

Introduction

The simplest paradigm of a construction project—owner, designer and constructor—has some explanatory power for understanding what happens on a construction project site, but it is not able to go the whole way. The constructor is not a single entity but rather a complex arrangement of various functions and entities, typically with one single entity, often referred to as the general contractor or construction manager, at the apex. This paradigm also does not convey the service delivery methodology and related contract (among several options) to which the constructor entity at the apex agrees. Researchers and practitioners have noted that this typical arrangement of owner, designer and constructor results in a “highly-fragmented construction project” where the parties’ main purpose is to “draft and interpret contract clauses for their own benefit,” thereby creating adversarial working relationships.¹ Furthering this adversarial environment are regulations and case law interpretations over the years which tend to emphasize the importance of autonomy between the parties. The historical movement away from the architect as the “master builder” into the complex set of related participants connected to each other by contracts established for the particular projects² may also provide some explanation for the adversarial nature of the industry. In such contracts, however, the term “means and methods,” a term of art most often not defined, is used by both parties to advance and protect their respective interests. The paper explores how “means and methods” has been used historically in both tort law and contract law as a sword to assert liability and as a shield to avoid it on construction projects.

Evolution of the “Master Builder”

The contemporary construction arrangement, with an owner, typically the project’s beneficiary and financier, that contracts separately with a designer³ to design the project and a builder⁴ to then construct it, although familiar since the 19th century, is actually the final result of centuries of divesting a single design-builder—a “master builder”⁵—of his

¹ See Zach Peterson, *One Small Step in Mindset, One Giant Leap for the Construction Law Industry: How the Judicial Stage is Set for IPD and the Only Thing Missing is Willing Participants*, 39 N. KY. L. REV. 557, 559 (2012).

² The participants in these contracts, as well as the constructed project, may also be regulated, which may limit certain contractual provisions to an extent.

³ The term “designer” will be used to encompass all designers to a project, e.g. architect, engineer, etc., as they are often parties, or subcontractors, to the prime design contract.

⁴ Although “contractor” tends to be more the term of art, as the architect is also an entity with whom the owner contracts with, the term “builder” will be used to represent the party contracted with for construction.

⁵ See Mark Jackson, *Brief Note on the “Master Builder” and Specialization of Design and Construction* (unpublished paper) (on file with DDC Town+Gown).

centralized role as both an owner's designer *and* builder.⁶ The cause of this divestment is the result of: (1) advancements in “science that led to the creation of specialized engineering disciplines and trade contractors”; (2) “regulation of design and construction professionals under licensing laws and building codes”; (3) “legislative enactment of public contracting statutes” requiring a host of public bidding and project delivery requirements, most importantly design-bid-build which statutorily separates the designer from the builder; (4) “increasing complexity of the construction process”; and (5) the “litigiousness of modern society.”⁷

As the construction industry⁸ has diversified, grown, and improved upon the process of building, it also has begun standardizing the ways in which the innumerable liabilities associated with the process are allocated.⁹ One instructive example is the advent and widespread use of standard form contracts which “set[] forth the responsibilities of the owner, [builder] and architect during construction.”¹⁰ These contracts typically state that, on behalf of the owner, the architect is responsible “to produce a set of documents at a level of detail sufficient to communicate design” and the builder is then responsible for the “physical *means and methods*” required in constructing it.”¹¹

While the arrangement seems clear cut—architects design the project and builders construct it, it is often a blurred line that actually divides these two responsibilities. In practice, it is often unclear when the builder's autonomy to make decisions regarding its construction “means and methods”¹² is being impinged upon. For example, where an architect has designed a building to be constructed of concrete masonry block (CMU) walls

⁶ Although some may posit that we are heading back towards such a centralized structure with the increasing popularity of integrated project delivery methods, along with the emerging popularity of public-private partnership projects.

⁷ See Philip L. Bruner and Patrick J. O'Connor, *5 Brunner & O'Connor Construction Law § 17:1. Rise of design professions*, Thomson Reuters.

⁸ As the construction industry exists at the nexus of multiple industries, *e.g.* finance and risk management, “construction” will be used as an all-encompassing term.

⁹ At least as far as consistency in legal liability and judgments are concerned; within this standardization there is still the free-market force of competition at play, which inevitably leads to variations on attempts of standardization.

¹⁰ See AIA Document Commentary, A201 – 2007 General Conditions of the Contract for Construction; *see also* ConsensusDocs 200.

¹¹ See J. Lobel, *Building Information: Means and methods of communication in design and construction*, Masters of Science in Architecture Studies Submission to M.I.T. (2008) (emphasis added) (generally summarizing AIA documents A201-1997 & B101-2007).

¹² While different standard form contracts, legal opinions, and commentaries often use a variety of terms, *e.g.* “construction means, methods, techniques, sequences or procedures” per the AIA, this paper utilizes “means and methods” as a shorthand meant to reference any term intended to convey how a project is to be built.

but does not specify which type of grouting method is to be used,¹³ the party with domain over such a determination is often disputed. To resolve this dispute, one must first ask whether this is a design deficiency or a permissible omission by the architect. If it is a permissible omission, then it becomes the builder's responsibility under the umbrella of construction means and methods.¹⁴ Although determining who owns the decision-making authority in the aforementioned example is important to moving the project forward, it becomes of paramount importance if the wall later falls over and injures someone.¹⁵

In the late 18th century, if a newly constructed wall collapsed and injured someone, the liability would unquestionably lie with the master builder, as “the master of the building process with full responsibility for the successful completion of the project entrusted”¹⁶—making the question of whether the wall fell due to poor design or poor construction moot. However, if a wall falls over today, with different parties responsible for design and for construction—often with multiple parties responsible for different aspects of construction—the questions surrounding its design and construction become the focus of lengthy and expensive debate. Often the answer to why it fell is a fact-intensive one and can definitively be established, then shifting the debate to *who* is responsible. It is at this point that *control* over construction means and methods comes into play because, although the builder typically has sole responsibility of the means and methods, ultimately the builder does not make all decisions regarding them. Therefore, when an accident happens as a result of means and methods it must be determined who *actually had control* over them at the time the accident occurred.

“Independent Contractor” – Defined . . . or Not

It is hard to find a definition for construction means and methods, let alone a consistent and useful one. As one 30-year veteran of the New York construction industry explains, construction means and methods can be thought of as “how” a project is built—*e.g.* the use of scaffolding rather than hydraulic man-lifts to paint a high ceiling. The International Risk Management Institute (“IRMI”) seems to agree with this explanation as it defines “means and methods of construction” on its website as: “[a] term used in construction to describe

¹³ Note that it is typical that designers, namely engineers as sub-consultants to the architect, will specify the permissible types and strengths of grouts, concrete mixes, etc. but will not identify specifically which is to be used.

¹⁴ See *Koller v. Liberty Mut. Ins. Co.*, 197 Wis.2d 116, 541 N.W.2d 838 (Wis.App. 1995) (determining that a decision to switch grouting methods was not under the sole domain of the builder, whose owner-contract made it “solely responsible for the means and methods of construction”).

¹⁵ See *id.*

¹⁶ See Jackson, *supra* at note 5.

the day-to-day activities a contractor employs to complete construction.”¹⁷ However, the IRMI further provides an example of a contractor’s means and methods as “moving a door a few inches to avoid interference with another door”¹⁸—which the construction veteran interviewed above understands to be a design change, not construction means and methods. A quick review of construction terminology is instructive.

The *Means Illustrated Construction Dictionary* defines a “change” in construction as “a deviation in the design or scope of the work as defined in the plans and specifications which are the basis for the original contract.”¹⁹ In IRMI’s example above, moving a door is a “deviation in the design” because it changes the established dimensions in the design as defined in the plans and specifications. Further, moving a door also moves its swing radius which can have implications for local building code requirements for egress²⁰ or for the federal ADA Standards for Accessible Design.²¹

Although the *Means Dictionary* casts doubt on the IRMI’s example of means and methods, it does not define either “means,” “methods,” or any variation of the two in concert.²² Similarly, both the AIA and the ConsensusDOCS standard form contracts are silent on a definition, yet both use consistent means and methods phrases in describing both the designer and builder’s roles.²³ Without a clear and/or standard definition of means and methods in contracts or in statutes to inform courts in construction disputes, court decisions have proven unpredictable and inconsistent in how they define the term.²⁴ Interestingly though, there are some common threads in various judicial definitions applied to means and methods—threads which seem to find their origins in late 19th century case law determinations of whether a defending party was an “independent contractor” or an “employee” at the time of the complained harm.

¹⁷ Glossary, *means and methods of construction*, IRMI Risk & Insurance, <http://www.irmi.com/online/insurance-glossary/terms/m/means-and-methods-of-construction.aspx> (last visited November 29, 2013).

¹⁸ *Id.*

¹⁹ *Means Illustrated Construction Dictionary* 117 (3d ed. 2003).

²⁰ See e.g. NYC Building Code § [C26-601.4] 27-630 “Travel distance.– (a) General requirement.– (Establishing maximum travel distance specific points in a room or space to the center of a door).

²¹ See e.g. Dep’t of Justice 2010 ADA Standards for Accessible Design, § 603.2.3 “Door Swing. Doors shall not swing into the clear floor *space* or clearance required for any fixture.”

²² See generally *Means*, *supra* at note 19.

²³ See e.g. AIA A201 – 2007; see also ConsensusDocs 200.

²⁴ Compare *Whitfield Construction Co. Inc. v. Commercial Development Corp.*, 392 F. Supp. 982, 991 (D.V.I. 1975) (finding that contractor’s decision to use timber piles rather than steel piles was fully within his contractual rights of “sole [responsibility] for all construction means, methods ...”), with *Koller v. Liberty Mut. Ins. Co.*, 197 Wis.2d 116, 1995 WL 567704 (Wis.App.) (holding that owner’s on-site construction manager, although by contract it was “not [] responsible for construction means, methods ...,” could make changes in construction methods where it “did not change the contract price or completion schedule.”).

Origins in Common Law Tort

Defined, More or Less. At the end of the 19th century, as the familiar paradigm of owner, designer, and constructor became established as the standard construction project delivery arrangement, the courts viewed liability for accidents as a question of whether the relationship between owner and constructor was that of employer/employee or that of owner/independent contractor. One of the earliest cases on point was the U.S. Supreme Court's *Casement v. Brown* decision, an 1893 appeal by defendants who were found guilty of negligence in the loss of three barges of coal.²⁵ The case involved the construction of a railroad bridge across the Ohio River, near the village of Point Pleasant, West Virginia.²⁶ During the construction project, for two weeks the Ohio River had been rising rapidly to a point of 55 feet above low-water mark, submerging four of the bridge's six piers.²⁷ A tow boat, the Alarm, was carrying six barges of coal and struck one of the four submerged piers, losing the coal on three of its barges.²⁸ As part of the defendants' appeal, they asserted "that they were not independent contractors, but employes [*sic*] of the railroad companies, and that, therefore, the railroad companies, and not themselves, were responsible for any negligence." The Court held that:

[O]bviously the defendants were independent contractors. The plans and specifications were prepared and settled by the railroad companies. The size, form, and place of the piers were determined by them, and the defendants contracted to build piers of the prescribed form and size and at the places fixed.²⁹ They *selected their own servants and employes* [*sic*]. Their contract was to produce a specified result. They were to furnish all the material and do all the work, and by the use of that material and *the means of that work* were to produce the completed structures [*sic*]. The will of the companies was represented only in the *result of the work*, and not in the *means by which it was accomplished*. This gave to the defendants the status of independent contractors.³⁰

²⁵ 148 U.S. 615, 616.

²⁶ It appears that this bridge was the Point Pleasant Bridge, completed in 1884, and the value of the coal lost was then \$6,200. (H.R Rep. No. 50-1, pt. 2, at 1662 (1888), *available at* <http://books.google.com/books?id=IZVTAAAAYAAJ&printsec=frontcover#v=onepage&q&f=false>).

²⁷ 148 U.S. at 618 (the other two piers were standing "in plain view" on both of the river's banks).

²⁸ *See id.* at 616-18.

²⁹ Note that the Court highlights the "place of the piers" as an owner-furnished design element, although the IRMI example sample leaves room for placement of design elements in the construction means and methods. (*Supra* at pp. 3-4).

³⁰ 148 U.S. at 622 (emphasis added).

Although the Court disposed of the defendants' contention that they were employees quickly, in doing so it kicked off decades of case law and commentary on 'control' over construction means and methods as the definition of an 'independent contractor.' Soon after the *Casement* decision, in 1895, Professor Edwin A. Jaggard published the *Handbook of the Law of Torts*, which stated that: "[a]n independent contractor is one who undertakes to produce a given result without being in any way controlled as to the *method* by which he attains the result.³¹ Then, in 1933, the American Law Institute completed the *First Restatement of Agency* ("Restatement"),³² which similarly stated that: "[a]n independent contractor is a person who contracts with another to do something for him but who is *not controlled* by the other nor subject to the other's right to control with respect to his physical conduct in the performance of the undertaking."³³ In both of these secondary source legal definitions, as well as in the U.S. Supreme Court's 1893 *Casement* ruling, there seem to be two main components: (1) one party agreeing to deliver a specific result for another, and (2) *absence of control by the receiving party* as to the means and methods employed by the delivering one in realizing this result. This basic two-pronged analysis can be traced across decades of case law focusing on identifying 'independent contractors' at both the federal and state levels and, while these sources do not represent the only ones that the courts have relied on to make these determinations, they seem to account for a good portion of it. The following section highlights some of these cases as well as some of the more recent ones. Not all of the cases deal with construction disputes, but consistent throughout them is the constant battle over who ultimately controlled means and methods as that individual becomes the party that bears liability in the cases at bar.

Applied. In *Emmerson v. Fay*,³⁴ an 1896 appeal to the Virginia Supreme Court of Appeals, the independent contractor analysis was applied to a lower court's ruling on a case involving a construction accident in which a contractor's employee dropped an iron ball off of the roof of a lumber dry kiln being erected.³⁵ The ball struck and injured the plaintiff, who was walking down the adjoining street.³⁶ The jury in the lower court found that the defendant property owner was liable for the plaintiff's injuries because "special" conditions had not been present that "were necessary in order to warrant them in believing that the

³¹ See *Epperson v. DeJarnette*, 164 Va. 482, 486, 182 S.E. 412, 413 (1935) (quoting EDWIN A. JAGGARD, HANDBOOK OF THE LAW OF TORTS, § 73, at 228 (1895)) (emphasis added); see also J.S., Brook Review, 9 HARV. L. REV. 366-67 (1895) (reviewing HANDBOOK OF THE LAW OF TORTS, available at <http://www.jstor.org/stable/1321467>).

³² Deborah A. DeMott, *The First Restatement of Agency: What Was the Agenda?*, 32 S. ILL. U. L.J. 18 (2007).

³³ Restatement (First) of Agency § 2 (1933) (emphasis added).

³⁴ 94 Va. 60, 26 S.E. 386 (1896).

³⁵ See *id.* at 386-87.

³⁶ *Id.*

contractor exercised an independent employment.”³⁷ The Appellate Court reversed the trial court’s ruling, finding that it erred in sending the legal question of “[w]hat constitutes an independent employment” to the jury, rather than informing the jury of what the “general rule” was and instructing them to make a factual determination of whether the conditions were met.³⁸ The Court defined the general rule as:

[W]here a person is employed to perform a certain kind of work which requires the exercise of skill and judgment as a mechanic, the execution of which is, because of his superior skill, left to his discretion, without restriction upon the means to be employed in doing the work, and he employs his own labor, which is subject alone to his control and direction, the work being executed either according to his own ideas or in accordance with plans furnished him by the person for whom the work is done, such a person is not a servant under the control of a master, but he is an independent contractor³⁹

This definition required, similar to the two pronged analysis discussed above, that where (1) “a person is employed to perform a certain kind of work ..., (and 2) the execution of which is ... left to his discretion, without restriction upon the means to be employed in doing the work ...,” that he or she is an “independent contractor,” not a “servant under the control of a master.”⁴⁰ Therefore, the Court ruled, that the law is settled in how it defines independent contractors and the only question which should be tried is whether the contractor satisfied the requirements, thereby relieving owner defendant of liability for any negligence by the contractor.

Nearly thirty years later, in *Boyd, Higgins & Goforth v. Mahone*,⁴¹ the Special Court of Appeals of Virginia affirmed a finding of negligence for a road contractor that had closed and removed a portion of a bridge’s roadway, but had failed to put up the requisite detour signs and barricades.⁴² An unsuspecting carload of people then drove onto the bridge and crashed through the opening to the river embankment below.⁴³ The Court of Appeals upheld the finding of negligence by disposing of the contractor’s claim that it had not been acting as an independent contractor but rather as an agent of the project’s owner.⁴⁴

³⁷ *Id.* at 387.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *See id.*

⁴¹ 142 Va. 690, 128 S.E. 259 (1925)

⁴² *See id.* at 697.

⁴³ The plaintiff was one of the passengers and was pinned under the car, suffering serious injuries as a result.

⁴⁴ In this case the project owner was the Virginia State Highway Commissioner which brought in other notable questions regarding the law of public agency and a claim by the defendant of immunity from

Referencing *Emmerson*, the Court stated that the legal definition of an independent contractor is “a person who is employed to do a piece of work without restriction as to the means to be employed, and ... to whom the owner looks only for results.”⁴⁵ Here again, the description the Court gives can be broken down into two familiar prongs: (1) an agreement for a specific result, and (2) absence of control by the receiving party as to the means and methods employed.

Another interesting aspect covered in the *Boyd, Higgins* case was that it touched on the boundaries of contractor’s control—the second prong of the test. The Court, after legally defining an independent contractor, went on to state that “[t]he reservation to [*sic*] the employer of the privilege of inspecting and supervising the work, and making changes in the plans, does not destroy or impair the character of independent contractor.”⁴⁶ The Court also reviewed the role of the owner’s onsite engineer and found that in reviewing the contractor’s work for conformance with “the plans and specifications(, that the) engineer had *no control over the manner or means* of the execution of the work.”⁴⁷

The idea expressed in *Boyd, Higgins*—that an owner can reserve supervising rights over the work without violating the independent contractor’s right to unrestricted control over the means employed—seems contradictory. This contradiction is highlighted by the fact that most often the contractors being sued were trying to avoid liability by asserting that they had acted as employees, subject to the owner’s supervision, rather than as independent contractors.⁴⁸ However, despite this contradiction, the courts spilled a lot of ink during the 1920s and the 1930s trying to validate it. The Supreme Court of Arkansas, for example, explored this idea at length in its 1938 *Moore v. Phillips*⁴⁹ opinion.

liability for torts. However, for the purposes of this paper, we focus on the court’s discussions of independent contractors.

⁴⁵ *Boyd, Higgins* 142 Va. 690, 696-97. Omitted here is the verbiage regarding ‘employing one’s own labor’ as it is implicit in the second prong of control over the “means to be employed” and, as we will see below, is a component that was later dropped in Virginia.

⁴⁶ *Id.* at 697 [citing *Bibb’s Adm’r v. Norfolk, etc., Ry. Co.*, 87 Va. 711, 14 S.E. 163 (1891)]. The latter part of this statement, that an owner reserving supervisory privileges “does not destroy or impair the character of independent contractor,” seems irreconcilable with the idea that the independent contractor “work(s) without restriction as to the means to be employed.” [See *e.g. Means, supra* note 41, 635 (defining “supervision” as “Direction of work performed by the contractor’s (or others) workers on site”)].

⁴⁷ *Boyd, Higgins*, at 697 (emphasis added) (also note that this verbiage by the court is remarkably similar to the verbiage found in most standard form construction contracts; for example, § 4.2.2 of the AIA A201-2007 states: “[t]he Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, ...”).

⁴⁸ See *e.g. Casement v. Brown, supra* note 25.

⁴⁹ 197 Ark. 131, 120 S.W.2d 722.

In *Moore*, the defendants, who were two individuals and the corporation they claimed as their employer, were appealing the lower court's decision that found them liable for injuries sustained in an automobile collision.⁵⁰ The Arkansas Supreme Court affirmed the lower court's ruling as against the two individuals and, determining them to be independent contractors, then reversed the ruling against the corporation, finding that it could not be held liable under the doctrine of respondeat superior.⁵¹ The Court stated:

(1) By a long line of decisions [it was] committed to the *universal rule*, that where the contractor is to produce a certain result, according to specific and definite contractual directions, ... and the duty is to produce the net result by *means and methods of his own choice*, and the owner is not concerned with the physical conduct of either the contractor or his employees, then the contract does not create the relation of master and servant. (2) This court has consistently accepted and stated the settled rule that even though control and direction be retained by the owner, the relation of master and servant is not thereby created unless such control and direction relate to the physical conduct of the contractor in the performance of the work with respect to the details thereof.⁵²

The first sentence was adapted from the more recent of the two cases cited, a 1926 timber case that defined an independent contractor by the familiar two-pronged definition of: “[o]ne who ... contracts to do a piece of work according to his own methods, and without being subject to the control of his employer, except as to the result of the work.”⁵³ The second sentence, however, was adapted from the earlier of the two cases and seems to be the perfect embodiment of the Court's doubt that an owner could retain control yet still claim the contractor as independent. The sentence was derived from a 1906 railroad case which linked a company's liability to its retention of control—a good start—but then qualified the statement saying that “neither the reservation of the power to terminate the contract when ... the work is not progressing satisfactorily, the right to exercise *general supervision* and inspect the work ..., nor the right to enforce forfeitures, will change the relation so as to render the company liable.”⁵⁴ Although “general supervision” and “control

⁵⁰ *Moore*, 120 S.W.2d 722.

⁵¹ See *id.* at 732. *Respondeat superior* is “[t]he doctrine holding an employer or principal liable for the employee's or agent's wrongful acts committed within the scope of the employment or agency”—although not often referred to, this is the doctrine argued for in all of the cases where the defendants are arguing that they were not independent contractors. [*Black's Law Dictionary* 653 (4th ed. 2011)].

⁵² 120 S.W.2d 722, 725 (emphasis added) [citing *St. Louis, I.M. & S.R. v. Gillihan*, 77 Ark. 551 (1906) (a railroad bridge failure case) and *W.H. Moore Lumber Co. v. Starrett*, 170 Ark. 92 (1926) (a timber case)].

⁵³ *Id.* at 725 (quoting *W.H. Moore Lumber Co.*).

⁵⁴ *Id.* at 726 (emphasis added) (quoting *St. Louis I.M. & S.R.*).

and direction” do not seem equal in scope, the Court then reviewed cases across twenty other jurisdictions to defend its position that they were.⁵⁵

The determinations by the Supreme Courts of Virginia and Arkansas that owners can retain rights of supervision and/or control over the work while independent contractors perform it free from their control are hard to reconcile with a good amount of the case law written since.⁵⁶ Some of the ensuing contradictory case law is found at the federal level, where the two-pronged analysis of independent contracting remained: (1) one party agrees to deliver a specific result for another, and (2) the delivering party is free from control by the receiving one as to the means and methods employed in delivering the result.⁵⁷

An early example of the federal support of the familiar two-pronged definition is the 1945 case of *Dugas v. Nashua Mfg. Co.*,⁵⁸ an action for unfair labor practices. In *Dugas*, the District Court for New Hampshire reviewed the standard of independent contracting to determine if the plaintiffs could obtain recovery “based upon a principal and agent relationship,” as there was no express contract between the plaintiffs and the defendant to claim an employer-employee status.⁵⁹ The Court, citing both the Restatement⁶⁰ and another federal case,⁶¹ held that: “[a]n independent contractor is a person who, in the pursuit of an independent business, undertakes to do a specific work for other persons,

⁵⁵ Among the cases cited was the 1893 U.S. Supreme Court’s *Casement v. Brown*, *supra* note 25, which the *Moore* court quoted as upholding a finding of independent employment despite a contract providing “that the work should be done in the most thorough, substantial and workmanlike manner ‘under the direction and supervision of the engineer of the company, who will give such directions from time to time during the construction of the work as may appear to him necessary and proper to make the work complete in all respects.’” *Moore*, at 727. However, omitted from the *Casement* quote was the last portion of the contract provision which read: “as contemplated in the foregoing specifications.” See *Casement*, at 673. Whether this omission was intentional or not, taken as a whole the contract provision actually would not support the Arkansas Supreme Court’s position that the owner may retain other rights to control or direct the work if not already stipulated in the contract documents.

⁵⁶ See e.g. *Craig v. Doyle*, 179 Va. 526, 531-32, 19 S.E.2d 675, 677 (1942) (“If ... the party for whom the work is being done may prescribe not only what the results should be, but also direct the means and methods by which the other shall do the work, the former is an employer, and the latter an employee. ... So the master test is the right to control the work. And it is this right which properly differentiates service from independent employment.”); but see *Walker v. Wittenberg, Delony & Davidson, Inc.*, 242 Ark. 97, 101 (1967) (citing to *Moore*, *supra* note 49, in refusing to “extend to the words ‘supervise’ and ‘supervision,’ used in [the Little Rock Building Code], the requirement that the architect must exercise control over the means and methods adopted by the contractor which do not affect the end result.”)

⁵⁷ See e.g. *Dugas v. Nashua Mfg. Co.*, 62 F.Supp. 846 (1945).

⁵⁸ *Id.*

⁵⁹ *Dugas*, 62 F.Supp. at 849.

⁶⁰ *Supra* note 33.

⁶¹ *Kentucky Cottage Industries v. Glenn*, 39 F.Supp. 642 (W.D. KY 1941) (federal action to recover social security taxes paid under protest).

using his own means and methods, without submitting himself to their control in respect to all its details.”⁶² Moreover, the Court held that “[t]he true test of a(n independent) contractor would seem to be that he renders service in the course of an independent occupation, representing the will of his employer only as to the result of his work, and not as to the means by which it is accomplished.”⁶³ The Court’s definition seemed to fall in line with the basic two-pronged structure that had been advanced in the years prior, leaving no room for the employer to reserve a right of supervision and/or control over the means and methods.

Another good example of federal case law using the two pronged approach for defining independent contracting is *Edwards v. United States*,⁶⁴ a 1958 Court of Claims review of a whether a roofing contractor’s federal insurance contributions were recoverable or not. What makes *Edwards* a notable case is that it required the Court to distinguish between “employee” and “independent contractor” and it did under two different federal statutes. The first statute, section 1400 et seq. of the Internal Revenue Code of 1939,⁶⁵ however, was a bit ambiguous stating that “[t]he term ‘employee’ includes an officer of a corporation, but such term does not include (1) any individual who, under the usual *common-law rules* applicable in determining the employer-employee relationship, has the status of an independent contractor.”⁶⁶ To define the applicable common-law rules, the Court stated that the “generally accepted and fundamental test is whether there exists, on the part of the employer, control or a right to control the activities of the alleged employee not only as to the result to be accomplished, but also as to the manner and method of attaining the result.”⁶⁷ The Court also reviewed the applicable Treasury Regulations, 26 C.F.R. § 403.204(b),⁶⁸ which similarly yet unambiguously provided that:

Generally such relationship (of employer and employee) exists when the person for whom services are performed has the right to control and direct the individual who performs the services, not only as to the result to be accomplished by the work but also as to the details and means by which that result is accomplished. That is, an employee is subject to the will and control of the employer not only as to what shall be done but how it shall be done.⁶⁹

⁶² *Dugas*, at 850.

⁶³ *Id.*

⁶⁴ 144 Ct.Cl. 158, 168 F.Supp. 955.

⁶⁵ 26 U.S.C. § 1400 et seq. (note that these sections are no longer current).

⁶⁶ *Edwards*, 144 Ct.Cl. 158, 159 (emphasis added).

⁶⁷ *Id.* at 162 (citations omitted).

⁶⁸ Section is no longer current.

⁶⁹ *Id.*

The Court in *Edwards*, in reviewing these two statutes—one of which brought in the common-law for its application—highlighted the federal codification of the independent contracting definitions and tests as outlined in late-nineteenth century hornbooks and case law. It seems that statutes and case law are premised on assessing whether an independent contracting arrangement existed instead of an employer/employee one and entails review of (1) contracting for a result and (2) the control that the recipient can exert over how the result is realized. However, what makes the independent contracting agreement in construction unique is that the “result” is often a highly detailed one that inevitably changes throughout the course of its realization. This means that a design professional remains involved on the behalf of the “recipient” and sometimes through its actions can take part-ownership over the realization process—as was the situation under review in the *CH2M Hill, Inc. v. Herman* case discussed below.⁷⁰ In an effort to prevent liability across this shifting term of art, attorneys representing the individual participants in the construction project began refining the risk shifting provisions in their respective contracts. The AIA, for example, has been refining the risk shifting provisions in its standard form contracts for over a 120-year period and, as a result, the AIA’s standard form contracts have become inextricably linked to the history of ‘means and methods’ as a term of art.

Impact of AIA Standard Contract Provisions on “Means and Methods” Case Law

Construction lawsuits in the first half of the 20th century often involved an owner and a contractor arguing over whether the latter was the former’s employee or an independent contractor. The claims were designed to shift liability for any harms resulting from the contractors’ actions away from it and onto the project owner. Therefore, during that period, if a newly constructed wall collapsed and injured someone, it is likely that the contractor would be blamed and would defend itself by claiming it was the owner’s employee and that the owner should be liable for the harm under the doctrine of respondeat superior. The legal review would then focus on whether or not the contractor’s actions in constructing the wall “represent[ed] the will of his employer only as to the result of his work, and not as to the means by which it is accomplished.”⁷¹ A century later, however, as explained in *CH2M Hill*,⁷² if a wall collapsed and injured someone it is likely that other parties would be blamed in addition to the contractor hired to build it. For example, the injured party could claim that the wall’s designer was liable for the collapse if the party could establish that the designer exercised “substantial supervisory authority”

⁷⁰ See 192 F.3d 711 (C.A.7, 1999), *infra* at pp. 20-24.

⁷¹ *Dugas*, *supra* note 57, at 850.

⁷² *Supra* note 70.

over the means by which the wall was constructed.⁷³ However, it is rather likely that an accused designer in the 21st century could point to language in its contract expressly prohibiting it from engaging in any form of supervision over the means by which the wall was constructed. The reason that this language would likely exist in the accused designer's contract is that the AIA has been the primary source of influence over construction industry contracting during the last century and its standard form contracts carry such verbiage.⁷⁴ The standard risk shifting provision that the AIA uses, and which is often found in other standard forms, government contracts, and some custom-drafted contracts,⁷⁵ is:

The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.⁷⁶

This provision, however, did not appear in the AIA standard form contracts until the 1967 edition. In fact, earlier versions of the AIA contracts contained provisions requiring the architect to be involved with decisions which would directly conflict with the general rule of independent contracting that decisions regarding the means of accomplishing the intended result are not to be controlled by the owner or its agents.

1888 to 1915 – First Editions of the Standard Form Contracts. In 1888, the AIA adopted its first standard form construction contract, the Uniform Contract, for use between an owner and a contractor.⁷⁷ The contract, which would later develop into the A201 used today, mainly discussed the contract documents, payment terms, delays, and outlined the respective roles and responsibilities of the owner, contractor, and architect.⁷⁸ Although the contract did not address responsibility for construction means and methods, it did provide that the contractor could not “let, assign, or transfer [the] contract, or any interest therein, without the written consent of the Architect.”⁷⁹ In other words, the architect was given

⁷³ See *CH2M Hill*, *supra* note 70, at 720.

⁷⁴ See Timothy Twomey, *AIA Contract Documents: The Best Option*, Design Costs Data, http://www.dcd.com/insights/insights_sepoct_2009_1.html (last visited December 30, 2013) (discussing the influence of the AIA standard form documents in the construction industry).

⁷⁵ See Twomey, *supra* note 101; see also e.g. *Boyd, Higgins*, *supra* note 41.

⁷⁶ AIA A201-2007, § 4.2.2. Note that Section 3.3.1 discusses responsibility for means and methods further, identifying examples of situations where they may be influenced by the contract documents.

⁷⁷ See *History of AIA Contract Documents*, The American Institute of Architects, <http://www.aia.org/contractdocs/AIAS076671> (last visited January 1, 2014).

⁷⁸ See Uniform Contract, *available at* http://www.aia.org/aiaucmp/groups/ek_public/documents/pdf/aiab082085.pdf.

⁷⁹ Uniform Contract, *supra* note 77, at 8th. paragraph.

supervisory authority over the means by which the construction project was to be completed. This term was changed in the subsequent revisions to limit the architect's authority to approving *who* the contractor could let the contract out to, not *if* the contractor could let it out.⁸⁰

Twenty-three years later, in 1911, the AIA published the first standardized general conditions (“GCs”) for construction, The Standard Documents of the American Institute of Architects, designed as an “integral part of the prime owner-contractor agreement ... that sets forth the responsibilities of the owner, contractor, and architect during construction.”⁸¹ The 1911 contract, which had 47 more articles than the 1888 version, added a few more terms to the architect's supervisory responsibilities—some of which could be viewed as encroaching upon the level of autonomy that an independent contractor typically had.

An important article added in the 1911 GCs was Article 41, which stated that the “Architect ha[d] the authority to stop the progress of the work whenever, in his opinion, such stoppage may be necessary to insure the proper execution of the Contract.” While this may not have directly impacted the contractor's ability to perform the work free from the control of the owner, it began creating something of a gray area where the architect could stop the contractor, likely causing cost and schedule impacts, if it did not agree with the means and methods employed by the contractor. After all, the term is subjective in that the stoppage would be justifiable based solely on the architect's “opinion.” This term was modified in the 2007 version to limit the architect's authority to rejecting work, not stopping it—which is reserved for the owner.⁸²

Another article in the 1911 GCs that appeared to encroach on “means and methods,” required that the contractor “confine the storage of materials and *operations of his workmen* to the limits indicated by law, ordinances, permits or *by the Architect ...*”⁸³ The 1911 contract also added the requirement that the contractor “keep a competent general foreman and any necessary assistants, satisfactory to the Architect,” and that the general foreman could “not be changed except with the consent or at the instance of the Architect.”⁸⁴ The requirement to employ a competent field supervisor still remains today

⁸⁰ See e.g. The Standard Documents of the American Institute of Architects, available at http://www.aia.org/aiaucmp/groups/ek_public/documents/pdf/aiaab_082086.pdf.

⁸¹ *Id.*

⁸² See AIA A201-2007, § 4.2.6.

⁸³ See *supra* note 80, Article 45 (emphasis added).

⁸⁴ *Id.*, Article 49.

in the current version of the A201, however, the architect no longer has a say in the decisions surrounding his or her employment.⁸⁵

Four years later, in 1915, the AIA issued a second edition of the Standard Documents, making a few significant changes. One of the more significant changes involved the article authorizing the architect to stop the work which was revised to state that “[t]he Architect shall have *general supervision and direction of the work*.”⁸⁶ Whereas before, the article read that the architect had the “authority to stop the progress of the work,”⁸⁷ which did not necessarily encroach upon the independent contractor’s right to unfettered control over the means of construction, this new provision directly implies that the architect would be permitted to control the contractor’s methods—thus failing the rule laid out in the U.S. Supreme Court case of *Casement v. Brown*.⁸⁸ Interestingly though, this AIA contract adjustment is strikingly similar to the jump the Arkansas Supreme Court made in its 1938 *Moore v. Phillips* opinion, where it ruled that “general supervision” was equal in scope to “control and direction.”⁸⁹

The AIA has since abandoned terms permitting the architect to control the contractor’s work. Although some of the terms remain today, *e.g.* the requirement to employ a superintendent on site at all times during the performance of the work,⁹⁰ several have been abandoned and those remaining have been revised. The documents as they exist today are the result of maturation process that has spanned well beyond the last century, several of the highlights of this process are discussed below.

1967 to present – “construction means, methods, techniques, sequences or procedures”. The AIA has a 10-year revision cycle for its standard form construction contracts which allows it to adjust the risk shifting provisions in response to industry feedback as well as extensive court interpretation.⁹¹ One result of widespread usage of the AIA standard form contracts over the last 125 years has been that a significant body of construction contract case law has been based primarily on the AIA forms.⁹² Moreover, the AIA has modified its contracts

⁸⁵ See *e.g.* AIA A201-2007, § 3.9 SUPERINTENDENT.

⁸⁶ 2d. Ed. of the Standard Documents, Art. 9. The Architect’s Status.—.

⁸⁷ Standard Documents of the AIA, Article 41.

⁸⁸ See *supra* note 25 (“The will of the companies was represented only in the result of the work, and not in the means by which it was accomplished.”).

⁸⁹ See *supra* at p. 9.

⁹⁰ AIA A201-1997, § 3.9 SUPERINTENDENT.

⁹¹ See Steven G.M. Stein, Ronald O. Wietecha, *A Comparison of Consensusdocs to the AIA Form Construction Contract Agreements*, CONSTR. LAW., Winter 2009, at 11 (“In 2006 alone, there were 15 cases that directly adjudicated AIA contract provisions and another 9 cases that adjudicated similar or analogous language to AIA provisions.”).

⁹² See *id.*

in response to some of the court decisions, “resulting in documents that reflect the consensus of the judicial community as well as the construction industry.”⁹³ Much of this interaction between AIA contract terms and judicial reviews has been tracked in the *American Institute of Architects Legal Citator*⁹⁴ (*Legal Citator*) which summarizes the cases dealing with specific provisions of the AIA documents, as well as other cases covering contracts with language similar to the AIA documents.⁹⁵ By consolidating the cases that interpret the AIA contract terms, the *Legal Citator* illustrates the AIA’s historical role in shaping how control over and liability from construction means and methods is typically allocated in construction contracts. Some of the more noteworthy history is discussed below.

As mentioned above, the AIA first used the phrase “construction means, methods, techniques, sequences or procedures” in its 1967 document revisions.⁹⁶ Although this phrase was not novel in composition, as nearly identical phrasing was used in OSHA Part 1926,⁹⁷ its application in a construction contract to describe means and methods was. However, the phrase was not defined in the 1967 update even though it was used multiple times therein.⁹⁸ For example, in Section 2.2.4 the contract stated that “[t]he Architect will not be responsible for construction means, methods, techniques, sequences or procedures ...,” and in Section 4.3.1 it stated that “[t]he Contractor ... shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.”⁹⁹ The main difference between this phrase and the phrase used in OSHA Part 1926 is the addition of the word “sequences,” which is fitting based upon the 1972 New York Appellate Division’s *Rosoff Bros., Inc. v. State* decision.¹⁰⁰

In *Rosoff Bros.*, the State of New York and the claimants, a joint venture involving Rosoff Bros., entered into a contract in 1965 which was either an AIA document or one which utilized similar risk shifting provisions.¹⁰¹ The dispute centered around the public owner’s direction to the contractor to utilize a method of performing the foundation work, which was not included in the specifications, rather than the contractor’s chosen method which

⁹³ *Id.* at 16.

⁹⁴ STEVEN G.M. STEIN, AMERICAN INSTITUTE OF ARCHITECTS LEGAL CITATOR (Lexis-Nexis 2012 ed.)

⁹⁵ See Stein, *supra* note 91, at 16.

⁹⁶ See *e.g.* § 2.2 ADMINISTRATION OF THE CONTRACT.

⁹⁷ See *CH2M Hill*, *supra* note 70, at 718.

⁹⁸ A notable omission still prevalent in the most current edition of AIA documents.

⁹⁹ A201-1967.

¹⁰⁰ 39 A.D.2d 974, 332 N.Y.S.2d 798.

¹⁰¹ See STEIN, *supra* note 94.

was.¹⁰² The court in *Rosoff*, the Third Department of the NY Supreme Court's Appellate Division, recognized that the contractor had the right to determine the "sequence of operations" where they will "produce[] a result wholly within the contract and conforming to the specifications."¹⁰³ The Court held that:

(t)he law is that, so long as the contractor produces work which satisfies the specifications, he can, in the interest of economy, choose his own *methods*. This is not only the law, but common sense; for when a contractor bids, his estimates, which influence the bid, are necessarily based on his own *methods of work*, so long as those methods are not controlled by the specifications. *Horgan v. Mayor*, 160 N.Y. 516, 55 N.E. 204. (*Meads & Co. v. City of New York*, 191 App.Div. 365, 181 N.Y.S. 704.)¹⁰⁴

However, as the contract at issue was executed in 1965, it would not have contained the phrase: "construction means, methods, techniques, sequences and procedures," as the AIA did not include it in its contracts until 1967. The phrase was not tested in the courts until 1975, when the St. Thomas and St. John Division of the District Court of the Virgin Islands decided the case of *Whitfield Construction Co. Inc. v. Commercial Development Corp.*¹⁰⁵

In *Whitfield*, the District Court upheld that the plaintiff contractor's decision to proceed in the use of timber piles rather than a pile of another material was fully within his contractual rights, as the timber piles were outlined in the construction documents as acceptable even though they were not recommended.¹⁰⁶ The case was a breach of contract action that centered around "major disputes ... around several distinct stages of the construction process."¹⁰⁷ The first stage was the pile driving stage which the defendant owner claimed the contractor had "made of the wrong material (wood)."¹⁰⁸ The Court, however, did not agree with the defendant's claim as it found "no error in [the contractor's] choice of timber ... (a) conclusion [] bolstered by Par. 4:3:1 of the AIA Document A201, General Conditions of the Contract for Construction, which states that the contractor 'shall be solely responsible for all construction means, methods, techniques, sequences and procedures'"¹⁰⁹ This case is interesting as it was the first time a court made a determination of what falls into 'construction means and methods' under the AIA's

¹⁰² The state required a gravel bed rather than a concrete one as the contractor intended.

¹⁰³ *Rosoff*, 332 N.Y.S.2d 798, 802.

¹⁰⁴ *Id.* at 801-02 (emphasis added).

¹⁰⁵ 392 F.Supp. 982.

¹⁰⁶ *See id.*, FN3 at 991.

¹⁰⁷ *Id.* at 990.

¹⁰⁸ *See id.*

¹⁰⁹ *Id.* at 991.

standard form contract phrasing, *i.e.* that final material selection between approved materials is a means and methods decision.

Almost 20 years later, in 1994, the Florida District Court of Appeals defined another aspect of construction means and methods in its *Juno Indus., Inc. v. Heery Int'l* decision.¹¹⁰ In *Juno*, the contractor's injured employee and the estate of the contractor's deceased employee jointly brought a negligence action against the construction manager, who had been tasked with "conducting inspections and recording tests to ensure (contractor's) compliance with the contract."¹¹¹ Here, the owner and contractor used a contract identical in parts to the AIA A201 granting that the contractor was "solely responsible for all construction means, methods, techniques, sequences and procedures."¹¹² Further, the contract between the owner and construction manager stated that the construction manager "shall *not* ... have control or charge of or advise on or issue directions concerning aspects of the construction means, methods, techniques, sequences."¹¹³ The Court, in affirming the trial court's grant of summary judgment on the issue of liability for the construction manager, found that the source of the plaintiffs' injuries, which was the riskier usage of pressurized air to test 22" polyethylene piping rather than using pressurized water to test it,¹¹⁴ was a "means and methods" decision —a fact supported by several witnesses and undisputed by any evidence to the contrary.¹¹⁵

A year later, the Louisiana Court of Appeals reviewed a different aspect of the AIA's means and methods provisions in *Yocum v. Minden*.¹¹⁶ Rather than further identifying decisions that fall under the ambiguous definition construction means and methods, the Court gave teeth to the provisions in the AIA forms which prohibit the a professional designer from making means and methods decisions. In *Yocum*, the Court looked at this prohibition as contractual bar from the liability emanating from construction means and methods provisions, even if the harm was a foreseeable one. Citing *Day v. National U. S. Radiator Corp.*,¹¹⁷ the Louisiana Court held that in determining if a designer is expressly prohibited from guiding the contractor's methods, "the court must consider the express provisions of

¹¹⁰ 646 So.2d 818.

¹¹¹ See STEIN, *supra* note 117, at 842.

¹¹² *Juno*, 646 So.2d 818, 822.

¹¹³ *Id.*

¹¹⁴ It was determined that the air test caused the 22" piping to whip around when a joint failed and that water testing would not have caused a similar reaction to a joint failure.

¹¹⁵ *Id.* at 824.

¹¹⁶ 566 So. 2d 1082 (La. Ct. App. 1995), *appeal after remand*, 649 So. 2d 129 (La. Ct. App. 1995).

¹¹⁷ 241 La. 288, 128 So.2d 660 (LA 1961) (holding that a "contractor's method of performing his contract" included inspection of equipment as it is being installed and the sequence and timing of such installations).

the contract between the parties.”¹¹⁸ The Court established that although the designer’s contract required on-site observation to ensure general conformance with the contract documents, it also prohibited the designer from “advising on or issuing directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.”¹¹⁹ Therefore, because the designer “was expressly prohibited from guiding [contractor] or its employees in its methods,” it was not liable for failing to recognize an unsafe condition that was created as a result of the construction means and methods.¹²⁰

In the three cases discussed above, from 1975 to 1995, the courts decided that construction means and methods included: sequence of operations, selection between approved materials, and methods of testing installed materials.¹²¹ However, while these determinations could have influenced how the AIA structured its standard form contracts they did not, as no revisions were made reflecting the cases’ outcomes.¹²² A great example of a case which seemingly did influence the AIA’s contracts is the Missouri Court of Appeals’ 1993 decision of *Burns v. Black & Veatch Architects, Inc.*¹²³

In *Burns*, the Missouri Court of Appeals reviewed a contract which borrowed from Paragraph 3.3.1 of the A201-1987, stating that the contractor shall be solely responsible for the means and methods of construction “unless such means or methods have been specified by Architect for the performance of the Work.”¹²⁴ The issue in this case was that the plans and specifications provided by the architect, Black & Veatch, stated that the contractor was to “[p]rotect excavations by shoring, bracing, sheet piling, underpinning, or other methods, as required to prevent cave-ins.”¹²⁵ The plaintiff, Burns, had been injured when an excavation caved-in as a result of inadequate bracing.¹²⁶ The Court’s focus became whether the requirement to adequately protect the excavations was specific enough that the Architect could be considered liable for ensuring the safety of such protection. However, the Missouri courts had not previously reviewed the phrase “as

¹¹⁸ *See id.* at 132.

¹¹⁹ *Id.*

¹²⁰ *See id.* at 133.

¹²¹ Respectively *see Rosoff Bros., supra* note 100; *Whitfield, supra* note 105; and *Juno, supra* note 110.

¹²² Although arguably *Rosoff Bros.*, which happened prior to the 1967 version, may have contributed to the standardized means and methods phrase the AIA implemented.

¹²³ 854 S.W.2d 450 (Mo.App. W.D.).

¹²⁴ *Id.* at 453 (emphasis omitted).

¹²⁵ *Id.*

¹²⁶ *See id.* at 452.

required” for specificity.¹²⁷ As a result, the Court of Appeals borrowed from the Montana Supreme Court’s reasoning in its interpretation of such provisions and found that “as required” was not specific enough to relieve the contractor of responsibility.¹²⁸ Whether it was a direct result of this case or similar other ones, the AIA deleted the phrase: “unless such means or methods have been specified by Architect for the performance of the Work” from Paragraph 3.3.1 when it published the 1997 update to its documents.

Impact of OSHA Regulations on “Means and Methods “

In 1967, the American Institute of Architects (AIA) included the phrase: “construction means, methods, techniques, sequences or procedures” into its General Conditions of the Contract for Construction, the A201¹²⁹—a phrase which has since become the industry standard for what the constructor *is* responsible for and what the architect *is not*.¹³⁰ Soon after the 1967 edition of the A201 was released, Congress passed a series of laws—collectively called OSHA Part 1926 – Safety and Health Regulations for Construction¹³¹—which inextricably linked “means and methods” with culpability for jobsite safety violations, and which expanded culpability beyond any limits delineated in the construction contracts. This is perhaps best explained by U.S. Court of Appeals Judge Michael S. Kanne, of the Seventh Circuit, in the opinion he penned for *CH2M Hill, Inc. v. Herman*.¹³²

Typically construction contracts are written in such a manner as to segregate design from construction—best exemplified in the aforementioned 1967 version of the AIA A201 General Conditions form. However, as the Seventh Circuit Court of Appeals concluded in *CH2M Hill*, “construction (safety and health) standards may apply to some professionals

¹²⁷ *Burns*, 854 S.W.2d 450, 454 (citing *Wells v. Stanley J. Thill & Assoc., Inc.*, 153 Mont. 28, 452 P.2d 1015 (Mont.1969), “Those provisions in the contract mean that it was the duty of the contractor to take all necessary safety precautions.”).

¹²⁸ *See id.*

¹²⁹ *See* articles 2.2.4, 4.3.1, and 9.4.2.

¹³⁰ *See e.g.* ConsensusDocs 200, Article 3 Contractor’s Responsibilities (“The Contractor shall be responsible for the supervision and coordination of the Work, including the *construction means, methods, techniques, sequences and procedures utilized*, unless the Contract Documents give other specific instructions.”); *see also Burns v. Black & Veatch Architects, Inc.* 854 S.W.2d 450 (Mo.App. W.D. 1993) (adopting verbiage similar to AIA A201 verbiage that “the Contractor shall be solely responsible for and have control over *means, methods, technique, sequences and procedures.*”)

¹³¹ 29 C.F.R. § 1926. (Which are the end result of a series of amendments, enactments, and which Congress ultimately re-designated as “Part 1926.” For more on Part 1926’s legislative history, *see* SAFETY STANDARDS FOR FALL PROTECTION IN THE CONSTRUCTION INDUSTRY, § 1 – I. Background (1994), *available at* https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=PREAMBLES&p_id=891).

¹³² *Supra* note 70.

working on construction projects ... [if] it engages in construction work based upon its contractual and *actual* responsibilities.”¹³³ In other words, if a design professional engages in construction activities, a contractual term prohibiting such action may not protect that professional from liability associated with means and methods of construction.

*CH2M Hill*¹³⁴ was an appeal from an Occupational Safety and Health administrative finding that CH2M Hill, a consulting engineer,¹³⁵ had violated federal construction standards¹³⁶ and was assessed fines as a result. The project was a Milwaukee sewer system expansion which had a methane gas explosion resulting in three casualties. In its appeal, CH2M Hill contended that “it was not engaged in construction work and, therefore, should not be held liable for any potential regulatory violations.”¹³⁷ CH2M Hill made two challenges: (1) that the Secretary of Labor (“Secretary”) had erred in interpreting the construction standards in a way which “permits their application to professionals, such as engineers and architects ...”;¹³⁸ and (2) that the Occupational Safety and Health Review Commission (“Commission”) had adopted a new test for determining when a professional firm had “engage(d) in construction work” which was inconsistent with its prior precedent—that would have established that CH2M Hill did not violate the standards.¹³⁹ The Court, addressing each challenge separately in its opinion, reaffirmed the connection between “substantial supervisory authority” over construction means and methods with liability for jobsite safety violations, regardless of whether contractual responsibility for means and methods was assigned elsewhere.¹⁴⁰

CH2M Hill’s first challenge, that the Secretary’s interpretation of the federal construction standards was improper, asserted that “‘construction’ should be strictly construed according to its dictionary meaning of building, erecting, or putting together,” because the standards do “not specifically define the term ‘construction.’”¹⁴¹ CH2M Hill also asserted that, even if ‘construction’ may be defined in a manner other than the dictionary definition, the Secretary is precluded “from ever applying the construction standards to professional employers, such as itself.”¹⁴² The Seventh Circuit rejected both aspects of CH2M Hill’s claim.

¹³³ *Id.* at 724 (emphasis added).

¹³⁴ *Supra* note 70.

¹³⁵ As noted *supra* at note 1, throughout this paper “architect” and/or “designer” are used as terms intended to encompass all construction design professionals including a “consulting engineer.”

¹³⁶ 29 C.F.R. § 1910.12.

¹³⁷ *CH2M Hill*, *supra* note 70, at 717.

¹³⁸ *Id.*

¹³⁹ *See id.* at 720.

¹⁴⁰ *See id.* at 719-24.

¹⁴¹ *Id.* at 717-18.

¹⁴² *Id.* at 719.

First, the Court rejected that the federal construction standards are limited in how they may cross reference other federal statutes in determining the meaning of ‘construction,’ disagreeing with CH2M Hill that the Occupational Safety and Health Standards¹⁴³ “may not be construed differently than the other statutes, specifically the Construction Safety Act (“CSA”), because the Secretary did not adopt the standards through a notice and comment rulemaking procedure.”¹⁴⁴ Rather, the Court agreed with “other circuits (that) have recognized the applicability of this regulation”¹⁴⁵ and highlighted that the Secretary was not required to abide by the rulemaking procedures claimed by CH2M Hill.¹⁴⁶ The Court further explained that an “‘occupational safety and health standard’ (is defined) as ‘a standard which requires conditions, or the adoption or use of one or more *practices, means, methods, operations, or processes*, reasonably necessary or appropriate to provide safe or healthful employment and places of employment[,’ *see*] 29 U.S.C. § 652(8).”¹⁴⁷ Moreover, the Court agreed with the Second Circuit which held:

Those definitions make clear that the Secretary intended to adopt, indeed had the statutory authority to adopt, only those portions of the CSA regulations which require “conditions, or the adoption or use of one or more *practices, means, methods, operations, or processes*, reasonably necessary or appropriate to provide safe or healthful employment and places of employment.”¹⁴⁸

Secondly, the Court rejected CH2M Hill’s claim that regardless of the meaning of ‘construction,’ that it is exempted from the construction standards as it is a professional design firm. The Court “note(d) that the Commission has repeatedly rejected arguments similar to those presented by CH2M Hill and concluded that the construction standards may apply to professionals under certain circumstances.”¹⁴⁹ The Seventh Circuit, reviewing prior Commission decisions, held that:

¹⁴³ 29 C.F.R. § 1910.

¹⁴⁴ CH2M Hill, *supra* note 70, at 718, FN1.

¹⁴⁵ *Id.* (emphasis added) [“*See Reich v. Simpson, Gumpertz & Heger, Inc.*, 3 F.3d 1, 4 (1st Cir.1993); *Cleveland Elec. Illuminating Co. v. OSHRC*, 910 F.2d 1333, 1335 (6th Cir.1990); *National Eng’g and Contracting Co. v. OSHRC*, 838 F.2d 815, 817 (6th Cir.1987); *Brock*, 828 F.2d at 376 (6th Cir.1987); *Underhill Constr. Corp. v. Secretary of Labor*, 526 F.2d 53, 55–56 (2d Cir.1975)”].

¹⁴⁶ CH2M Hill, *supra* note 70 [“OSHA authorizes the Secretary to promulgate ‘established Federal standards’ without complying with the rulemaking procedures of the Administrative Procedure Act. *See* 29 U.S.C. § 655(a). It defines an ‘established Federal standard’ as ‘any operative occupational safety and health standard established by any agency of the United States and presently in effect.’” *See* 29 U.S.C. § 652(10).”]

¹⁴⁷ *Id.* at 718 (emphasis added).

¹⁴⁸ *Id.* [“*Underhill (Constr. Corp. v. Secretary of Labor)*, 526 F.2d at 57.”]

¹⁴⁹ *Id.* at 719.

[An employer acting as architect and] operating as a construction manager furnishing business administration and management services who exercised “substantial supervisory authority over the construction work at the jobsite” was subject to the construction standards. (*Secretary of Labor v. Kulka*, 15 O.S.H. Cas. (BNA) at 1871. Yet, it has also concluded that the construction standards do not apply to professional firms when the firm *does not engage in substantial supervision over the work or safety program* at the construction site. See *Secretary of Labor v. Skidmore, Owings & Merrill*, 5 O.S.H. Cas. (BNA) 1762, 1764 (1977) (“SOM”). Thus, whether or not the construction standards apply has previously been a fact-specific inquiry that appears to turn on the responsibilities *assumed* by the firms in question.¹⁵⁰

Thus, even though an entity may be a design firm, if it exercises “substantial supervisory authority over the construction work” it may be subject to OSHA’s construction standards and thus can be cited for onsite violations. The inquiry to determine whether a firm has crossed the supervisory threshold is known as the “substantial supervision” test.¹⁵¹

The Court in *CH2M*, having disposed of the claims that ‘construction’ could not apply to design firms then turned to CH2M Hill’s challenge that the Commission’s finding, that CH2M Hill had “engage(d) in construction work,” was premised upon a newly adopted test that was inconsistent with its prior precedent.¹⁵² The Court found that the Commission, which had traditionally used the “substantial supervision” test, in this case had applied a new and different test to determine that CH2M Hill had engaged in construction work because it:

(1) possesse[d] broad responsibilities in relation to construction activities, including both contractual and *de facto authority* directly to the work of the trade contractors, and (2) [was] directly and substantially engaged in activities that [were] integrally connected with safety issues ... notwithstanding contract language expressly disclaiming safety responsibility.¹⁵³

The Court, in vacating the Commission’s findings of violations and imposition of fines, took issue with the Commission’s “decision to ignore contract language in evaluating to whom the regulations apply,” but the Court did not go as far as basing its decision on same.¹⁵⁴ By taking issue with its new test, the Court then reverted back to the “substantial supervision” test, applied it, and found that there was no basis to determine that CH2M Hill had engaged

¹⁵⁰ *CH2M Hill*, *supra* note 70, at 719 (emphasis added).

¹⁵¹ *Id.* at 720.

¹⁵² *See id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.* at 721.

in construction work because CH2M Hill did not have substantial control or supervision, “either (1) contractually or (2) in actuality,” over construction activities at the jobsite.¹⁵⁵

The *CH2M* contract stated that CH2M Hill, as “engineer,” it was to act on behalf of the owner but “not direct or supervise the contractor’s personnel, or operate or directly use equipment.”¹⁵⁶ CH2M Hill’s contract instead provided that the “construction contractors [were to] remain responsible for construction means, methods, techniques, procedures and safety precautions on the construction portions of the [project].¹⁵⁷ Similarly to the common standard form contracts, discussed *supra* at pages 4-5, this contract attempted to keep responsibility for construction means and methods with the constructors. However, although the contract language in it was successful in this instance, the Court highlighted that review of contractual language is only one part of determining liability on a construction jobsite. How the parties on a jobsite act with respect to giving instructions on how to “perform the construction work” can also result in liability on a jobsite, and it is this ability to assume responsibilities outside of the contract language which begs a deeper look into how construction means and methods are actually defined.

‘Sword’ or ‘Shield’?

In its simplest paradigm, the construction project is a constantly evolving project that is financed by the owner, designed by the architect and/or engineer, and built by the contractor. The level of sophistication in the contracting among these three entities is not happenstance but rather an evolution that has been shaped both by the industry’s oldest rational actors and courts across the country. Perhaps equally as intentional is the vagueness that surrounds the ever-important yet completely undefined term: ‘construction means and methods.’ The term seems to exist in such a way that it has been used to advance the interests of all three of the main construction project actors. The owner, who perhaps benefited the most historically from construction means and methods in using the term to shield itself from employer liabilities, now seems to remain largely on the outside of the discussion. Thanks to the increased sophistication of construction contracts, the owner typically can point to its contracts which require that either its architect or its contractor shall shoulder the liabilities associated with construction means and methods, a debt of gratitude it owes mostly to the AIA. If a newly constructed wall falls today, the owner can point to its architect who designed the wall and its contractor who built the wall and can claim that liability for any resulting harm is due to negligence by either one or both of them. This is where the question exists of whether the ambiguous nature of construction

¹⁵⁵ *CH2M Hill*, *supra* note 70, at 723.

¹⁵⁶ *Id.* at 714.

¹⁵⁷ *Id.*

means and methods can be thought of as a 'shield' or rather a 'sword.' As the cases seem to show, however, there is no clear answer and the determination of shield or sword may purely rely on the facts of the particular harm that has resulted.

In *CH2M Hill*,¹⁵⁸ means and methods were used more as a shield, as the owner's designer claimed it should not have liability for constructive activities because it did not control the means and methods. Viewed differently, the designer, CH2M Hill, may have been responsible for ensuring that the "newly constructed wall" conformed to its design but because it was prohibited from directing the construction means and methods it could not be held liable for any construction-related infractions. Therefore, CH2M Hill would argue that it should be shielded from the liabilities associated with the construction of the wall because it was not supervising the means and methods associated with it. However, if the facts of *CH2M Hill* had been that CH2M Hill was being sued rather than fined for harms associated with the wall falling, CH2M Hill would likely implead the contractor who was responsible for the construction means and methods; *i.e.* CH2M Hill would then use means and methods as a sword.

Confounding the issue of trying to sort whether means and methods is more of a shield or a sword is the fact that it is extremely rare to find fact patterns of one each of owner, architect, and contractor to a construction project. Because of this, contracts include pass-through provisions for liabilities, specific insurance requirements, etc. and when a wall falls down there is no shortage of legal actions which may be brought by the person suffering the harm. Additionally, advances in building technologies, newer project delivery systems, the relatively young green and sustainable building industry, obscured contractor design requirements, and variances in state construction laws all serve to further prevent any one definition of means and methods from being established.

Next Steps:

¹⁵⁸ *Supra* note 70.

As part of analyzing the use of “construction means and methods” as an often used yet undefined legal term, there were a few preliminary discussions conducted with industry professionals early on which emphasized the need to define the term based on dramatic inconsistencies of understanding. These discussions helped highlight that review of contemporary case law would only show narrowly construed definitions, on a case by case basis, rather than serving to illuminate a more general definition. With this, the literature survey became much more historically driven and once completed, provided a good context as to the likely origins of the term. Additionally, the survey also provided an idea of where the legal interpretation of the term is headed and generated an outline for this analysis to become a formal qualitative research study, complete with additional questions posed, data gathering and analysis, and subsequent reports and/or modification to the original literature survey.¹⁵⁹

The additional questions posed are included in a Draft Questionnaire, included below in Appendix A. Many of the questions included in the Draft Questionnaire were used in discussions, or semi-standard interviews, with additional industry professionals—summaries of which are included below in Appendix B. The goal in developing a questionnaire, integrating it with discussions involving industry professionals, then revising the questionnaire is to prepare it for a wide-distribution amongst construction industry professionals on all sides of the common paradigm of owner, designer, and builder. Once the results of the wide-distribution are then gathered and sorted, the literature survey will once again be revisited and amended to include the data received.

And finally, although only in terms of this project, there are additional emerging topics in construction which will also shape the discussion surrounding construction means and methods. These topics are listed below and represent opportunities for future exploration:

- a. Building Information modeling (BIM),
- b. Modern service delivery methodologies such as Design-Build and Public Private Partnerships (PPP),
- c. “Green” or environmentally sustainable building and materials,
- d. Hybrid Performance Specifications, and
- e. NY Labor Laws §§ 240(1) & 142(6).

¹⁵⁹ JOHN W. CRESWELL, *QUALITATIVE INQUIRY AND RESEARCH DESIGN: CHOOSING AMONG FIVE APPROACHES* (SAGE Publications, 3d ed. 2013).

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Appendix A – Draft Questionnaire

1. Please indicate the number of years you have worked in/with the construction industry. (0-5, 6-10, 11-15, 16-20, 21-25, 25+)

_____.

2. Please indicate the type of firm you represent. (A/E, CM/GC, Owner, Trade Contractor, Law – A/E, Law – CM/GC, Law – Owner, Law – Trade Contractor, Other)

_____.

3. The term “construction means and methods” remains a poorly defined but widely used term within the construction industry, yet often the contractors are “solely responsible” for them. One industry resource, the International Risk Management Institute, Inc. (IRMI, which Travelers deems on its website as “the premier provider of practical and unbiased insurance information and continuing education” for its agents), offers the definition:

A term used in construction to describe the day-to-day activities a contractor employs to complete construction. In some cases, these activities may require incidental design or engineering elements; the rigging of scaffolding for a particular purpose or minor modifications of plans to solve on-the-spot- construction difficulties.

However, as an example, the IRMI offers the following:

[M]oving a door a few inches to avoid interference with another door.

- a) Is the definition above in line with your understanding of what “means and methods” is intended when used by parties to a construction contract? (Yes or No)

_____.

- b) If no, is it drastically different? (Yes or No)

_____.

- c) Which do you feel the example above is best described as: (Check one)

(i) Construction means and methods (___), or

(ii) A minor design revision (___)?

4. Where contract documents place the contractor as solely responsible for means and methods and list more than one acceptable method of performing a scope of work, may an owner typically direct the contractor to used one method over another? For example, where contract documents specify the use of either timber or steel friction piles, may the contractor select timber piles where the owner prefers steel? (Yes or No)

_____.

5. When asked to explain what “means and methods” are to somebody outside the construction industry, one industry professional described means and methods as (A) the “how” in construction; another described it as (B) “anything that does not work into the final work product.”

a) Between these two descriptions, which do you feel is more accurate? (Choose A or B)

_____.

b) If neither of these descriptions are satisfactory for such a brief explanation, how would you choose describe them?

6. Often construction documents will contain performance specifications, which effectively require that the contractor complete a portion of the design scope in order to perform its work. For example, in a typical project the drawings and specifications will generally lay out the fire suppression requirements and the contractor’s fire protection trade contractor will create the final engineered system. In such a situation, would you consider this engineering to fall under the contractor’s “means and methods” responsibilities?

7. Regardless of how you define construction means and methods:

a) Should they always be the sole responsibility of the contractor? (Yes or No)

_____.

b) If not, who else should have influence decisions regarding construction means and methods? (Owner, A/E, or Both)

_____.

8. If familiar with the American Institute of Architects (AIA) standard form construction contracts, do you feel that the contracts, in an undisturbed form, sufficiently safeguard against disputes surrounding construction means and methods? (Yes, No, or Unfamiliar)

_____.

9. If familiar with the ConsensusDocs standard form construction contracts, do you feel that the contracts, in an undisturbed form, sufficiently safeguard against disputes surrounding construction means and methods? (Yes, No, or Unfamiliar)

_____.

10. If familiar with both the AIA and ConsensusDocs standard form construction contracts, which do you feel better addresses construction means and methods? (AIA, ConsensusDocs, Equally, or Unfamiliar)

_____.

11. Do you feel that the Owner's A/E of record on a project has a duty to stop work on a jobsite which is being performed in an unsafe method? For example, directing trade employees to get out of an improperly shored trench. (Yes or No)

_____.

12. Do you feel that the Owner's A/E of record on a project can direct workers to stop working in an unsafe manner in favor of a safe one? For example, directing trade employee to use an 8' ladder to reach his/her work rather than standing on top of a 6' ladder. (Yes or No)

_____.

13. Do you feel there is a difference between Questions 11 and 12? (Yes or No)

_____.

14. Does your answer to Question 12 change if the A/E directs the trade employee to use a rolling scaffold with guardrails rather than a ladder? (Yes or No)

_____.

15. Regarding Question 14:

a) Does your answer change if there *is no cost difference* between using rolling scaffolds and ladders? (Yes or No)

_____.

b) Does your answer change if *it costs more* to use rolling scaffolds than ladders? (Yes or No)

_____.

Appendix B – Summary of Discussions:

Discussion No. 1, 7 April 2014

Advocate for general contractors and construction managers before government, public and private construction users, and designers (25+ years of experience)

- There is a greater need for a clear demarcation between means and methods and design, which often gets muddled in the construction documents which require that the contractor build in accordance with the applicable building codes – which are then listed out for reference within the documents; however, this is a design obligation, not a contractor's.
 - o There are instances where the contractor has an obligation to design a system in accordance with applicable code, but these should be clearly identified by performance specs; *e.g.* signed and sealed fire protection drawings.
 - This is an instance where design-delegation is proper; however, it is important to remember that shop drawings are to be reviewed for whether the subject will fit within the physical constraints, not for whether the system (as designed) will work and/or comply with governing codes.
- CM as Agent actions with respect to affecting means and methods, and the resulting liabilities, should be reviewed as per the professional firm standard highlighted in *CH2M Hill, i.e.* whether the CM has exercised “substantial supervisory authority.”
 - o This is different than with the CM at Risk, whose liabilities are more closely aligned with a GC.
- Two main questions come up:
 1. Who has ultimate liability for injuries?
 2. Who has ultimate liability for contract overruns? (*I.e.* E&O Insurance vs. Contractor's Contingency)
- Possible Questionnaire questions:
 - o *Where does design responsibility end and means and methods begin?*
 - Think of the engineered-shop drawings.
 - o *How should means and methods changes be handled within design-build contracts, where the performance specifications are typically highly-detailed?*
 - This is especially important/prevalent in the public sector.
 - o *Are questions of means and methods handled differently when the resulting damages are monetary (contract claims) vs. when they are injurious (tort)?*
 - Also consider whether performance liability (*e.g.* green-build certifications) fall under the contract liability.

Discussion No. 2, 8 April 2014

Construction lawyer, mediator, and arbitrator focusing on drafting and negotiating all manner of contracts relating to construction projects as well as resolving construction disputes (32 years of experience)

- Questions of what are means and methods are not unanswered, rather the answer is in the design of the building;
 - o The only real exception may stem from questions of Sequencing.
- Tort liability is to be handled separately of contract liability;
 - o There is a clear divide between how the two are handled and what the standards of review are.
- Gray areas are often governed by the Duties owed by Professionals:
 - o Contractual,
 - o OSHA, and
 - o Labor/Scaffold Laws.
- The real disconnect stems from the contracting parties' respective failures to read and execute the contracts properly;
 - o AIA and ConsensusDocs are, in their undisturbed form, often sufficient safeguards against the ambiguities identified within the paper.

Discussion No. 3, 10 April 2014

Contracts manager and general counsel of national trade contractor, with prior experience as a construction lawyer (23+ years of experience)

- "Means" are the materials and tools of the trade (union agreements may apply); "Methods" are the sequencing and how the Means are applied with respect to constructability issues (union agreements also may apply).
- Design-assist would help flush out many potential conflicts re: means and methods prior to the scenarios in which they arise;
 - o However, this is not possible in New York State public works with "rip and read" low price bid awards.
- BIM is driving means and methods coordination, and can be more widely utilized with the right data applied reflecting the actual means and methods on a project.
- Possible Questionnaire questions:
 - o *Is 'first come, first serve' an appropriate answer to the issue of who has first rights to means and methods where conflicts arise?*
 - What should determine?
 - o *Are Substitution Requests required for designed elements if the end result is not an aesthetic one, e.g. the method of fastening the top-track of a framed wall to the floor slab above?*

Discussion No. 4, 20 May 2014

Proto-focus Group: Roundtable discussion of New York City Bar Association Construction Law Committee Meeting

- Discussion began with attempting to define means and methods;
 - o One individual, a construction lawyer and partner at his firm, offered that most likely it can be simplified as ‘how something is done.’ For example, the decision between whether a building material will be fastened to a wall by adhesive or by mechanical fasteners, *i.e.* screws, is one of means and methods;
 - o Another individual, a lawyer with trade contractor experience, defined means and methods also as the ‘sequencing’ of how things are done.
- Similarly to how means and methods is defined, it was discussed who has ownership of ensuring a clear demarcation between design and construction means and methods—specifically where the construction specifications and drawings (collectively “construction documents”) are concerned;
 - o Where the construction documents are silent, it is then a decision for construction means and methods;
 - o A big issue creating imperfectly drawn demarcations is the design team issuing ‘imprecise specifications,’ which may reflect the intent of the design but not the final design work product;
 - Interestingly enough, the Construction Specifications Institute (CSI) had been tasked with standardizing construction specifications formatting by the federal government (in March 1948, to aid in the post-war construction boom), and it is unclear whether or not it was truly successful or not. (*See About CSI, Our History, available at <http://www.csinet.org/Functional-Menu-Category/About-CSI>*).
- Discussion ended on something of a ‘call to arms’ for the industry to evolve in terms of its sophistication in how it presents costs to the less frequently present actor, the owner. That is, designers and contractors should work together to educate owners that up-front costs do not represent the full potential cost in a construction project, and encouragement should be given for integrated delivery methods where ownership of construction means and methods is shared, thereby reducing total project cost;
 - o Once this happens, the industry can work together to develop construction means and methods technology and an evolution can begin which may eventually result in a less adversarial industry.
 - Whereas now, the typical process is:
 - Step 1: Owner asks how much it will cost for prime contracts, *e.g.* the CM or GC (based solely on submitted pricing, not accounting for exclusions and contingency usages);

- Step 2: Owner then looks to squeeze these up front costs by reducing proposed staffing plans, thereby reducing the efficiency of the project team before the project even begins;
 - Step 3: The selected CM or GC then bids out the project to trade contractors, who know that they will be fronting significant costs for material and labor, which are only partially reimbursed as the process unfolds due to an antiquated system of 5-10% retainage being withheld from every progress payment.
 - Step 4 through the final one: Trade contractors try to get slightly ahead in the progress payments to account for the retainage being withheld—which typically causes the contractors to stay behind in costs incurred versus payments received.
 - In other words, the realities are greatly interfering with the process.
- Possible Questionnaire questions:
- *Are incomplete design specifications an acceptable industry norm, or is it a pervasive problem which begs industry-wide attention?*
 - *Do you feel that the adversarial nature of the traditional design-bid-build project delivery method is hampering advances in construction technology or helping them?*

Discussion No. 5, 22 July 2014

Project executive with NYC Department of Design & Construction and licensed architect (30+ years of experience)

- The IRMI example, moving a door from its specified location in the drawings (*see infra*, at page 4), is not an example of construction means and methods, rather it is an example of a design change;
 - Construction means and methods, as they apply to door installations in a project, are more accurately defined as how the door is procured, what method of installation is used, and how it is subsequently protected from jobsite damage.
- Means and methods may be defined as everything it takes to make a structure, as defined by the architect/design team;
 - Similarly as others have described, means and methods may be succinctly described as 'how specified construction materials go into a specified space.'
 - Additionally, defining means and methods is a fact specific endeavor, due often to the inclusion of performance specifications;
 - *I.e.* what is may be considered means and methods on one project, such as routing of overhead MEPs, may be considered "delegated

design” or “design completion” on a different project, where the routings are to be proposed for ultimate approval or rejection by the design team.

- Moving forward, it will be interesting to see how green construction affects the definition of construction means and methods;
 - o Additionally, as the level of sophistication continues to increase at the trade contractor level, a clearer line of demarcation may be established between what is truly design rather than means and methods.