

## Electronic Data Transfer: A Guide for Managing Opportunities and Risks

Contributed by Victor O. Schinnerer & Company Inc. and the AIA Knowledge Resources Staff  
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### **CONSULT YOUR ATTORNEY**

The information herein should not be regarded as a substitute for legal advice. Readers are strongly advised to consult an attorney for advice regarding any matter related to the electronic transfer of documents.

### **SUMMARY**

Electronic data transfer is a useful and valuable method of communicating building design information. This article is part of a series on electronic data transfer and contains information to help firms devise strategies to safeguard the use of electronic documents and to protect against the risks involved in electronic data transfer. See Resources/More Best Practices for related Best Practices articles.

### **LEVERAGING INFORMATION**

The creation of building design information in electronic form facilitates the exchange of information among the design team (architects, engineers, and others), the construction team (the general contractor and its subcontractors), and the owner's team (construction manager, facility manager, tenants, and mortgage lender) in ways not previously possible.

Among the perceived advantages of electronic building design information is a higher degree of detail, precision, and integration as well as the ability of one party to use information created by another party. On the other hand, the ability to produce more exacting information, the ease with which it can be exchanged, and the prospect that it may be used for other than its originally intended purpose can be matters of serious concern to architects, who are responsible, and liable, for the information they produce and convey to others.

### **HISTORICAL AND BUSINESS CONTEXT**

An architect's instruments of service, traditionally consisting of drawings and written specifications, are not intended to describe or depict a building in

exhaustive detail or to serve any purpose other than to communicate the result that the contractor is expected to produce in built form. Nor are construction documents intended to serve any purpose once construction is complete.

The opportunities and risks of electronic data exchange are commonly illustrated by the task known colloquially as the "quantity take-off." Contractors, not architects, are generally responsible for determining the quantity of materials and products needed to construct a building as well as the means and methods of their assembly. The construction documents that architects prepare are not intended to provide detailed information about the quantity of materials and products to be incorporated into a building. All parties recognize, however, that an electronic building design file produced by an architect contains information about building area and volume that, if shared electronically with a contractor, can be readily extracted without additional, laborious calculation to determine the needed quantity of many construction materials. An architect might be held liable for the accuracy of area and volume calculations or even the material quantities extracted from an electronic file prepared by the architect—information for which the contractor has traditionally been responsible.

Similarly, all parties readily recognize the value of building design and construction information in the management of a facility throughout its operational life. However, one can also imagine that a facility manager might rely on, and hold an architect responsible for, the information contained in an electronic file prepared by the architect, even though the information was not intended to be used for facility management purposes and has long passed from the architect's direct oversight and control.

### **AUTHENTICATING AUTHORSHIP**

The traditional medium of communication in the building industry—paper—is sufficiently stable and immune to undetectable alteration that authorship and responsibility for the acts of any party can be

established with reasonable certainty. Because information created and stored in electronic form is subject to undetectable alteration or electronic degradation, the exchange of electronic information raises legitimate concerns regarding authorship, control, responsibility, and liability.

Architects are professionals who provide a service, not a product. Their instruments of service are intellectual property of which they retain ownership. The ease with which electronic information can be exchanged, coupled with the ease with which the information can be altered without detection, raises the serious issue of whether architects who share electronic information with others can retain meaningful ownership of their intellectual property—or even establish that ownership.

### **BUSINESS CHALLENGES**

Many firms are eager to streamline the building design and delivery process while prudently managing their professional liability risks and protecting their intellectual property. But sharing electronic building design information can pose significant organizational challenges.

Design professionals regard electronic design tools as vehicles for enhancing design exploration, improving coordination with fellow design professionals, and minimizing design conflicts. Clients, on the other hand, often perceive them simply as a means of producing construction documents that are faster, cheaper, more accurate, and reusable. Unrealistic client expectations are not new; electronic building design data simply exacerbate a long-standing problem and create new “client education” challenges for architects.

### **A SILVER LINING?**

Architects provide design services within a business context. To a certain extent, architects have an opportunity to shape the business context by broadening their services. Clients often want building information in electronic form for uses beyond the originally intended purpose—for facility management, for example. Construction documents, while useful as a starting point, need to be adapted for facility management needs. As the author of the original construction documents, the architect is in an advantageous position to provide these services, which could generate additional revenue while reducing the risk of inappropriate use of the construction documents.

### **ARE THE RISKS OVERSTATED?**

Interestingly, despite the perceived risks, there is little or no case history or insurance claim history related to the electronic transfer of building design information. The scope of liability of architects and other design professionals has not broadened significantly as a result of sharing electronic building design data. Nor have architects' intellectual property rights eroded.

Despite the lack of serious consequences to date, electronic data transfer involves some real and continuing risks. A single landmark case could alter the business climate rapidly. Fortunately, architects can do a lot to minimize the risks, to educate their clients, and to foster a business climate that assigns responsibility and liability for the exchange of electronic building design data to the appropriate parties and preserves the architect's intellectual property rights.

### **PROTECT YOURSELF**

Architects should not assume that other parties will recognize and respect appropriate boundaries for the use of electronic building design data any more than people should assume that others will respect their property rights if they leave the front door of their home open and unattended. We take prudent measures to protect our personal and real property; an architect should be no less diligent in protecting electronic building design data from inappropriate use.

Once information is released in electronic form, the author cannot control use of that information. In some cases, technological safeguards may prevent unauthorized use of electronic data or transmission to unauthorized parties, but any such safeguards can be defeated. The best protection is a written agreement that explicitly restricts recipients of electronic data to using the information as originally intended by the author.

### **LEARNING FROM OTHERS**

Architects are not alone in facing the challenges presented by the existence of their work in digital form. Professional photographers face equal or greater risks to their livelihood. As a profession, however, photographers—particularly architectural photographers—vigorously and conspicuously defend their copyrights. As a result, the prevailing business culture with respect to professional photographs is one of awareness and respect for photographers' intellectual property rights.

## TRANSFER AGREEMENTS

Because most parties to electronic data transfer have widely divergent assumptions about the appropriate use of the data, it is important that the parties explicitly agree in writing to the terms and conditions of data transfer prior to any transfer. A written agreement helps educate the parties about appropriate use of the data, helps protect the author's intellectual property rights, and provides a legal foundation for equitable dispute resolution in the event of inappropriate use or future attempts to assign liability inappropriately.

## TAKE THE INITIATIVE

Anticipate circumstances in which data transfer is likely to occur and propose terms of agreement in advance. To minimize the likelihood of misunderstandings, address the issue as part of the owner-architect agreement at the very start of a project, as part of every architect-subconsultant agreement, or whenever a request for electronic data transfer might be reasonably anticipated, such as when an owner and contractor enter into an owner-contractor agreement.

Taking the initiative demonstrates leadership in addressing the issue and a willingness to share electronic information; establishes the climate for negotiation; clarifies the terms and conditions of data transfer well in advance; and fosters an environment of cooperation, mutual respect, and agreement. If one waits to address the issue until another party requests information, the other party's eagerness to obtain the information to meet project deadlines may take precedence over thoughtful attention to the terms and conditions of electronic data transfer.

## BEWARE OF UNINTENDED CONSEQUENCES

The greater risk of electronic data transfer may reside not in the technology itself but rather in how it affects the behavior of the parties using the technology. Particularly with project-specific Web sites during the construction phase, the ease and speed with which a contractor or other party may request information may lead a design professional to respond without sufficient thoughtful deliberation, resulting in self-inflicted liability. The speed and informality of electronic communication must not compromise one's professional judgment.

## AGREEMENTS WITH OWNERS

AIA Document B141-1997, *Standard Form of Agreement Between Owner and Architect*, acknowledges the need for an electronic data transfer agreement without addressing the matter in explicit detail. Information technology in building

design and construction is likely to evolve more rapidly than the text of the standard contract form, which might become outdated quickly or fail to address technical issues fully. Note the language of Subparagraph 1.3.2.4 of B141-1997, which carefully signals the need for further agreement:

*Prior to the Architect providing to the Owner any Instruments of Service in electronic form or the Owner providing to the Architect any electronic data for incorporation into the Instruments of Service, the Owner and the Architect shall by separate written agreement set forth the specific conditions governing the format of such Instruments of Service or electronic data, including any special limitations or licenses not otherwise provided in this Agreement.*

## TRANSFER AGREEMENTS: SAMPLE LANGUAGE

A valuable though little-known AIA contract document, B511-2001, *Guide for Amendments to AIA Owner-Architect Agreements*, provides sample language for modifying standard owner-architect agreements for a number of purposes, including electronic data transfer. This document is publicly available at no cost from the Web site, [www.aia.org/documents/b511-2001.pdf](http://www.aia.org/documents/b511-2001.pdf). Because this document can be revised more frequently than the standard contract form, it is a useful repository for contract terms and conditions that may need to change more quickly than others.

Together, AIA Documents B141-1997 and B511-2001 provide valuable guidance for establishing terms and conditions of electronic data transfer. The parties to an owner-architect agreement, in consultation with their respective legal counsel, may examine the sample language in B511-2001 and amend the owner-architect agreement specifically to address appropriate use of the instruments of service, including electronic data.

## WHAT ABOUT COPYRIGHT?

Any transfer of data raises a question as to whether the transfer also constitutes a transfer of copyright or other property rights. Architects commonly assume that the transfer of ownership in the instruments of service is an all-or-nothing proposition. While a detailed discussion of copyright and property rights is beyond the scope of this article, it should be noted that in the United States property rights are often, though not always, absolute. A property owner (in this case, the architect, who owns the copyright) is generally free to convey property rights to others in whole, in part, or not at all, and is entitled to require and receive any compensation to which the buyer

and seller freely and mutually agree. Note, however, that just as a seller is free to place a value on intellectual property as a condition of full or partial transfer of ownership, a buyer is free to accept or reject the condition or to make a counteroffer. This is how property value is determined in a free market.

The sample language of AIA B511-2001 addresses this issue by conveying to the building owner, at the conclusion of the project, a limited right of ownership in the physical or electronic media of the instruments of service while reserving to the architect the copyright and all other property rights. It also includes an indemnification of the architect by the owner in the event of inappropriate or unauthorized use. The question of additional compensation for this conveyance, if any, is up to the parties to negotiate and agree upon:

*Ownership. Upon full payment of all sums due or anticipated to be due the Architect under this Agreement and upon performance of all the Owner's obligations under this Agreement, the latest original Drawings, Specifications and the latest electronic data prepared by the Architect for the Project shall become the property of the Owner. This conveyance shall not deprive the Architect of the right to retain electronic data or other reproducible copies of the Drawings and Specifications or the right to reuse information contained in them in the normal course of the Architect's professional activities. The Architect shall be deemed the author of such electronic data, documents and design, and shall retain all rights not specifically conveyed, and shall be given appropriate credit in any public display of such documents.*

*Reuse of Documents. The Owner shall not use or authorize any other person to use the Drawings, Specifications, electronic data and other Instruments of Service on other projects, for additions to this Project or completion of this Project by others so long as the Architect is not adjudged to be in default under this Agreement. Reuse without the Architect's professional involvement will be at the Owner's sole risk and without liability to the Architect. The Owner shall indemnify and hold harmless the Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of unauthorized reuse of Drawings, Specifications, electronic data or other Instruments of Service.*

*Transfer of Ownership. Under no circumstances shall the transfer of ownership of the Drawings,*

*Specifications, electronic data or other Instruments of Service be deemed to be a sale by the Architect, and the Architect makes no warranties, express or implied, of merchantability or of fitness for a particular purpose.*

## **COORDINATING RELATED AGREEMENTS**

Whenever standard forms of agreement are modified, any related agreements, such as owner-contractor agreements or architect-subconsultant agreements, should be reviewed and modified for consistency with the transfer agreement. For example, B511-2001 recommends that if B141 is amended with the above language, AIA Document C141-1997, *Standard Form of Agreement Between Architect and Consultant*, should be modified to delete Subparagraph 6.1 and to substitute the following:

*6.1 Ownership of the latest original Drawings and Specifications prepared by the Consultant shall be conveyed to the Owner in the same manner and to the same extent as provided in the attached Prime Agreement, and the Consultant shall be afforded the same rights with respect to electronic data or other reproducible copies of the Drawings and Specifications and the information contained therein as are afforded to the Architect in the attached Prime Agreement.*

## **TRANSFER AGREEMENT PROVISIONS**

Parties may enter into an electronic data transfer agreement at any time. While it is preferable that an explicit agreement be in effect at the start of a project, the parties can develop and sign such agreements as needed at a later date.

Requests for electronic data may be made at any time by any number of parties with a legitimate business interest in a project and with whom the architect may not have a contractual relationship. In such cases, it may be useful for a firm to develop, in consultation with legal counsel, a stand-alone electronic data transfer agreement. An architecture firm and its legal counsel might wish to include the following provisions in such an agreement:

- The electronic data is transferred for a specific, limited purpose; any use of the data for other than its originally intended purpose is prohibited.
- The architect is the author of the data and retains full rights of authorship in the data and all other rights not specifically conveyed.

- The electronic data is transferred for the sole benefit of the client for whom the design services have been performed.
- Receipt and use of the electronic data does not relieve the recipient of any responsibility or obligation.
- The recipient may not transmit the information to other parties.
- The recipient acknowledges that the data is being transmitted in electronic form for convenience only and that the signed and sealed hard copies are the only true contract documents of record.
- The recipient is solely responsible for verifying that the information contained in the electronic data file is identical in all material aspects to the contract documents of record.
- Use of the electronic data is at the sole risk of the recipient, who acknowledges that the electronic data is subject to undetectable alteration or electronic corruption or degradation.
- The recipient is solely responsible for confirming that the information is current and for updating the information to reflect any changes in the design subsequent to the date of receipt of the information.
- The recipient indemnifies and holds harmless the architect for all claims and losses resulting from unauthorized or improper use of the data.
- Transfer of the information in electronic form does not convey to the recipient a license to use the software that was used to create the information, nor does it create an obligation on the author's part to provide the software to the recipient.

### REMOVE THE TITLE BLOCK?

A common concern of architects is whether or not information that identifies the author of the electronic data, such as the title block of a drawing, should be removed from electronic data files before transfer to other parties. One needs to weigh the relative risks on a case-by-case basis; for this reason, the architect may wish to reserve the right to remove such firm-identifying information.

If the owner is likely to use the electronic data for facility management purposes over an extended period, removal of firm-specific information may

reduce the likelihood of future claims against the architect that are without merit. On the other hand, if authenticating one's authorship and maintaining ownership of the intellectual property embodied in the data are paramount concerns, removal of firm-specific information may increase the difficulty of establishing authorship of the electronic data at some future date.

Generally, the liability risks of electronic data transfer outweigh the authorship risks. There are other, more definitive means of establishing copyright infringement—namely, the physical manifestation of some or all of the copyrighted material in the construction of another building.

### DATA TRANSFER TO CONTRACTORS

While contractors who wish to receive electronic information should be required to sign transfer agreements like any other party, the transfer of electronic information to contractors or subcontractors should be subject to additional considerations:

- Are the files being shared or transferred for the benefit of the owner?
- Does the architect have the legal right to transfer such information since by contract or operation of law the client may own the information?
- Does the contractor have a right to the electronic information on the basis of a written transfer agreement with the owner?
- Is that agreement consistent with the owner-architect agreement, and does it include appropriate safeguards for the author of the electronic data?
- Does the transfer agreement clearly and explicitly place the responsibility and risk of relying on the electronic information on the contractor?
- Does the contractor bear the responsibility for verifying that the information is current and for obtaining updated electronic information?

In addition to ensuring that a transfer agreement with a contractor includes the appropriate terms and conditions, including a disclaimer with each electronic transmission may help minimize the likelihood of claims against the architect that are without merit. Such a disclaimer might read as follows:

*The delivery of this information in electronic format is for the benefit of the client for whom the design services have been performed. This delivery constitutes a nonexclusive, limited license for the recipient to use the information for the specific purpose of responding to the requirements of the Contract Documents for this Project. Nothing in this transfer should be construed to create any right of the contractor to rely on the information provided. Use of this electronic information does not constitute review and approval by the architect of any information produced by the contractor based on the information provided. It is our professional opinion that this electronic information provides design information current as of the date of its release. Any use of this information is at the sole risk and liability of the recipient who retains the responsibility of meeting the requirements of the Contract Documents. The recipient is solely responsible for updating the information to reflect any changes in the design following the preparation date of this information.*

**LESSONS LEARNED**

Set transmittal and use guidelines early in the project timeline and weigh options for liability and ownership of documents on a case-by-case basis.

**RESOURCES**

**More Best Practices**

The following AIA Best Practices provide additional information related to this topic:

- 10.02.01 Electronic Data Transfer: Sample Disclaimer Notice
- 10.23.03 Electronic Data Transfer: Receiving Information from Others
- 10.02.04 Electronic Data Transfer: Project-Specific Web Sites

**For More Information on This Topic**

See also “Technology and Information Systems” by Michael Tardif, Assoc. AIA, *The Architect’s Handbook of Professional Practice*, 13th edition, Chapter 13, page 373.

See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at [bookstore@aia.org](mailto:bookstore@aia.org)



**Key Terms**

- Practice
- Information management
- Office information resources
- Office archives

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Two Wisconsin Circle  
Chevy Chase, MD 20815-7022  
301-951-9746  
[www.planetAEC.com](http://www.planetAEC.com)

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