty without exercising the requisite level of care, it is sound but not directly relevant to the concerns of this Article.

ing that it is not essential to require or assume that a single design professional must have responsibility for all aspects of the project design. The Florida regulations also seem implicitly to recognize an important corollary to these principles by anticipating that sound practices will normally dictate that a designated engineer of record should retain overall responsibility for certain predefined categories of engineering, such as the structural, mechanical, or electrical aspects of a project.³¹⁵

The Florida regulatory scheme, however, is incomplete. It does no more than to embody an implicit assumption that all engineering aspects of a project will probably fall within the scope of services provided by an appropriate engineer of record for a recognized category of engineer work. It does nothing to address some important threshold issues. For example, must engineering responsibilities for a project be divided solely among the pre-defined engineering categories recognized by the regulations, which include the structural, mechanical, and electrical engineering disciplines? Additionally, the regulations do not address the role that a project architect plays in the common situation in which the architect retains engineering consultants in each of those disciplines. Moreover, the Florida scheme, in a manner similar to the New York one, consistently focuses on the delegation of specific design functions and ignores shared design practices that do not involve delegation. Thus the Florida regulations provide, at best, ambiguous and incomplete guidance on the important question whether the owner's "prime professional engineer" and the "engineer of record" for each pre-defined engineering discipline remain free to exclude entirely from their scopes of services certain specialized, but nonetheless critical, design functions.³¹⁶

The Florida regulations evince a sound initial approach to the problem of specialty design-build, but they fail to address the problem comprehensively. In time, further experience with specialty design-build and other forms of shared design responsibility may demonstrate the need for more comprehensive regulation.

315. *But cf.* MASS. GEN. LAWS ch. 112, § 81R(a) (1996) (expressly permitting unlicensed design by specialty trades); *see also supra* subsection IV.D.1.

316. The definitions of these terms may imply the assumption that the owner will engage a project engineer who in turn will retain consulting engineers for specialty services. *See supra* text accompanying notes 273–84. According to *Florida Engineers Management Corp. v. Newton*, No. 02-2536PL, 2002 WL 31872627 (Fla. Div. Adm. Hrg. Dec. 20, 2002), an engineer of record does not violate the regulation by providing performance specifications directing that a specialty contractor, rather than the engineer, select and retain a specialty engineer who then submits the design to the engineer of record. Thus, the order approves a specialty design-build arrangement, but it does not suggest that the prime engineer may thereby avoid oversight responsibility for the specialty design.

C. Contract Remedies—Sanctity of Contract and Third-Party Beneficiary Analysis

1. *An Informed Approach to Contract Interpretation*

Major, sophisticated parties can negotiate contracts that serve their objectives and that facilitate commercially reasonable allocation of risk and responsibility. The same is not true for those who are less sophisticated or for those who have relatively little bargaining leverage. In practice, these participants often rely heavily on industry form contracts and on the good faith of their contractual counterparties. Given the highly competitive nature of the construction industry and the conflicting risk management interests of the parties, it is not surprising that contracting practices tend to preserve and strengthen the commercially fittest. Even for those who enjoy the benefits of experience, sophistication and bargaining position, new contracting patterns usually develop at an evolutionary pace.

The first problem, then, for a contract-based resolution is not that the marketplace will fail to produce comprehensive and workable contracting structures for specialty design-build practices. Rather, it is that the process will take considerable time, during which all participants will bear the risks of uncertainty and economic inefficiency. Participants in the construction industry will require time to absorb and refine the unique characteristics of specialty design-build through project by project trial and error. Owners, design professionals, prime contractors, trade subcontractors, and specialty designers will undoubtedly flounder in a mire of unanticipated consequences. Many contracting parties will merely hope that standard industry contracts will somehow prove adequate to deal with the unique risks of shared design responsibility. The second, and more pernicious, problem is that the eventual industry solutions will probably not allocate those risks in the most efficient or socially beneficial manner, but will unduly favor major industry players.

Consider the inadequacy of current contracting practices in the industry to address specialty design issues. Under a traditional design-bid-build system, the project owner has no contract with a design-build subcontractor or its design consultants. Moreover, under contemporary practices, an owner's contract with a project architect probably excludes design of the specialty work.³¹⁷ The owner's principal contract remedies must derive from the agreement with the prime

317. Failure of the project architect or its engineering consultant to perform relevant contract obligations might lead to a remedy arising out of the contract between the owner and the project architect, assuming proof of causation, but the owner would almost certainly resort primarily to a negligence theory rather than a contract one as the primary basis for any claims against members of the owner's design team. See *supra* section III.B.

contractor, who arranges for the specialty design and construction under a subcontract with the design-build subcontractor. If the owner-contractor agreement includes the customary warranty of the quality of all work encompassed by the agreement, the prime contractor may have broad contractual liability based on that warranty for any design defects or errors.³¹⁸

Notice the resulting anomaly that the customary arrangements may produce among the owner, the prime contractor, the design-build subcontractor, and the specialty designer. Assuming that the agreement between the design-build subcontractor and its specialty designer follows customs in the industry, the specialty designer bears the sole professional responsibility for the specialty design activity but does not warrant that its design will be free from defects.³¹⁹ The specialty designer is only liable for damages suffered by its direct client (the design-build subcontractor), and then only if the specialty design services fall short of the professional standard of care. By contrast, the prime contractor may have neither the expertise nor the ability to control the design, and may be serving primarily as a conduit through which the owner and the project architect allocate design responsibility for the specialty work. In some cases the subcontractor may be in the same situation. Yet the customary contract practices call for the prime contractor and each subcontractor to warrant that its entire scope of work will be free from defects.³²⁰ Moreover, if a court views the prime contractor and the subcontractor as design-builders for the specialty work, they may be liable under an implied warranty that the design is fit for the intended purpose.³²¹

The AIA Allocation Clause is but an initial industry attempt to address specialty design-build, and it misses the mark in many important respects. In the first place, as with many AIA contract provisions, the AIA Allocation Clause favors project architects and fails to address adequately the legitimate concerns of those who have the least input into the AIA drafting process, especially owners and

318. See, e.g., *Hercules Constr. Co. v. C. J. Moritz Co.*, 655 S.W.2d 779, 782 (Mo. Ct. App. 1983), *overruled on other grounds by Wyrozynski v. Nichols*, 752 S.W.2d 433, 437 (Mo. Ct. App. 1988) (procedural point only).

319. See *Surf Realty Corp. v. Standing*, 78 S.E.2d 901, 907 (Va. 1953).

320. A lawyer representing the prime contractor might negotiate terms that limit or disclaim design liability. The prime contractor is not serving in this situation as a design-build contractor, presumably has no expertise in the specialty design, and is not well positioned to control the design risks. The prime contractor is merely better positioned than any of the other participants to arrange for the specialty design because of its working relationship with the trades and its experience and administrative capability and contractual authority to coordinate the work and schedules of the different trades. One logical solution would be for the owner to negotiate for third-party beneficiary status under the contract for the specialty design services.

321. See *supra* notes 57-63 and accompanying text.

subcontractors. At a more substantive level, the AIA Allocation Clause, while perhaps adequate in the more innocuous (and perhaps most common) instances of specialty design-build, fails to anticipate and resolve the more difficult and important responsibility and liability problems. The earlier discussion of the AIA Allocation Clause noted several of the issues involved.³²² Chief among these are the vagaries of the provisions for the owner and the project architect to "specify all performance and design criteria" for the specialty design and for the architect to "review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contact Documents." One might question how often the parties' deference to these critical, vague phrases in a form document reflects a meaningful meeting of the minds.

As unique issues arise in specialty design-build cases, industry contract language will often prove inadequate. Frequently, this will be because the contracting parties did not, and probably could not, anticipate all issues at the time of contract. Under such circumstances, should courts, mediators, and arbitrators rely strictly on terms of the written contracts? Should they presume, even in the face of compelling indications to the contrary, that the written agreements fully express the parties' economic assumptions and collective understandings relevant to the complex liability issues that may result from particular situations? In many cases, courts will appropriately feel constrained by sanctity of contract presumptions. By contrast, mediators and arbitrators may more openly recognize and reflect in their deliberations the tentative and incomplete nature of standardized documents or sparse contract provisions concerning specialty design-build practices. Even courts should be alert to the possibility that the contracting parties may not clearly or completely define the interdependent relationships fostered by specialty design-build practices. This may be especially important when the owner is a consumer or if it is clear that any party was unsophisticated and had little alternative other than to rely on form documents or terms otherwise dictated by stronger parties whose motives may have been to deflect risk allocation issues rather than to resolve them.³²³

For example, at times it may be appropriate to interpret a contract involving specialty design-build with some appreciation for the inter-related roles of multiple participants who enter into distinct contracts

322. See *supra* text accompanying notes 256-57.

323. See *St. Paul Cos. v. Constr. Mgmt. Co.*, 96 F. Supp. 2d 1094, 1097 (D. Mont. 2000) (finding architects affiliated with residential builder responsible for errors in electrical wiring by trade contractor).

concerning related aspects of the project.³²⁴ This may mean that a mediator, arbitrator, or court should be open to the argument that a contract provision relating to shared design responsibilities is ambiguous or fails to state the complete understanding of the parties because it does not reflect the complex, multi-party interdependence of the specialty design process actually employed by the participants in the particular case.³²⁵ As a result, it may sometimes be appropriate to consider parole evidence to establish what the parties intended as the precise scope of a given participant's responsibility for specialty work. It may also be important to recognize that shared design, by its nature, involves more than one party in the specialty design process. Even with this open-minded approach to contract interpretation, legitimate contract-based solutions may often prove evasive, at least until the marketplace has had time to nurture industry refinements to contractual risk allocation practices.³²⁶

2. *The Third-Party Beneficiary Problem*

Those who suffer damages due to defective specialty design may seek third-party beneficiary remedies. Contracts that allocate the risks of shared design services ambiguously or incompletely may frequently invite, yet rarely support, those arguments. It is one thing to resolve contractual ambiguities or fill in contractual gaps by reference to the realities of the new design-build world, but it is a far more questionable matter to imply that a party to a construction or design

324. It may be appropriate to recognize one peculiar reality of the new design-build world when a prime contractor and specialty trade firm merely arrange for design services as an accommodation. Without relieving any party from the unambiguous terms of the controlling contracts, mediators, arbitrators, and courts could properly consider whether the parties intended that a customary warranty or indemnity provision would impose obligations on a party only with respect to construction work (materials and work quality) or to design services as well. If a prime contractor or a subcontractor has no direct design responsibility and no design capability, there may be other factors present to indicate an accommodation role only.

325. This rationale is consistent with the Uniform Commercial Code's version of the parole evidence rule, *see* U.C.C. § 2-202 (2003), however contracts for construction and design services generally are not governed by the Uniform Commercial Code. *Mid-State Elec., Inc. v. H.L. Libby Corp.*, 787 F. Supp. 494, 498-99 (W.D. Pa. 1992); *Palmer v. Espey Huston & Assocs.*, 84 S.W.3d 345, 355-56 (Tex. App. 2002). Even though section 2-202 of the Uniform Commercial Code may not be controlling, its rationale may be useful by analogy. *See generally* 1 BRUNER & O'CONNOR, *supra* note 2, § 3:12.

326. Especially in complex projects, the owner and its design team should consider entering into a project-wide design participation agreement with all major participants. The project design participation agreement could clarify matters of importance to many parties, such as to whom each signing participant owes specific duties, which parties must provide insurance for the protection of other participants, and any limits on liability, warranty, and indemnity obligations.

contract intended to benefit another. An owner or other participant who seeks the protection of a design services contract made by others should negotiate with those parties for that protection before, not after, the damage is done.

In many situations, the owner may present an appealing argument for implying a third-party beneficiary term into the contract between the design-build subcontractor and the specialty designer. After all, the design-build subcontractor contracts for the specialty services in order to complete the specialty work for the owner's ultimate benefit. The argument has appeal, especially in the common situation in which all parties openly acknowledge that the objective for the specialty design services is to satisfy design criteria established for the owner's benefit by the project architect. That objective will often be manifested both under the terms of the contract between the prime contractor and the design-build subcontractor and under the terms of the contract between the design-build subcontractor and the specialty designer.

In appropriate cases, many other participants in the design and construction process also might logically argue for third-party beneficiary status under the contract between the design-build subcontractor and the specialty engineer on essentially the same basis that the owner could. For example, if the specialty work includes structural components to be integrated with the project as a whole, the subcontractor and its design consultant must have recognized that all of the participants would rely on the structural integrity of the specialty design and, at least in some sense, the subcontractor and its consultant must have intended that the design should benefit all participants.

Under established contract law principles, however, a court ordinarily will not recognize third-party beneficiary status in favor of an incidental beneficiary, because it is the real (even if implied) intent of the contracting parties, and not revisionist logic, that should inform proper contract interpretation.³²⁷ Unique facts in an appropriate case might legitimately persuade a court to confer third-party beneficiary status on an owner or even in favor of another participant in the construction process who has no direct contract remedies. For the most part, however, there is little to commend imposing completely fictional intent on contracting parties. At least in common commercial situations, the courts should continue to base contract rights and remedies on actual agreements. The more legitimate question is whether a court should impose a non-contractual duty on the specialty engineer for the protection of the owner or another third party. As is often the

327. See, e.g., *Peter Kiewit Sons' Co. v. Iowa S. Utils. Co.*, 355 F. Supp. 376 (S.D. Iowa 1973); SWEET, *supra* note 6, § 14.08B; see also *supra* notes 120-25 and accompanying text.

case with other claims arising from design defects, relationships conceived in contract will inevitably give birth to claims premised in tort.

3. *The Transition to Tort Theory Redux*

In dealing with tort claims arising out of specialty design errors, the fundamental question the courts must resolve is whether the specialty designer owes a duty of professional care to those other than the designer's client. Courts comfortably identify a duty of professional care in favor of the client because the design professional's contractual undertaking establishes a special relationship in which the client's welfare is dependent on the professional's special training, experience, and judgment.³²⁸ The cases sometimes explain that the duty is separate from the contract between the client and the design professional, even though it may be based on the contractual relationship.³²⁹ Cases that imply a duty of professional care into the contractual relationship between the client and the design professional recognize that, by undertaking responsibility toward a client to perform professional design services, a design professional establishes a special relationship with the client that goes beyond the contractual relationship and the explicit terms of the contract.³³⁰

Although an analysis that injects a tort duty into a contractual relationship seems counterintuitive, there are strong justifications for the leap from a contract obligation voluntarily assumed to a broader tort duty to the client. The circumstances of building construction invariably involve a foreseeable risk of serious loss to the client. The client does not have the special training, knowledge, and experience required to protect against that risk. The design professional assumes responsibility for activities critical to the management of some of the risks inherent in the construction process.

To limit the duty analysis to the relationship between client and design professional, however, is to ignore the principle that tort law provides a remedy for breach of duty imposed by public policy considerations and not for breach of contractual obligations.³³¹ At least in cases of personal injury or property damage, a tort analysis should inquire whether a design professional furnishing services directly or indirectly through the owner's prime contractor should owe a professional duty to avoid causing foreseeable harm to non-clients who will be directly affected by the design services. Design professionals, like medical doctors and other professionals, may assume responsibility

328. See *supra* section III.B.

329. See, e.g., *Minn. Forest Prods., Inc. v. Ligna Mach., Inc.*, 17 F. Supp. 2d 892 (D. Minn. 1998); *Clark-Fitzpatrick v. Long Island R.R.*, 516 N.E.2d 190 (N.Y. 1987).

330. See, e.g., *Minn. Forest Prods. Inc.*, 17 F. Supp. 2d 892.

331. See *Caldwell v. Bechtel, Inc.*, 631 F.2d 989, 997 (D.C. Cir. 1980).

for the due performance of their services simply by undertaking to perform those services.³³²

If a special relationship in favor of a client may give rise to a professional duty of care that is, as the cases say, independent from the designer-client contract, then it should also be possible for a similar relationship to exist where there is no applicable contract. Multiple participants in a construction project frequently enter into a series of arrangements that in fact create special relationships in which non-clients logically must depend on the special training, knowledge, and experience of a design professional. When that occurs, why should it matter whether or not those participants injured by the design professional's failure to exercise the appropriate level of care have a contractual relationship with the professional? Cannot the special relationship necessary for a professional duty of care arise from the voluntary, interdependent arrangements that the participants establish in a typical construction project?

D. The Reach of Tort Law

1. The Owner's Remedies for Specialty Design Defects

The project is the owner's project, and any design professional who provides services for the project is in a relationship with the owner that is, at least in the contemplation and reasonable expectations of the participants, no less a professional relationship than it would be if the owner contracted for the design services directly. In this sense, there is little to distinguish the relationship created when an owner retains a design professional and the relationships created when a member of the construction team retains a design professional to provide the same service. In either case, the express purpose of the arrangement is to secure for the owner's objectives and benefit professional services essential to the safe, sound, and successful completion of the owner's project. An engineer who designs a fire safety system under a contract with a system installer retained by the prime contractor does not design the system primarily to protect the installation subcontractor or the prime contractor from the risk of fire. In this important sense, nearly all critical components of a project, whether designed pursuant to a contract with the owner or pursuant to a contract with another participant in the construction process, are for the owner. For these reasons, tort law should impose on the specialty designer a duty of professional care toward the owner based on the rea-

332. Cf. *Peeler v. DeWitt*, 3 S.W.3d 894 (Mo. Ct. App. 1999) (finding that, although architect volunteered to inspect courthouse and advise governing body with respect to specific proposed renovations, he was not liable to plaintiff injured when courthouse steps collapsed because the architect's voluntary undertaking did not extend to structural safety matters).

sonable expectations established by the contractual arrangements by which the participants collectively allocate actual responsibility and upon which they all reasonably rely.³³³

The owner might also assert tort liability against the specialty engineer based on a negligent misrepresentation. Negligent misrepresentation may be a viable theory, for example, if the specialty engineer issues a report knowing that the owner (or others) will reasonably rely on it.³³⁴ There is, however, nothing inherent in the specialty design-build process to suggest negligent misrepresentation claims in most situations.

In addition to claims against the specialty engineer, in some cases the owner may have a claim against the project architect or the architect's engineering consultant for specialty design defects.³³⁵ The owner may establish a professional negligence claim against the project architect by proving the project architect's professional negligence in performing services under the architect's contract that relate to the specialty work. Several factual possibilities might emerge.

The owner might be able to show that the project architect or the architect's engineering consultant negligently approved the specialty engineer or negligently failed to review or question the qualifications of the specialty engineer. The contract for the project architect's services is likely to leave considerable doubt about the role of the architect and its consultants in selecting or approving design professionals retained by a design-build subcontractor.³³⁶ In an appropriate cir-

333. See *Donnelly Constr. Co. v. Oberg/Hunt/Gilleland*, 677 P.2d 1292 (Ariz. 1984) (holding that a contractor whose bid was based on architect's plans may recover in tort from an architect for foreseeable damages attributable to negligent preparation of plans). The result in *Commercial Distribution Center, Inc. v. St. Regis Paper Co.*, 689 S.W.2d 664 (Mo. Ct. App. 1985) also supports this conclusion, but the court's opinion does not articulate a clear basis for imposing on the subcontractors involved a professional duty of care in favor of the owner. The case is discussed in greater detail elsewhere in this Article. See *supra* text accompanying notes 106-07, 247-51. Adopting the approach suggested by *Caldwell* and *Donnelly Construction Co.*, some courts would recognize a duty of care in favor of the owner primarily because damage to the owner is foreseeable under the circumstances.

334. See *supra* notes 101-04 and accompanying text.

335. The owner's claim to recover in tort from the project architect's engineering consultant, who may have played a more direct role than the architect in connection with the specialty design, would face the same duty-based defenses available to the specialty engineer. The architect is unlikely, in a normal situation, to be vicariously liable for the engineering consultant's negligence. See *supra* subsection III.C.4.

336. For example, under clause 2.6.4.3 of the American Institute of Architects' AIA Document B141™-1997, Standard Form of Agreement Between Owner and Architect with Standard Form of Architect's Services, if the contract documents require the contractor to arrange for professional design services, the architect is "entitled to rely upon the adequacy, accuracy and completeness" of those services. AIA ARCHITECT'S SERVICES, *supra* note 71.

cumstance, however, the owner might successfully argue that either the contract language or the surrounding circumstances imply a role. For example, if the plans provided by the owner's architect and its engineering consultants provide that a subcontractor must furnish critical structural design details, a court might conclude that the project architect's professional responsibility includes, by necessary implication, at least the obligation to confirm that the subcontractor retains a qualified structural engineer.

The project architect and its engineering consultant might also incur liability if they fail to convey adequately to the design-build subcontractor the design concept or inadequately established the design criteria for the subcontractor to meet. It is difficult to assess in the abstract how to address claims of this nature because it is not clear how a court should interpret a contractual requirement that the project architect must provide the design concept and the design criteria. Presumably, even though the project architect's design services agreement completely excludes the specialty design, the project architect and its engineering consultant still may need to specify certain critical details. For example, if the specialty work involves structural components, the owner's design team may be responsible to provide such critical design details as the load bearing requirements of connections or the materials to be used. In some cases, the design professionals on the owner's design team might be subject to liability for failing to specify that the specialty engineering submittals must meet certain industry standards or must include certain supporting documentation or calculations.

The process involved in approving or otherwise permitting the specialty design to become final may provide the most fertile ground for a claim against either the project architect or its engineering consultant. No matter how the contract documents describe the actions of the owner's design team in relation to the specialty work, one or more members of the team will probably have some responsibility with respect to a significant number of submittals that require action on behalf of the owner. Each of those responsibilities must be performed in conformity with the professional standard of care. For example, the architect might incur liability based on a limited obligation to review the construction drawings for conformance with the requirements or information the architect furnished or based on an obligation to coordinate the specialty design documentation with the other design documents for the project. A claim of that nature might succeed, for example, if the architect's plans show inadequate details to guide a manufacturer in the manufacturing process or if the architect accepts drawings submitted by the subcontractor that bear no professional seal, or if a process or documents essential to proper coordination are missing or inadequate.

The owner might even be able to develop evidence that the project architect breached the professional standard of care by leaving responsibility for the specialty design to a design-build subcontractor in the first instance. This would probably require expert testimony that under the circumstances it was not professionally prudent to divide design responsibility in the manner contemplated by the project architect's plans. There must be circumstances in which a project architect should not allow division of design responsibility or should do so only with the added protection of a comprehensive review on the owner's behalf by an independent engineer who is part of the owner's design team. At a minimum, the project architect should be responsible in most cases to establish a process that assures that appropriately licensed professionals provide or approve all critical design services and that coordinates all design services for the project.

In some situations, a court might identify a non-delegable duty of the project architect or one of the architect's engineering consultants. Even if a court would recognize a non-delegable duty of a member of the owner's design team for certain aspects of the project, one might question whether that duty should extend to a specialty design that is expressly excluded from the contract between the owner and the project architect. In an appropriate case, a court might explicitly or implicitly impose a non-delegable duty on the project architect or the architect's engineering consultant as the design professional of record for the project or on the basis of ordinances governing approval of design plans under the applicable building code.³³⁷

The owner may also have claims against other participants. For example, the owner might be able to show that the design-build subcontractor negligently selected an unqualified specialty engineer³³⁸ or that the prime contractor negligently approved the specialty engineer or negligently failed to review or question the qualifications of the engineer. The owner might also assert claims against the design-build subcontractor and the prime contractor either based on some negligence on their parts connected with the design error or based on a warranty or vicarious liability theory. Some authorities might support a vicarious liability argument, but in many cases, a court would

337. In effect, this was the basis for the non-delegable duty recognized by the court in *Duncan v. Missouri Board for Architects, Professional Engineers & Land Surveyors*, 744 S.W.2d 524, 537 (Mo. Ct. App. 1988).

338. *But see* *John Grace & Co. v. State Univ. Constr. Fund*, 475 N.E.2d 105 (N.Y. 1984), *affirming as modified* 472 N.Y.S.2d 757 (N.Y. App. Div. 1984) (reversing the portion of the Appellate Division's opinion that upheld a claim against an engineer on the basis, *inter alia*, that the engineer negligently failed to inquire into the qualifications of a manufacturer who specified inappropriate materials). Query whether, if the negligent selection theory applies, the design-build subcontractor should be held to an ordinary negligence or professional negligence standard.

probably conclude that, absent special circumstances, the specialty engineer is an independent contractor and neither the design-build sub-contractor nor any of the other participants controlled the engineer's actions.³³⁹

Even assuming that the specialty designer (or others involved in the specialty design process) has potential tort liability to the owner, whether the owner can recover damages may also depend in part on the nature of the damages the owner suffers as a result of the specialty design defect. The owner might suffer damages that fall into one of at least four distinct categories. One is personal injury that the owner suffers as a result of a design error, which is possible only if the owner is an individual rather than a business entity. Another is damage to property other than the construction work, such as damage that a failure of the specialty work might cause to the adjoining elements of the project or to equipment the owner has on the construction site. The third is damage to the construction work itself, as might occur if the specialty design defect results in a structural collapse. The fourth is damage that affects only the owner's economic interests, as would be the case if discovery of the design error during construction causes a costly delay in project completion. Depending on the jurisdiction involved, a court might allow recovery for some or all of these damages.³⁴⁰ While recovery for personal injury and damage to property other than the project itself would be permitted under universal tort concepts (assuming, of course, the existence of a duty to the owner), recovery in the other two circumstances will depend on how the jurisdiction applies the economic loss rule.³⁴¹

2. *Professional Malpractice Claims by Those Other than the Owner*

The main distinction the courts may recognize between the protection to be afforded owners and the protection to be afforded other participants concerns foreseeability of harm and the extent of the remote design professional's duties under the design arrangements established for the project. A design professional who provides professional services in connection with a construction project should owe a duty of professional care in favor of all participants in the construction process who are within the foreseeable risk of harm that the design professional's malpractice creates. In some cases, as with structural engineering services, loss or damage to any participants in the process is foreseeable, and all participants must depend on the design professional to perform with the requisite skill, experience and care. In

339. See Milicevich, *supra* note 109.

340. See *supra* subsection III.C.5.

341. See *supra* note 151.

those cases, the courts should recognize a duty of professional care toward all participants. In other situations, the responsibility that the design professional assumes is too far removed from the interests that tort law seeks to promote. For example, while the structural engineer who designs a critical steel connection should owe a professional duty of care to all participants who must rely on the structural design, the same duty probably should not apply to the project architect whose only undertaking is to review and advise the owner whether the structural design submitted conforms to aesthetic concepts.

For plaintiffs other than the owner, the clearest liability theory applies when a defective specialty design creates an extraordinary risk of personal injury or death to workers during construction or to occupants or members of the public following completion of the project. Important distinctions may exist between personal injury claims of construction workers and those of the public at large. Often, injury or death to a construction worker arises out of risks peculiar to the construction process itself, not because of the project design. In other circumstances, the nature of the risk to a construction worker during construction may be substantially similar to the risk to the general public after completion of construction. In the second situation, the line of cases exonerating design professionals from liability for injury to construction workers in the absence of a contractual duty on the design professional for project safety or supervision of construction should not apply.³⁴² For example, if the specialty work includes design of permanent structural components, the specialty designer should have a professional duty of care toward all foreseeable victims of an unsafe structural design. This should include both workers and members of the public who may use the project. Established principles of tort law should provide a basis for a claim by any construction worker, occupant, guest, or visitor injured as the result of an unsafe design.

Injured workers or members of the public may also have negligence claims against other participants in the design and construction process if and to the extent that those participants share in the responsibility for the specialty design. Whether other participants have that responsibility should depend, in the first instance, on the terms of the contractual arrangements to which those participants are parties. There are some significant exceptions to this principle. One exception might arise in connection with structural design if a participant assumes responsibility for the structural integrity of certain connections in some extra-contractual way. For example, an engineering consultant who is under no contractual obligation to furnish load calculations

342. See *supra* subsection III.C.5.

to any other participant, might do so anyway in conjunction with a review of the structural plans submitted by the design-build subcontractor in accordance with the requirements of the contract documents. Through that voluntary action, the engineering consultant might assume a responsibility to follow prudent professional practice in making those calculations.³⁴³ Another exception might arise if a statute or code imposes on a participant other than the designer retained by the subcontractor a duty concerning the structural design and the court holds that duty to be non-delegable.³⁴⁴

Many participants in the design and construction process may also have tort claims against the specialty engineer for economic loss. For example, specialty design defects may create costly delays for subcontractors whose progress depends on completion of the specialty work, and a failure of a specialty component may require changes or additional work in several trades. The analysis of those claims should not be materially different from that which applies to the owner's claims against the engineer as already discussed. Like the owner, the other participants might argue that the manifest purpose of allocating to the specialty designer the responsibility for the specialty work was to protect the interests of all of the participants, all of whom would necessarily rely on the adequacy of the design and each of whom may be a foreseeable victim of a serious design flaw.³⁴⁵ Like the owner, even if these participants can establish a sufficient relationship with the negligent engineer, if their damages are purely economic they must then confront the economic loss rule.³⁴⁶

3. *The Economic Loss Rule Applied to Specialty Design Defects*

The most difficult controversy that specialty design-build presents for the courts involves not the existence of a duty, but the proper application of the economic loss rule. The economic loss rule prevents unlimited tort liability.³⁴⁷ In many jurisdictions, the economic loss rule will normally prevent a plaintiff from recovering in tort for purely economic loss. Other jurisdictions, however, have allowed recovery of economic loss attributable to malpractice by design professionals.

343. Cf. *Peeler v. DeWitt*, 3 S.W.3d 894 (Mo. Ct. App. 1999) (involving an architect who, after voluntarily advising public body concerning deterioration of county courthouse, was sued by plaintiff who fell on courthouse steps).

344. For a discussion of non-delegable design duties, see *supra* subsection III.E.2. For a discussion of regulations that govern the delegation of design duties, see *supra* section IV.D.

345. Some courts may use an implied warranty theory to extend protection to any participants in the construction process who must rely on the specialty design. See *E. Steel Constructors, Inc. v. City of Salem*, 549 S.E.2d 266 (W.Va. 2001).

346. See subsection III.C.5.

347. See *E. River S.S. Corp. v. Transamerica Delaval, Inc.*, 476 U.S. 858 (1986); *Moorman Mfg. Co. v. Nat'l Tank Co.*, 435 N.E.2d 443 (Ill. 1982).

Still other jurisdictions adhere to the economic loss rule as a general principle but recognize limited exceptions.

Specialty design-build presents a compelling case for an exception to the economic loss rule when design malpractice by one participant in the construction process causes loss to another participant. All of the participants have associated themselves for a common purpose, and many participants must rely on the design services provided by specialty designers. In fact, if not by express intention, one function of a design professional who provides critical design services for the project may be to protect the economic interests of all of the participants. The participants together share a community of interest that provides a well-defined special relationship between the design professionals and those who must rely on the design services. Economic loss is foreseeable and is not remote from the actions of the design professional. This community of interest logically removes a construction project from one of the main policy considerations that lead courts to adopt the economic loss rule as a check against expanding theories of tort liability. Allowing recovery to any participant in the construction process for economic loss proximately caused by malpractice committed by any design professional involved in the process does not present a risk of unlimited or uncontrollable tort liability because the universe of potential claimants is restricted to the finite and known class of participants in the project.

One might argue that, on balance, it is a wiser policy for the courts to leave the participants to the construction process to sort out their respective commercial interests through consensual contractual arrangements rather than to subject them to broad tort principles. Participants do not find themselves exposed to the risk of design malpractice by happenstance. Each participant makes a considered economic decision to join in the community of interest that the project represents. Theoretically, each has the opportunity to negotiate the terms by which it will participate, including an appropriate fee for accepting the risks involved. Those with bargaining power can negotiate indemnities, third-party beneficiary status, and other conditions to protect their interests. Some participants can arrange for insurance to cover some of the risks involved. Those without bargaining power and little ability to insure against those risks that they cannot control are arguably in no different position with respect to the potential consequences of design defects than they are with respect to the other considerable risks involved in the construction industry.³⁴⁸

While these arguments for a restrictive application of the economic loss rule hold some appeal, they fail to recognize that for a significant number of participants in the construction industry, the question is

348. See generally Siegfried & Sklar, *supra* note 203, at 323.

not on what basis to participate, but whether or not to participate at all. In this sense, the inexperienced owner who decides to proceed with a project in which structural design will be furnished by a steel fabricator selected by the prime contractor, as well as the small subcontractor who bids competitively for work that ultimately depends upon designs furnished by a consultant to another subcontractor, are not much different from the pedestrian who resolves to venture a step into the crosswalk of a busy intersection. In such circumstances, tort law may appropriately provide a remedy.

4. Contractual Limits on Liability in the New Design-Build World

Once they begin to appreciate the liability issues involved, negotiating parties will naturally look to contractual liability limits to help manage the risks of specialty design. The courts will probably enforce these contractual limits when clearly expressed in commercial construction contracts to which the injured claimant is a party. The courts may appropriately be less receptive to contractual limits in the consumer context, when the claimant is not a party to the contract, or when design professionals attempt to limit liability for breach of statutory or non-delegable duties.³⁴⁹

VI. CONCLUSION

Current industry practices, as evidenced by the industry literature, industry form contracts and the few decided cases, reflect an inadequate grasp of the significantly altered issues that specialty design-build presents. Construction law, as well as design and construction contracting practices, must adapt to the new design-build world in ways that achieve the efficient and sound allocation of shared design liability risks. Legislatures and regulatory bodies should modify licensing, professional conduct, and other regulatory schemes to recognize the inherent risks that specialty design-build may pose to public safety and the integrity of the design professions. Courts, mediators, and arbitrators should become attuned to new commercial realities that may legitimately influence both contract interpretation and tort policy, while at the same time they should give due respect to the role of express contract negotiations between commercial parties to work out new and economically efficient risk allocation conventions in the already risk-riddled construction industry.

349. See *supra* section III.D.