The Users

Preservation Factors in the Appraisal of Architectural Records

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Abstract: The assessment of physical formats, condition, and preservation needs is an essential part of the appraisal of architectural records. The first step in the preservation appraisal process is to identify the physical process represented in an item. It is then necessary to determine whether it has intrinsic or artifactual value, and its informational value. In addition, because diazo prints and Vandyke negative prints are the architectural equivalents of brittle paper, it is also important to survey the condition of the materials in a collection. Finally, the size of the materials, which tend to be large in architectural records, and which will determine the storage spaces and conservation treatment spaces necessary to properly handle them, needs to be assessed. The preservation of architectural records has been complicated by the development of computer-aided design and other digital processes. It remains to be seen, however, whether digitization of architectural processes provides more solutions or problems to preservation concerns.

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ANY DISCUSSION OF THE intellectual appraisal of architectural records requires an understanding of the physical nature of the materials that constitute them. The sheer volume of material, the dimensions of oversize drawings, and the complexity of the processes that produce both originals and copies can be overwhelming, especially for twentieth-century records. Since decisions to accept collections may commit an institution to a large investment of funds, it is essential to know in advance the financial and space requirements of preservation. The link between preservation and appraisal is accepted in archival practice,[1] and its application to architectural records is critical.

Preservation has been described as "a program to be managed, not a problem to be solved."[2] To assess the preservation costs of accepting an architectural collection, the nature, size, and condition of the collection should be analyzed in terms of the components of an archival preservation program. These are:

> Conservation treatment: Item-level treatment with full documentation, executed by, or under the supervision of, a professional conservator. Examples of treatment include washing, deacidification, stain removal, backing removal, and relining. Only a few items receive this level of treatment, often because they are needed for exhibition, have great artifactual value, and are at risk or unusable if untreated.
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> Holdings maintenance: Physical stabilization of a collection through a systematic program of rehousing within protective enclosures and storage in a stable environment. Work is done on the collection level by trained archives technicians. Collections conservation is an analogous term used in research libraries to describe the batch treatment of circulating collections of library materials.
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> Reformatting: Transfer of the intellectual content of records to a stable medium. This may involve microfilming onto silver halide film or photocopying onto acid-free paper.

The first step in defining preservation needs is to identify the various types of formats that may be represented in an architectural collection. Are drawings original graphic designs? Are they reproductions? If reproductions, what process was used? Such information provides the basis for assessing significance, determining treatment, and setting priorities, but until recently it has been difficult to gather. The results of research recently completed by conservator Lois Olcott Price provide guidance.[3] As Price noted at the 1994 conference of the American Institute for Conservation, architectural reproductive drawings of the late-nineteenth and early-twentieth centuries have much in common with the experimental

[1]Thomas D. Norris, "Not Such Strange Bedfellows: Appraisal and Preservation in Practice," *Preservation Papers of the 1991 SAA Annual Conference* (1992): 1–5.

[2]Karen Garlick, "Holdings Maintenance: An Overview," *The Book and Paper Group Annual* 11 (1992): 163.

[3]Lois Olcott Price, "The History and Identification of Photo-Reproductive ProcessesUsed for Architectural Drawings Prior to 1930," *Care and Management of Architectural Records: Selected Papers from the Oneida Community Mansion House Seminar, October 27-28, 1992* (Syracuse, N.Y.: University of Syracuse Library, 1995).

photographic processes of the same period and require similar storage enclosures.[4] Likewise, original architectural drawings share the problems and storage needs of artwork.[5]

Knowing the type of support material and reproductive process can also help date drawings (and thus projects) and determine where drawings fit in the design process.[6] Office practice in the United States was remarkably consistent during various periods, as were the types of drawings that were produced. During the late-nineteenth and early-twentieth centuries, firms tended to use the same support materials, media, and reproduction processes for the same phases of a job: tracing paper for design development, paper or paper mounted on cloth for the contract set, drafting linen for the working drawings, and blueprints for the duplicates of the working drawings (see table 1). After the 1920s, diazo prints gradually replaced blueprints as the preferred method for making copies. Drawing vellum and drafting Mylar replaced drafting linen for original reproducible working drawings. Electrostatic copies appeared in the 1950s. Each brings its own preservation and storage issues.

The second step is to identify the items that have "intrinsic value," which makes it important not only to retain these materials but to retain them in their original format. The definitions of intrinsic value proposed by the National Archives of the United States can be applied to architectural records as follows:

1. The physical form may be the subject of study. Architectural prints from the nineteenth and early twentieth centuries include examples of the development of experimental reprographic processes such as sun prints, Vandykes, and ferrogallic prints. Original drawings document the use of drawing papers and the introduction of new drafting techniques, a process that continues today.
2. Aesthetic or artistic quality. Original drawings, especially design sketches and presentation renderings, often possess the qualities of works of art. However, an architectural drawing is not necessarily a work of art just because it is a graphic representation.
3. Value for exhibition. A drawing's aesthetic quality may make it a candidate for display. Items may also be exhibited because of public interest in the history of a building or because they illustrate the historical development of a city, town, or region.
4. Age. Early architectural material can be significant because examples from the period are scarce. Pre-Civil War drawings and nineteenth-century specifications, for example, would be of inherent interest in their original format. In regions settled more recently, records that predate World War II might be scarce and therefore valuable as originals.
5. Unique or curious physical features. These might include unusual annotations, overlays, or pasted additions or corrections that require the original to be retained.

[4]Lois Olcott Price, "The History and Identification of Photo-Reproductive Processes Used for Architectural Drawings Prior to 1930," *Abstracts of Papers Presented at the Twenty-Second Annual Meeting Nashville Tennessee* (Washington, D.C.: American Institute for Conservation, 1994), 94–95.

[5]Lois Olcott Price, "Line, Shade and Shadow: The Role of Ink in American Architectural Drawings Prior to 1860," *Abstracts of Papers Presented at the Twenty-Second Annual Meeting*, 71–72.

[6]Nancy Carlson Schrock, "The Peabody and Stearns Architectural Collection: Assessing Conservation Needs," *Proceedings of Symposium 88, Conservation of Historic and Artistic Works of Art* (Ottawa: Canadian Conservation Institute, 1994): 3–9.

Table 1

Relationship between Job Phase and Physical Format of Late Nineteenth- and Early Twentieth-Century Architectural Drawings

Job Phase	Support Material Used
Design development	Paper, tracing paper
Presentation set	Paper, paper on cloth
Working drawings	
Originals	Paper, drafting linen
Copies	Blueprints
Large scale details	Tracing paper
Plumbing, electrical	Blueprints
Heating	Blueprints
Shop drawings	Blueprints

6. Value by direct association. Drawings may be significant because of the designer who created them or the client who commissioned them. The original records of municipal buildings such as town halls or courthouses are important because the buildings are symbols of civic pride and identity, even if the architect is unidentified.

Librarians use the term "artifactual value" to express a similar idea when they discuss rare books and special collections—which include architectural documentation. The Commission on Preservation and Access has provided an expanded definition of the term.[7] The first three categories echo the archival definitions of intrinsic value.

1. Documents that include evidence or proof of the accuracy of the information they contain.
2. Examples of technology or artistic expression.
3. Documents whose formats contribute to an understanding of their content. They cannot be destroyed, even if copied, without significant loss of information.

The commission's report adds two other categories that are particularly relevant to architectural records:

4. Documents whose information cannot be captured by currently available reformatting technologies. Color, continuous tone, or large size may make it impossible to make accurate surrogates of architectural drawings. These need to be retained in their original format until new technologies make it feasible and cost-effective to produce copies that retain the information of the originals.
5. Documents whose requirements for access are compromised by reformatting. As-built working drawings may be needed to create full-size copies with accurate scale for the renovation or maintenance of existing buildings. The original reproducible set remains essential because it provides a master for inexpensive diazo copies and cannot be replaced. The demand for access to hard-copy prints with accurate scale must be considered when reformatting drawings.

Items that do not have intrinsic or artifactual value (and these are usually the ma-

[7]Barclay Ogden, *On the Preservation of Books and Documents in Original Form* (Washington, D.C.: Commission on Preservation and Access, 1989).

jority) are said to have "informational value." These items receive holdings maintenance rather than full conservation treatment, or they may be reformatted if they are in poor condition or on an inherently unstable material. For manuscript material, the most common material in the latter category is brittle paper, produced between 1860 and 1970. The analog for architectural records is the diazo print, produced from 1920 to the present, an inherently unstable material that continues to darken and discolor because of residual dye-forming chemicals within the paper itself. Vandyke negative prints are also unstable and highly brittle. For materials such as these, it may be useful to think in terms of "format life," the time that materials might reasonably be expected to survive before needing to be copied onto a more stable and long-lived medium. The format life would depend not only on the material itself but also on the storage environment an institution is able to provide.

Other types of support material common in architectural archives are surprisingly stable. When the different support materials in the Peabody and Stearns drawings (1880-1917) in the Boston Public Library collection were compared, drawings on linen were found to be in excellent condition, even though they had been stored in the same abysmal conditions as the blueprints and paper mounted to cloth.[8] The flexibility and good condition of linen drawings indicate that they can be stored rolled without causing damage, thereby cutting storage costs. Handmade drawing paper, which was often used for presentation renderings, is also often in good condition, though it must be stored flat.

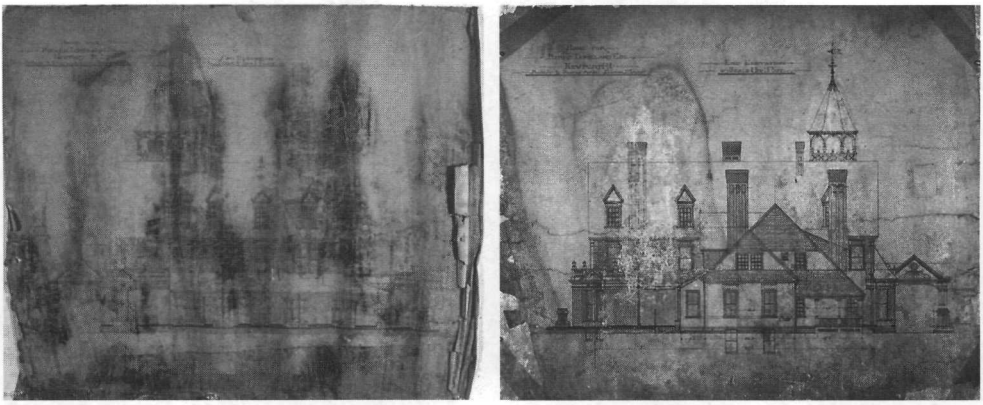
The third step is to examine condition. Rather than itemizing individual conservation problems, it is more useful at the initial appraisal stage to use general condition codes that identify potential problems with access and are linked to levels of conservation treatment. Such categorization provides the curator with an estimate of the level of staffing and costs that would be required to manage the collection. Four categories are typically used:

Good	Can be used as is; no conservation work required.
Fair	Must be used with care. Minor mending and surface cleaning are desirable; can be done in-house by trained technicians as part of a holdings maintenance program.
Poor	Limited access; can be used only under careful supervision. Major conservation treatment is needed (humidification, flattening, mending, chemical treatment); requires an expanded in-house facility or conservation laboratory and the expertise of a conservator.
At risk	Inaccessible; cannot be used without placing the item at risk. Conservation treatment is necessary if the original is to be used at all; requires a conservation laboratory and the expertise of a conservator.

Depending on the intrinsic value and format life of the drawings, poor and at-risk drawings may be candidates for reformatting rather than major conservation treatment.

The most labor-intensive and expensive option is conservation treatment. Conservation laboratories such as those at the Canadian Centre for Architecture in Montreal, the Northeast Document Conservation Center in Andover, Massachusetts, and the Center for Conservation of Artistic and Historic Artifacts in Philadelphia have developed techniques

[8]Nancy Carlson Schrock, "Conservation Management of Architectural Records: Setting Priorities," *Care and Management of Architectural Records.*



Figures 1 and 2. Peabody & Stearns, *House for Pierre Lorillard, Esq.*, end elevation drawing, before and after conservation treatment by the Northeast Document Conservation Center. (*Peabody & Stearns Collection, Fine Arts Department, Boston Public Library. Courtesy of the Trustees of Boston Public Library.*)

for the treatment of individual drawings. Figures 1 and 2 show The Breakers in Newport, Rhode Island, as first built for Pierre Lorillard. The view in raking light (figure 1) shows extensive damage from mold and neglect before treatment. The staff at the Northeast Document Conservation Center were able to bathe the drawing, remove much of the soil, and line it with Japanese paper. To save limited funds, the conservators did not do cosmetic infills. Such treatments can cost several hundred dollars apiece. Only a very few drawings receive—or deserve—this level of treatment. In contrast, the Frederick Law Olmsted National Historic Site in Brookline, Massachusetts, has streamlined techniques for the batch processing of large numbers of items by technicians, as has the Library of Congress.[9]

A fourth consideration is size, which has an impact on every aspect of a preservation program when materials are oversize. If drawings are to be stored flat, which is ideal, they require flat files, a more expensive storage solution than boxes on open shelves. Holdings maintenance programs need more table space for processing. Conservation treatments take more time, and it is not unusual for conservators to charge a higher rate because treating oversize drawings ties up more laboratory space.

Random sampling can provide preliminary preservation information during the appraisal stage. Such a technique was used to assess the condition of the drawings in the Harvard University Planning Group Collection. The surveyors looked at 15 percent of the collection and found that the drawings fell into two major categories: 42 percent are original drawings and 58 percent are copies. These can be further subdivided by media and support (figure 3).

Although all drawings in the collection are stored flat, their condition varies: 16 percent are in poor condition, 48 percent are in fair condition, and only 36 percent are in good condition. The drawings in good condition are drawings on linen (regardless of age), drawings on vellum paper, photocopies, and recently produced diazo copies. Those in poor condition are older original drawings on paper, badly faded diazos, drawings mended with Scotch tape, and those on various brittle papers.

[9]Michelle E. Hamill, "Washingtoniana II: Conservation of Architectural Drawings at the Library of Congress," *The Book and Paper Group Annual* 12 (1993): 24–31.

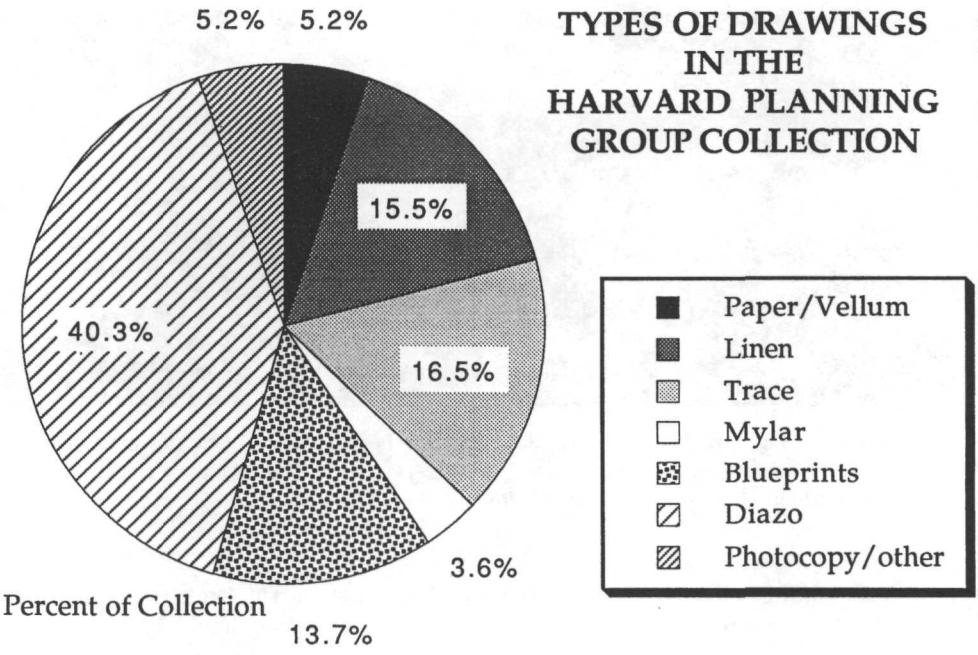


Figure 3. Types of Drawings in the Harvard Planning Group Collection.

If this collection were offered to an institution, what would such a survey indicate? The collection poses two major problems: (1) 42 percent are original drawings with potential artifactual value, 16 percent on fragile trace that may require conservation treatment; and (2) 40 percent are unstable diazo prints that will require eventual reformatting. However, all fit into standard flat files, making holdings maintenance far simpler. This information could be combined with an assessment of the significance of the drawings and the buildings they represent for a final appraisal decision.

A survey can be an effective way of gaining an overview of a collection. When it applies concepts such as intrinsic or artifactual value, media longevity, and condition, it provides an effective management tool for developing a preservation program. Quantifying preservation factors can yield essential data about storage needs, treatment and reformatting requirements, staffing levels, and financial costs to inform the appraisal process. Intellectual issues of content or scholarly value must be combined with the realities of the physical objects that compose architectural documentation if we are to develop effective appraisal strategies.

Such an approach to preservation and appraisal becomes far more difficult with late twentieth-century architectural records and the introduction of computer-aided design (CAD). Does a drawing generated by computer have aesthetic or artifactual value? Or are we dealing only with information? In the 1990s, it is not always easy to tell. In preparing this paper I spoke with the librarian at Shepley Bulfinch Richardson & Abbot, the oldest architectural firm in continuous practice in the United States. She said it was a "hard time for an archivist" and described current records practice as "hybrid." The office uses CAD for its larger jobs and computer renderings as presentation drawings, while continuing to produce traditional drawings on trace and paper for small jobs and some design devel-

opment. Copies are made by xerography on Mylar and paper, by the diazo process, by plotter, or by the laser printer. Records are kept on optical disk, tapes, and paper.[10]

With electronic media, format life becomes more critical than intrinsic value. And yet, at the same time, electronic media offer technologies to cope with the vast proliferation of records. The coming decades will determine whether scanning and digitization offer solutions or more problems for the preservation of architectural records.

[10]Catherine Meyer, personal communication, 12 April 1994.