

The Professional Practice of Landscape Architecture

*A Complete Guide to Starting and
Running Your Own Firm*

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Business Administration and Record Keeping

In spite of the most well-conceived administrative systems, the following words can all too often be heard in landscape architecture offices: "If I had a dollar for every time I couldn't find something in this office, I'd be a millionaire," spoken by a principal or project manager when a critical piece of project data can't be found in the office files.

The administration of the landscape architecture office, from keeping track of the firm's projects to developing and maintaining filing systems to keeping up with the requirements of tax laws, is the hub of the business-management wheel. Without an efficient and easily-used filing system, the office staff may be doomed to endless hours of lost time spent looking for information needed to run the business.

A landscape architecture office of fifteen to twenty people, for example, will produce a tremendous amount of material that needs to be filed:

- Project records
 - Original reproducible drawings
 - Project design drawings
 - Project data
 - Correspondence and transmittals
 - Phone conversation records
 - Construction administration records
 - Contracts
 - Invoices and billing history
- Financial information for the current and prior years
- Personnel records
- Tax information
- Insurance information

- Bookkeeping files
- Leases, long-term notes, and mortgages
- Marketing and promotional materials
- Information files for specialty subconsultants
- Product literature and technical reference files
- Dead files and project archives

Computerization of the landscape architecture office has made office administration easier and more organized, but it has not reduced the amount of paper generated in the design office. In fact, computers allow more information to be processed, which in turn generates even greater amounts of hard copy to be filed. Using computers has also created additional administrative tasks such as managing computer files and storing floppy disks, which have their own filing requirements. Trying to remember where something is filed on a floppy disk or a section of a hard drive can be time consuming without a good electronic information filing system.

The landscape architecture graduate will be surprised by the amount of materials that need to be filed and stored in a design office. The landscape architect in training or a new employee will have to learn to use the project filing system and the product literature files when he or she begins employment with a new firm. As project administrative responsibilities increase, all of the office files will be used by the design firm employee. If the landscape architect is starting a new firm, he or she should plan on spending a considerable amount of time developing the administrative systems, filing methods, and business forms that will be used in the office.

Job Number—The Key to Office Administration

The project filing system in most landscape architecture offices revolves around the project number. Every project gets a number, and the number goes on everything related to that project—every letter, note, phone memo, drawing, invoice, or photocopy of a product literature cut sheet associated with the project. The project number should be located in a prominently visible place on the document to aid in easy filing and retrieval.

A variety of job-numbering systems are used in landscape architecture offices. Figure 7-1 shows an example of a job number. The first five numbers are a general reference; the last two numbers are a specific code. The job number in figure 7-1 tells the user the year the job number was issued, the sequential number of that job during the year, and the general category of work the job falls under. A variation on the job number will normally be used to denote those projects that are in the job-development phase rather than work in progress. Most firms give a prospective project a job number so that they can track time spent in job development. Job-development time contributes to the overhead of running the office, which affects the office overhead rate or overhead multiplier. Some firms try to recoup time spent in job development, especially when a fixed fee is negotiated for the project.

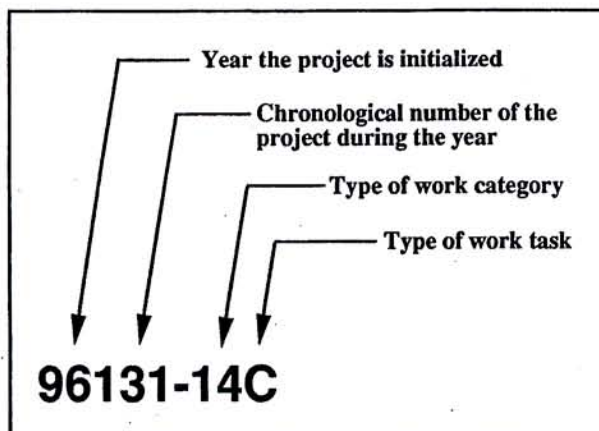


FIGURE 7-1. Example of a job number.

Category-of-Work Code

In the example job number shown in figure 7-1, the last two digits are a code for the type of work category. A type-of-work code is useful for studying the trends in the office's procurement of work and in sorting out projects and retrieving project information for marketing purposes. The following lists is an example of work categories for a typical landscape architecture office:

CODE	CATEGORY OF WORK
00	Job development
10	Landscaping, revegetation, and irrigation
12	Commercial and retail
13	Roadside and transportation
14	Parks and recreation
15	Hotels and leisure facilities
16	Environmental assessment, resource analysis, and resource planning
17	Historic preservation
18	Land planning and urban planning
19	Industrial parks and corporate headquarters
20	Water conservation and irrigation
21	Multifamily residential
23	Single-family residential
24	Graphics, models, and exhibits

This system of codes uses fourteen numbers, but as many numbered codes as desired may be used. Using too many categories makes the system overly complex. Staff will have trouble deciding which category a job fits into if there are too many options to choose from. The key is to use enough categories to clearly differentiate the types of projects the firm works on without excessive detail that makes the system unwieldy.

The code 00 for projects in the job development phase is changed to an active code once the project is actually secured and a contract is signed. Some job numbering systems have numbers to identify cities, states, or regions where the project is located so that a firm can track its geographic market penetration. Large multioffice firms use numbers to identify which office the project belongs to.

Another reason for adding category-of-work codes to the job number is for tracking projects to fill out the federal government's SF254 and SF255 forms. The

SF254 needs to be updated on an annual basis, and the landscape architecture firm must add to the form the number of jobs in the SF254 categories that the firm executed in the previous year. At the same time, the firm must calculate and track the number of jobs by category over the last five years. Using a job numbering system with category-of-work codes makes the annual updating chore reasonably easy. Indeed, a landscape architecture firm may even decide to use the SF254 code numbers for its own category-of-work codes. SF254 standard codes are illustrated in figure 7-2. Most landscape architecture firms using SF254 codes for the office job numbering system would use the following codes:

- 059 Landscape architecture
- 056 Irrigation; drainage

- 033 Environmental impact studies, assessments, or statements
- 078 Planning (community, regional, areawide and state)
- 079 Planning (site, installation, and project)
- 117 Zoning and land-use studies

Once a job numbering system is implemented in an office, the project filing system is a straightforward process of filing all project-related materials by the job number. The job-related files, however, may be found in various places in the office, including general files for project data and correspondence, contract and billing files, active files for drawings and work in progress, dead files for project data, and dead files for drawings of completed projects.

Experience Profile Code Numbers for use with questions 10 and 11	
001 Acoustics; Noise Abatement	042 Harbors; Jetties; Piers; Ship Terminal Facilities
002 Aerial Photogrammetry	043 Heating; Ventilating; Air Conditioning
003 Agricultural Development; Grain Storage; Farm Mechanization	044 Health Systems Planning
004 Air Pollution Control	045 Highrise; Air-Rights-Type Buildings
005 Airports; Navais; Airport Lighting; Aircraft Fueling	046 Highways; Streets; Airfield Paving; Parking Lots
006 Airports; Terminals & Hangars; Freight Handling	047 Historical Preservation
007 Arctic Facilities	048 Hospital & Medical Facilities
008 Auditoriums & Theatres	049 Hotels; Models
009 Automation; Controls; Instrumentation	050 Housing (<i>Residential, Multi-Family; Apartments; Condominiums</i>)
010 Barracks; Dormitories	051 Hydraulics & Pneumatics
011 Bridges	052 Industrial Buildings; Manufacturing Plants
012 Cemeteries (<i>Planning & Relocation</i>)	053 Industrial Processes; Quality Control
013 Chemical Processing & Storage	054 Industrial Waste Treatment
014 Churches; Chapels	055 Interior Design; Space Planning
015 Codes; Standards; Ordinances	056 Irrigation; Drainage
016 Cold Storage; Refrigeration; Fast Freeze	057 Judicial and Courtroom Facilities
017 Commercial Buildings (<i>low rise</i>); Shopping Centers	058 Laboratories; Medical Research Facilities
018 Communications Systems; TV; Microwave	059 Landscape Architecture
019 Computer Facilities; Computer Service	060 Libraries; Museums; Galleries
020 Conservation and Resource Management	061 Lighting (<i>Interiors; Display; Theatre, Etc.</i>)
021 Construction Management	062 Lighting (<i>Exteriors; Streets; Memorials; Athletic Fields, Etc.</i>)
022 Corrosion Control; Cathodic Protection; Electrolysis	063 Materials Handling Systems; Conveyors; Sorters
023 Cost Estimating	064 Metallurgy
024 Dams (<i>Concrete; Arch</i>)	065 Microclimatology; Tropical Engineering
025 Dams (<i>Earth; Rock</i>); Dikes; Levees	066 Military Design Standards
026 Desalination (<i>Process & Facilities</i>)	067 Mining & Mineralogy
027 Dining Halls; Clubs; Restaurants	068 Missile Facilities (<i>Silos; Fuels; Transport</i>)
028 Ecological & Archeological Investigations	069 Modular Systems Design; Pre-Fabricated Structures or Components
029 Educational Facilities; Classrooms	070 Naval Architecture; Off-Shore Platforms
030 Electronics	071 Nuclear Facilities; Nuclear Shielding
031 Elevators; Escalators; People-Movers	072 Office Buildings; Industrial Parks
032 Energy Conservation; New Energy Sources	073 Oceanographic Engineering
033 Environmental Impact Studies, Assessments or Statements	074 Ordnance; Munitions; Special Weapons
034 Fallout Shelters; Blast-Resistant Design	075 Petroleum Exploration; Refining
035 Field Houses; Gyms; Stadiums	076 Petroleum and Fuel (<i>Storage and Distribution</i>)
036 Fire Protection	077 Pipelines (<i>Cross-Country—Liquid & Gas</i>)
037 Fisheries; Fish Ladders	078 Planning (<i>Community, Regional, Areawide and State</i>)
038 Forestry & Forest Products	079 Planning (<i>Site, Installation, and Project</i>)
039 Garages; Vehicle Maintenance Facilities; Parking Decks	080 Plumbing & Piping Design
040 Gas Systems (<i>Propane; Natural, Etc.</i>)	081 Pneumatic Structures; Air-Support Buildings
041 Graphic Design	082 Postal Facilities
	083 Power Generation, Transmission, Distribution
	084 Prisons & Correctional Facilities
	085 Product, Machine & Equipment Design
	086 Radar; Sonar; Radio & Radar Telescopes
	087 Railroad; Rapid Transit
	088 Recreation Facilities (<i>Parks, Marinas, Etc.</i>)
	089 Rehabilitation (<i>Buildings; Structures; Facilities</i>)
	090 Resource Recovery; Recycling
	091 Radio Frequency Systems & Shieldings
	092 Rivers; Canals; Waterways; Flood Control
	093 Safety Engineering; Accident Studies; OSHA Studies
	094 Security Systems; Intruder & Smoke Detection
	095 Seismic Designs & Studies
	096 Sewage Collection, Treatment and Disposal
	097 Soils & Geologic Studies; Foundations
	098 Solar Energy Utilization
	099 Solid Wastes; Incineration; Land Fill
	100 Special Environments; Clean Rooms, Etc.
	101 Structural Design; Special Structures
	102 Surveying; Platting; Mapping; Flood Plain Studies
	103 Swimming Pools
	104 Storm Water Handling & Facilities
	105 Telephone Systems (<i>Rural; Mobile; Intercom, Etc.</i>)
	106 Testing & Inspection Services
	107 Traffic & Transportation Engineering
	108 Towers (<i>Self-Supporting & Guyed Systems</i>)
	109 Tunnels & Subways
	110 Urban Renewals; Community Development
	111 Utilities (<i>Gas & Steam</i>)
	112 Value Analysis; Life-Cycle Costing
	113 Warehouses & Depots
	114 Water Resources; Hydrology; Ground Water
	115 Water Supply, Treatment and Distribution
	116 Wind Tunnels; Research/Testing Facilities Design
	117 Zoning; Land Use Studies
	201 _____
	202 _____
	203 _____
	204 _____
	205 _____

FIGURE 7-2a. SF254 experience profile code numbers.

STANDARD FORM (SF) 254 Architect-Engineer and Related Services Questionnaire	1. Firm Name / Business Address:		2. Year Present Firm Established:	3. Date Prepared:																																
	1a. Submittal is for <input type="checkbox"/> Parent Company <input type="checkbox"/> Branch or Subsidiary Office		4. Specify type of ownership and check below, if applicable.																																	
			<input type="checkbox"/> A. Small Business <input type="checkbox"/> B. Small Disadvantaged Business <input type="checkbox"/> C. Woman-owned Business																																	
	5. Name of Parent Company, if any:		5a. Former Parent Company Name(s), if any, and Year(s) Established:																																	
6. Names of not more than Two Principals to Contact: Title / Telephone 1) 2)																																				
7. Present Offices: City / State / Telephone / No. Personnel Each Office				7a. Total Personnel _____																																
8. Personnel by Discipline: (List each person only once, by primary function.)																																				
<table border="0"> <tr> <td><input type="checkbox"/> Administrative</td> <td><input type="checkbox"/> Electrical Engineers</td> <td><input type="checkbox"/> Oceanographers</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Architects</td> <td><input type="checkbox"/> Estimators</td> <td><input type="checkbox"/> Planners: Urban/Regional</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Chemical Engineers</td> <td><input type="checkbox"/> Geologists</td> <td><input type="checkbox"/> Sanitary Engineers</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Civil Engineers</td> <td><input type="checkbox"/> Hydrologists</td> <td><input type="checkbox"/> Soils Engineers</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Construction Inspectors</td> <td><input type="checkbox"/> Interior Designers</td> <td><input type="checkbox"/> Specification Writers</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Draftsmen</td> <td><input type="checkbox"/> Landscape Architects</td> <td><input type="checkbox"/> Structural Engineers</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Ecologists</td> <td><input type="checkbox"/> Mechanical Engineers</td> <td><input type="checkbox"/> Surveyors</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Economists</td> <td><input type="checkbox"/> Mining Engineers</td> <td><input type="checkbox"/> Transportation Engineers</td> <td>_____</td> </tr> </table>					<input type="checkbox"/> Administrative	<input type="checkbox"/> Electrical Engineers	<input type="checkbox"/> Oceanographers	_____	<input type="checkbox"/> Architects	<input type="checkbox"/> Estimators	<input type="checkbox"/> Planners: Urban/Regional	_____	<input type="checkbox"/> Chemical Engineers	<input type="checkbox"/> Geologists	<input type="checkbox"/> Sanitary Engineers	_____	<input type="checkbox"/> Civil Engineers	<input type="checkbox"/> Hydrologists	<input type="checkbox"/> Soils Engineers	_____	<input type="checkbox"/> Construction Inspectors	<input type="checkbox"/> Interior Designers	<input type="checkbox"/> Specification Writers	_____	<input type="checkbox"/> Draftsmen	<input type="checkbox"/> Landscape Architects	<input type="checkbox"/> Structural Engineers	_____	<input type="checkbox"/> Ecologists	<input type="checkbox"/> Mechanical Engineers	<input type="checkbox"/> Surveyors	_____	<input type="checkbox"/> Economists	<input type="checkbox"/> Mining Engineers	<input type="checkbox"/> Transportation Engineers	_____
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<input type="checkbox"/> Economists	<input type="checkbox"/> Mining Engineers	<input type="checkbox"/> Transportation Engineers	_____																																	
9. Summary of Professional Services Fees Received: (Insert index number)		Last 5 Years (most recent year first)		Ranges of Professional Services Fees INDEX																																
		19____ 19____ 19____ 19____ 19____		1. Less than \$100,000																																
Direct Federal contract work, including overseas		_____		2. \$100,000 to \$250,000																																
All other domestic work		_____		3. \$250,000 to \$500,000																																
All other foreign work*		_____		4. \$500,000 to \$1 million																																
*Firms interested in foreign work, but without such experience, check here: <input type="checkbox"/>				5. \$1 million to \$2 million																																
				6. \$2 million to \$5 million																																
				7. \$5 million to \$10 million																																
				8. \$10 million or greater																																

FIGURE 7-2b. First page of the SF254 form.

By implementing a job numbering system, all project-related materials can be filed by job number including electronic files and discs. Storing all the electronic data for a project on a single floppy disk is an effective way to organize electronic data files where the disks can be filed in order by job number. Remember to make backup copies of the disks.

Master Roster

An important use of the project numbering system is organizing the firm's work in progress and work in job-development status into a total list of the firm's projects for reference by all employees. The project list, or project master roster, is updated regularly and used by all staff members on a daily basis to mark time cards and to organize their work. Design office staff

are often working on multiple projects at one time and will find it helpful to have a master roster close by to refer to.

Jobs organized in a master roster provide a list that can be used for other administrative tasks, such as estimating the amount of fees remaining on a project in relation to the remaining amount of work required to complete the project, resulting in a workload projection described in chapter 6.

Time Cards

Keeping track of the time spent on projects is the basis for managing projects and invoicing clients for the firm's professional services. Time cards, either hard copy or electronic media, are used by virtually every

landscape architecture office. Project staff fill out their time cards on a regular basis, using the job numbering system and a work task code that identifies the specific type of task carried out by general categories. Office administrative staff enter time card information into the office time management and invoicing system to create project time reports, project progress reports, and reports used to prepare invoices.

Tracking the type of work tasks completed by office staff is necessary for producing accurate project time reports so that office staff and project managers will know not only how much time has been spent on a project but also what tasks the time is spent on. Numbers or letters are used to designate the different types of work tasks carried out by the office staff. The numbers or letters are entered on time cards and turned in at the end of a one-week or two-week period for data entry into the office's timekeeping system. A typical letter system for a design-oriented landscape architecture office would include the following letters and work task codes. This letter system would be treated as the firm's default system of work tasks.

CODE	TYPE OF WORK TASK
A	Job development and precontract work
B	Research, data collection, start-up, site reconnaissance, fieldwork, base plans
C	Site analysis and schematic design
D	Design development
E	Construction documents
F	Services during construction
G	Graphics and renderings
H	Report preparation
I	Project management and administration
J	Additional services

The type-of-work task codes can be adapted to a specific project by changing the task descriptions or adding new tasks and letter codes in order to create task codes only for that project. The project manager would be responsible for developing the project-specific task codes and making the list available to each employee working on the project. The project manager also would make the project-specific task codes known to the office administrative staff because the codes would need to be set up properly in the office computer systems for time tracking and invoic-

ing. The following is an example of a project-specific task code for an environmental assessment project.

CODE	TYPE OF WORK TASK
A	Job development
B	Site reconnaissance, fieldwork, data gathering
C	GIS base plan
D	GIS data entry
E	GIS data analysis and site analysis
F	Set up public interest group database
G	Public interest group input meetings
H	Develop and prepare draft report
I	Public interest group feedback meetings
J	Prepare final report
K	Project administration

Type-of-work task codes can be very specific. Again, the rule of thumb is not to make the work of timekeeping so complicated and tedious that employees balk at the process. The following is an example of a coding system that uses letters and numbers to provide greater detail on employee work activities by phase and task codes. This system would result in more detail information available to project managers in project progress reports.

A	PRE-CONTRACT AND JOB DEVELOPMENT
A1	Client contact/job development meetings
A2	Job development tasks and project research
A3	Proposal writing
A4	Contract negotiation
B	PROJECT ADMINISTRATION
B1	Project initialization and file setup
B2	Internal accounting, administration, and billing
B3	Project progress meetings
B4	Quality-control plan
B5	Management reports
B6	Subconsultant management
B7	General project administration
C	SCHEMATIC DESIGN (30 PERCENT)
C1	Site reconnaissance
C2	Site analysis
C3	Quantity takeoff, budget analysis, and cost projection

- C4 Base plans
- C5 Schematic design

- D DESIGN DEVELOPMENT (60 PERCENT)**
- D1 Design development
- D2 Planting design
- D3 Irrigation design
- D4 Grading design
- D5 Product and materials research
- D6 Construction detail design
- D7 Quantity takeoff and cost projection
- D8 Outline specifications

- E FINAL DESIGN AND CONSTRUCTION DOCUMENTS (90 PERCENT)**
- E1 Layout plans
- E2 Grading plans
- E3 Planting plans
- E4 Irrigation plans
- E5 Construction details
- E6 Quantity takeoff and cost projection
- E7 Specifications

- F FINAL DESIGN AND CONSTRUCTION DOCUMENTS (100 PERCENT)**
- F1 Checking and revisions
- F2 Quantity takeoff and cost projection
- F3 Project design closeout

- G CONSTRUCTION ADMINISTRATION**
- G1 Pre-bid meeting
- G2 Bid analysis
- G3 Preconstruction meeting
- G4 Construction observation and field reports
- G5 Weekly progress meetings and reports
- G6 Review submittals and shop drawings, reports
- G7 Review and approve change orders
- G8 Review and approve pay requests
- G9 Final inspection and punch list
- G10 General construction administration
- G11 Project closeout

In addition to tracking time spent on project tasks by codes, the landscape architecture office should track time spent on various overhead tasks by letter codes on

the time cards. Landscape architecture firms have a number of overhead tasks that are not billable to a client. Job-development time, vacation time, sick time off, and general overhead and other nonbillable time must be tracked on time cards and entered into the office timekeeping system. A sample of overhead tasks and letter codes is shown below. When combined with the project default tasks, these overhead tasks provide the complete listing of the firm's work tasks that are typically entered on employee time cards.

CODE	TYPE OF WORK TASK
O	General overhead, project planning, and management
L	General leave
S	Sick leave
H	Holiday
P	Professional societies and community service

An example of a time card and entries is shown in figure 7-3. Note the entry of information for each line item of work includes the project number, the type-of-work task code, a brief description of the work carried out, and the amount of time worked on the task. The brief description provides further detail about the work task completed by the employee. The description is useful if the invoicing for the project is on an hourly basis and the client wants to see a description of the actual tasks carried out by the employee.

Office practices vary on the smallest breakdown of time that employees are required to report on their time cards. The smallest unit of time commonly used by firms for timekeeping purposes is one tenth of an hour, or six minutes. One quarter of an hour is also commonly used. Using half hours or full hours may not provide enough of a breakdown to fairly keep track of time. The smallest unit of timekeeping is established as a general operating procedure by each firm. The size of the fee and the duration of the project may affect the timekeeping process. Employees working on a project with a very large fee and a long duration may know in advance that 100 percent of their time for the week will be spent in data collection on the project. The time card entry will be simple. Forty hours will be entered under the project number and code for data collection. The need for more detailed breakdown of time entries occurs when the project has a small fee and a full scope of work.

Complementing expandability is the need to eliminate filed materials that are outdated, useless, or exceed the time requirements for records retention. Regular and planned weeding out of files is very important to the success of an efficient filing system. A client's going out of business may eliminate the need for the landscape architecture office to keep information on the client. The statute of limitations for each state provides a guide for the recommended retention time of legal documents and information. The *Guide to Record Retention Requirements* in the code of federal regulations, last revised in 1989, is another source of information for making decisions about how long to keep documents.

The following general guidelines for retaining information and records may help administrators of most landscape architecture offices develop a policy for what material may be weeded out and when:

PERMANENT RETENTION

All vital records, corporate charters, incorporation records, minutes of corporate meetings, stock ledger, stock sales or transfer records, corporate resolutions, partnership documents, tax returns and related documents, tax audit records and related tax bills, depreciation schedules, annual reports, contracts, capital leases, claims regarding any tort cases, records of arbitration, records of mediation, trade name or trademark registrations, patents, copyrights, annual financial statements, executive correspondence, directives from owners or corporate officers, the personnel manual, office procedures, the administrative manual, file copies of the firm's forms, employee personnel files.

PERIOD RETENTION

- 3 years: Payroll checks, monthly financial statements, accounts payable invoices, bank deposits, bank statements, expense reports, payroll registers, petty cash records, travel expense reports, time cards, accounting and audit work papers
- 5 years: Employee withholding records, accounts receivable invoices, equipment repair and maintenance records
- 7 years: Office equipment records, cash receipts records, one copy of all project-related data (Gill 1988).

Filing cabinets should be accessible. File drawers should not be overstuffed, causing difficulty in removing or inserting paper. The system itself should be as simple as possible. Using the job number as a numerical filing system is a simple way to file all of the firm's project-related information. Filing everything by job number is the single filing directive that all employees must obey. If a filing system is too cumbersome and physically inaccessible, it will be self-defeating. A filing system that is difficult to use causes employees to pigeonhole information and develop a plethora of wildcat personal filing systems. Pigeonholed information leads to inefficiency and lost project data.

An effective filing and records management system will have some or all of these characteristics:

- Reduce or eliminate countless hours of staff time spent searching through useless volumes of information in search of needed documents or information.
- Provide for the security of vital, sensitive, or confidential information.
- Enhance overall efficiency of the landscape architecture office and increase the potential for office billable time.
- Mitigate the proliferation of costly filing cabinets that require expensive office floor space.
- Save money on expensive filing supplies and equipment.
- Minimize office clutter.

Uniformity and Organization

There are four ways to arrange or classify files adaptable to the requirements of a landscape architecture office: alphabetically, numerically, by subject, or by color. Whichever method is used, the key to organization is labeling every record with the number, letter, color, or subject code.

Alphabetic systems use the letters of the alphabet, A through Z, as the general file identifiers. The specific items, such as persons names and manufacturers' names or addresses, are arranged alphabetically. Alphabetical systems are useful for personnel files, office administrative files, subconsultant files, and product literature files. Alphabetical organization is the most commonly used method for organizing the material

actually filed within a file. The default system on computers normally organizes electronic files alphabetically.

Numeric systems are most often set up with the numbers arranged consecutively. Numeric systems work well for arranging files chronologically. Filing by dates is a numeric system. Numeric systems are excellent filing methods when the records are prenumbered, such as check registers and invoices, or when documents receive an assigned number, such as a job number.

Subject filing is used to arrange records according to what they are about. Subject filing is difficult to administer and is frequently combined with a numeric or alphabetic system. The subjects are first arranged in meaningful topics, and then a number or letter is assigned to each topic heading.

Color coding is usually combined with a numeric or alphabetic system, providing a dual or overlay function to the filing system. Colors of files can serve as references, for example, to very large categories of information. Business administrative files can be red; personnel files can be orange; accounting files, blue; project files, white; and so on. Colors also work well as a way to subdivide a recurring file category. If project data are filed by job numbers, color file folders can be used to identify different subfiles. In every project file, contract information is always found in the red files, invoicing information is always found in orange files, correspondence is always found in blue files, project data are always found in green files, and so on (Gill 1988 and Lundgren 1989).

No matter what method of classifying and managing files is used, the filing system must be applied in a uniform fashion for the system to be organized and efficient.

Vital Records

Those records that are necessary to reconstruct the landscape architecture firm in the event of a disaster are considered vital records. These records include the corporate charter and corporate minutes, and the number of stockholders and the amount of stock held by each stockholder. Vital records include the firm's main contracts in progress and the project information files and billing records for work in progress. All legal documents, such as leases and deeds of trust, are considered vital records. Original copies of office pro-

cedures memorandums and manuals, as well as office forms, should be kept with vital records. Some records are considered vital due to the sentimental value attached to them, such as the original copy of an ASLA Honor Award.

The loss of essential documents and information on work in progress can cause serious financial hardship and legal difficulty for a landscape architecture firm. The loss of vital records may even cause the firm to go out of business. In the event of a disaster, valuable papers insurance coverage has saved many firms from total loss and going out of business.

A landscape architecture firm should have a plan for recovery from disaster and loss of vital records. Off-site storage of vital electronic and hard-copy records is part of most disaster recovery plans. Here are several steps that every landscape architecture firm should take in order to develop a disaster recovery plan:

- Assess the risk associated with the loss of office records and rank each record or type of record on a risk value scale such as from one to ten or from low to high risk.
- Determine the amount of time that would be needed to recover critical office functions in the event of a disaster and develop ways to minimize the time.
- Develop a specific plan for storing and recovering vital records that includes elements such as off-site storage of vital records, computer backup policies, and a reciprocal agreement with another firm to use space, equipment, and records in the event of a disaster.
- Define specific roles of the firm's officers, responsible senior staff, and employees in the event of a significant loss or disaster.
- Establish firm-wide procedures for continually updating and maintaining the disaster recovery procedures. Include the procedures, in detail and step by step, in a firm disaster-recovery manual.
- At regular time intervals, test the disaster recovery plan with a dry run.

Forms

Every landscape architecture office uses a number of forms in the day-to-day work and administration of

the office. Forms are used for repetitive administrative and project management activities. When appropriately designed, forms are a helpful resource, reducing repetitive work and increasing the productivity and efficiency of office staff.

Developing, refining, and managing the use of forms is a time-consuming task for managers and office administrative staff. Some of the considerations include

- developing only necessary forms for truly repetitive tasks where time savings will be realized;
- designing forms for maximum effectiveness;
- refining forms over time so they continue to work better;
- eliminating unnecessary forms;
- simplifying forms for easy use;
- consolidating forms that have overlapping purposes;
- reproducing, stocking, and distributing forms.

Landscape architecture firms obtain forms both by ordering them from suppliers that specialize in developing and distributing a wide range of forms for business use, and by developing the forms in house. Page layout and design software and laser printers have made the task of developing and designing in-house forms easier. The following administrative forms are commonly used by landscape architecture offices:

- Time cards
- Phone message forms
- Call records forms
- Photocopy records
- Blueprint records
- Travel report forms
- Transmittal letter forms
- Fax transmittal forms
- Reimbursable expense forms
- Mileage report forms
- Petty cash forms
- Supply requisition forms
- Routing forms

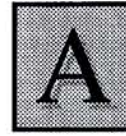
Developing and designing a form is best accomplished by first recognizing the need for a form and second by utilizing a forms content and usage checklist. The following content and usage checklist for a

landscape architecture office is adapted from Donald B. Tweedy's checklist in his book *Office Records Systems and Space Management*.

1. What is the purpose of the form?
2. Is there a clearly established need for the form?
3. Could the purpose of the form be served by a different type of document?
4. Are there any legal questions related to the use of the form?
5. Have all of the office staff been consulted about the use and design of the form?
6. Have office staff been asked to review drafts of the form prior to final production? Has the form been tested under all expected working conditions?
7. Has the form been used on a trial basis to work out the kinks prior to formally introducing the form?
8. Who fills out the form?
9. How is the form used?
10. Is the form to be mailed? How does it relate to envelope sizes?
11. Will the form require multiple copies to be filed?
12. Does the form require instructions for its use?
13. What is the source of errors expected in using the form?
14. How frequently will changes to the form be required? Monthly? Annually? Never?
15. Is folding required?
16. Does the form require sorting?
17. Does using the form require any special devices or equipment?
18. Is the size or layout of the form limited by available equipment or business machines?
19. Can the form be purchased from a supplier at less cost than developing it in house?
20. Is there an existing format that can be adapted for developing and designing the form?
21. Is information on the form copied onto other documents?
22. If information is copied onto other documents, how does the process influence the design of the form?
23. Is the sequence of data on the form convenient for copying onto other documents?

Job No.: _____
Date: _____

**Ace
Landscape
Architects**



LETTER OF TRANSMITTAL

TO: _____

Attn: _____

RE: _____

We are sending you

- Attached Under separate cover via: _____
- Prints Plans Specifications Reports Copy of letter
- Other _____

These are transmitted as checked below

- for approval for your use as requested for review and comment
- Other _____

Remarks: _____

Signed: _____

Copy to: _____

If enclosures are not as noted, kindly notify us at once.

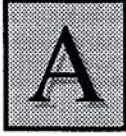
PHONE NUMBER (520) 622-2302 FAX: (520) 622-8270

ADDRESS: 2440 E. Broadway Blvd., Tucson, AZ 85719

FIGURE 7-4. Example of a letter of transmittal form.

FIGURE 7-7. Example of an office routing form.

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Architects***



Route To:

Officers

Principals

Project Managers

Design Staff

Administrative Staff

All Staff

Return To:

40. Would preprinting likely entries help?
41. Are type style, boldface, italics, and other typographic techniques used to give the appropriate emphasis?
42. Is the layout convenient for entering information? Does it facilitate a logical sequence of thought?
43. Does the form require mathematical computations? Is the design logically set up for the mathematical computations?
44. Does the form have to be designed to work with a window opening in an envelope?
45. Have folding marks or instructions been provided if the form requires folding (Tweedy 1986)?

Landscape Architecture Office Files and Records Management

Project Data and Project Information Files

There are two general types of project filing requirements in the landscape architecture office: active projects files and dead project files.

Active Project Files

Active project files, used for active project data, contracts, and active filing needs, are accessed by all of the office administrative and professional staff on a daily basis. Small offices may have several filing cabinets,

organized by job numbers, that are open and accessible by all of the firm's staff. Sometimes the office secretary is assigned the task of retrieving and refiling files in order to have central control over the ongoing retrieval and refiling of project materials. Larger offices may have a file checkout system controlled by a filing clerk, and all retrieval and filing of project files will go through the clerk. Active project computer files may also be accessed by professional staff through computer network systems or floppy disks shared by the project staff. The larger the office, the greater the control procedures required for shared computer files to prevent data from accidentally being lost and to guard against glitches and computer viruses.

All of the information and data related to the execution of a design project should be in an active project file—filed under the project's job number. Some projects may be very small and have little information to file. In these cases, there may be a single file folder and/or computer folder for project-related materials. Many projects, however, tend to build up large quantities of paper materials and electronic data that need to be filed, and breaking the project records into subfiles is helpful. Typical project file subfiles may include the following:

- correspondence
- transmittals
- project data and notes
- phone memorandums
- contracts and contractual matters such as insurance records
- subconsultant records
- billing
- construction administration, including
 - field notes
 - weekly progress meeting reports
 - submittals and approvals
 - meeting notes
 - correspondence and transmittals
 - change orders
 - pay applications
 - telephone memos

All project-related materials should be filed no matter how insignificant they may seem, and all project-related materials should have the job number inscribed on them. It is always surprising to design office staff how often materials in a project file need to

be found and referenced, not only for working on that specific project, but also for working on other projects.

Construction administration files are often filed in a loose-leaf binder under the headings cited above. A loose-leaf file can be kept by the professional staff member who is carrying out the construction administration services. This system works well because of the regular need for the construction administrator to refer back to memos, phone records, pay requests, change order requests, submittal approvals, and all other information generated during the construction process. After construction is completed, the loose-leaf record of project construction can be transferred to filing cabinets for archiving, or it can be left in the loose-leaf file itself and placed on a shelf with other completed construction administration files.

Dead Project Files

Dead files, or project archives, may not be accessed on a daily basis, but there is a recurring need to access archived project materials. Completed project files, or dead files, contain project data that are often very useful because it applies to similar situations in current project work. Dead file information may need to be accessed to fulfill requests for information by a former client or for problems related to completed work such as third-party lawsuits or claims made on professional liability insurance. Whereas dead files do not require the regular access that active project files do, the information in dead files is usually quite important when the need for the information occurs.

Dead project files and project archives are a headache for office administrative managers. The typical landscape architecture office generates a very large quantity of hard copy, drawings, and other project-related information such as photographs and negatives. The storage space requirements, even the actual storage techniques, such as how the drawings and reproducible plans are filed, present a constant challenge to landscape architecture office administrators. Sometimes archive storage requirements are large enough and office space so limited that the firm will need to use off-site locations. Flat files and hanging files are used for archiving project drawings and reproducible. Storage cartons and round storage tubes are other methods used for long-term filing of drawings. Filing cabinets are used for hard-copy and photo morgues. Cardboard files are often used for older archived projects in an attempt to keep down the cost of storing

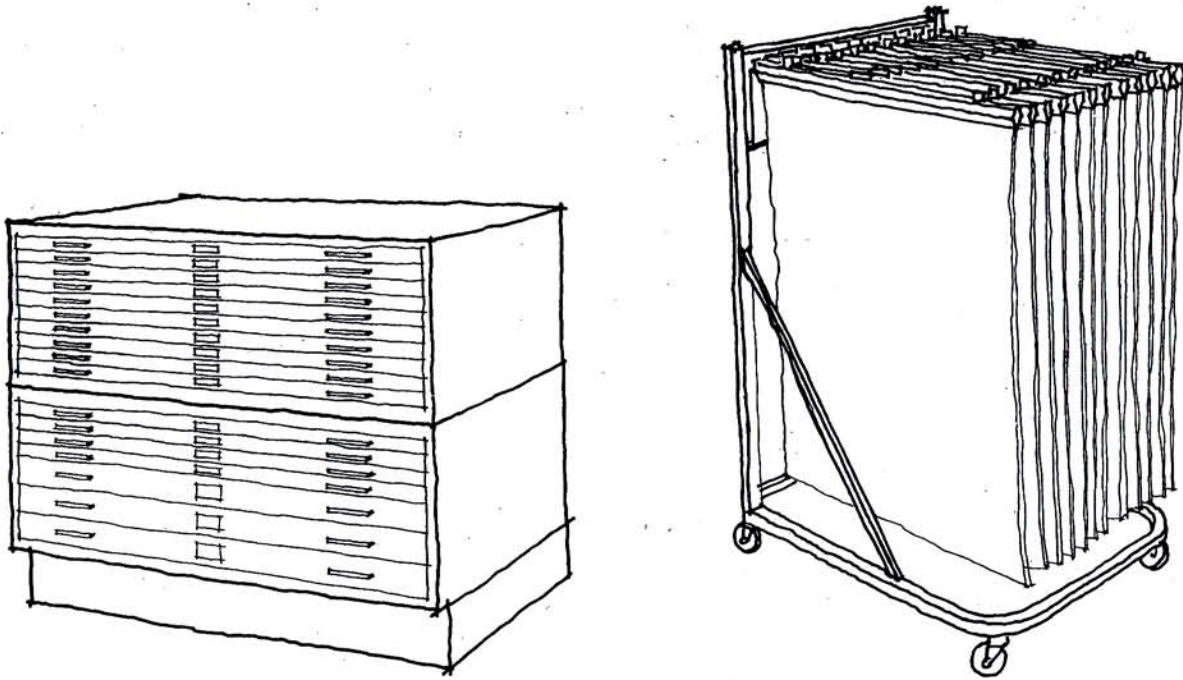


FIGURE 7-8. Flat files and hanging files are very useful for filing drawings in progress and archiving drawings.

completed project information. Microfiche is a very useful method for archiving project information and reducing physical storage costs. Microfiche is expensive, however, and many owners do not want to pay for the cost of the photography and the viewing equipment necessary for information retrieval. Other newer electronic filing systems, such as computerized scanners, are also available and used when cost is not a factor.

The simplest and most economical method of storing dead project files is the system adopted by the typical landscape architecture office. This usually entails moving active hard-copy files and drawings to archive storage areas. If this system is used, hard-copy project files and drawings should be cleaned out before putting the material in dead project files. Only the absolutely essential project materials should be archived, and duplicate materials should be weeded out of the files. Computer files should be cleaned up and moved to floppy-disk files, magnetic tapes, or storage hard drives that are physically located in computer archives.

Some offices keep all of their archived project files covering every project completed by the office from day one. Keeping all project records from day one, however,

will ultimately result in overwhelming storage requirements. If storage space is not costly, storing all of an office's project records will provide a valuable historical perspective on the planning and design output of the office. Just think, for instance, how little we would know about Frederick Law Olmsted if he had not kept the records of most of his work. In most offices, however, the dead project files should be cleaned out periodically, and the oldest project files may be eliminated from the office archives. There is one time when the need to reduce and clean out project archives becomes most important—when the office moves or merges with another office. Moving provides a very good incentive to lighten the load of dead project files.

General Design Files

Landscape architecture offices have a need for filing general design data, standard specifications, and construction details. The general design information is used over and over again on projects, but adapted specifically to the needs of each project. These general design files may be hard-copy files and electronic files. Most offices keep a hard-copy file and an electronic file of graphic symbols, notes, and construction de-

tails, which can be accessed by the firm's landscape architects and tailored to project-specific conditions. Internet tie-ins to on-line design services, such as LandNET, offered by ASLA, are becoming more readily accessible and can provide construction details, specifications, and other design information.

Personnel Records

A personal file for every person hired by the landscape architecture office is a necessity for keeping track of the personnel information required for every employee. Personnel records for each employee include the following information:

1. Home address, phone number, and whom to notify in case of an emergency
2. Information on federal and state withholding taxes (e.g., W-2 forms)
3. Completed job application form
4. Employment agreement
5. Résumé
6. Work review records
7. Personnel memos and records
8. Records of pay increases
9. Information about the employee's achievements while employed at the firm
10. Reprimands
11. Record of termination of employment
12. Any other information, such as newspaper clippings, related to the employee's activities while employed by the firm

The personnel file is important not only while the employee is actively working for the landscape architecture office but also after the employee leaves the firm. Requests for information are common long after the departure of the employee. Requests for references from future employers, verification of employment dates for mortgage companies, requests for information by the IRS and state boards of technical registration, and requests by the former employee for information relative to the period he or she worked for the firm or for recommendation letters are some of the reasons why access to personnel records continue after the employee has left the firm.

Financial Records

Administrative staff and owners of the firm need to access the office financial files on a daily basis. These

files contain all of the data and information necessary to keep the financial records of the company and provide information for bookkeeping. The best time to update many of these financial files is at the beginning of each new calendar or fiscal year. Because many of the financial records are kept on a monthly basis, the files will be ready to be used if each month is set up at the beginning of the year. Information normally kept in financial files includes

- monthly records of payables and copies of checks written for the payables
- monthly records of revenue
- deposit slips
- vendor payable files
- subconsultant payable files
- monthly P&L statement and balance sheet
- checking account balance and records of checks written
- travel report records
- records of long-term notes and amortization schedules

Payables Records. During the course of each month, the landscape architecture office receives numerous invoices from suppliers of goods and services to the firm, as well as invoices for rent, utilities, telephone, and the like. These invoices and copies of checks written to pay these invoices are kept in a monthly file because the information is normally received on a monthly basis and the records are used to create monthly financial statements.

Office administrative and financial computer systems also allow the printing of a monthly payables report that is included as a part of the monthly payables records.

Revenue Records. Invoices are usually sent to clients on a monthly basis. Copies of invoices are filed in a billing file that provides a running account of billings to the client—a billing history. Revenue is received primarily in the form of checks. Copies of the checks and the invoices the clients are paying are kept in files. The firm's bookkeeper or accountant uses these monthly records of income in preparing the monthly financial statements.

Vendor Files. Each landscape architecture office uses a variety of vendors that provide goods and ser-

vices to the firm and usually bill for those goods and services on a monthly basis. A file should be set up for each vendor in order to track the copies of bills of sale and merchandise received against future invoices and statements. Copies of checks made out to the vendors may also be kept in the files.

Subconsultant Files. If a landscape architecture firm is active as a prime consultant, it will employ a number of specialty subconsultants such as structural engineers, electrical engineers, archaeologists, botanists, habitat consultants, and others on a regular basis. Information should be kept in the project's contract or billing file, usually filed by the name of each subconsultant, for all of the contract and financial activity related to subconsultants serving on each project. These files should contain copies of invoices, copies of checks used to pay these invoices, and information relating to any adjustments made in amounts owed to the subconsultant. The information not only is used in preparing monthly financial statements and project progress reports, but also provides the data for annual tax-related tasks such as preparing federal 1099 forms.

Another area of subconsultant information associated with marketing and job development is the data, résumés, and materials kept on file for the firms that the landscape architecture office uses for subconsulting activities. The subconsultants information file may be kept up to date and administered by clerical staff, but the principals of the firm and those who assemble and produce proposals are the main users of the information. Generally the best ways to keep subconsultant's information on file is alphabetically by discipline or name of the firm. Materials may include the subconsultant's SF254, SF255, résumés, firm qualifications, cut sheets, and brochures.

Developing a computer database filing system is a good way to organize subconsultant files by discipline if the landscape architecture firm has deep files of a wide range of subconsultants. Preliminary screening of firms by discipline can be made before sifting through their filed hard-copy materials or before making contact with a possible subconsultant the firm wishes to include in a proposal.

Monthly P&L Statement and Balance Sheet. The financial information filed on a monthly basis culminates in the preparation of the monthly financial

statement and other financial reports. The completed financial reports are filed in the respective monthly financial files. The financial managers and owners of the firm may want to keep a copy of the monthly P&L statement and the balance sheet handy in a loose-leaf file at their own desks because these summaries of the financial condition of the firm are frequently referred to by managers.

Checking Account. Today's landscape architecture office normally keeps records of checks written and deposits into checking accounts as computer files. Integrated computer financial software or spreadsheets are used to track deposits and checks. Most firms keep hard copies of monthly reports.

Travel Reports. Most landscape architecture firms today involve travel as part of the business practice. Records of business travel costs and reimbursement to office staff should be kept on both electronic and hard-copy files. These records are filed on a monthly basis, and copies are filed in the project billing files so the travel costs may be invoiced to the client.

Records of Long-Term Notes and Amortization Schedules. Long-term notes for each piece of equipment, vehicle, printer, computer, or copier, as well as other long-term notes for loans to corporate officers and stock purchase programs, should have an amortization schedule prepared for them and filed. These amortization records may be generated by in-house financial managers and kept in computer files. Financial managers and owners frequently refer to the amortization schedules in their work of managing the firm's short- and long-term finances.

Governmental Requirements

Local, state, and federal levels of government have a plethora of requirements that landscape architecture offices need to comply with in order to do business.

Local governments, for example, require a business license, have purchasing departments with annual reporting requirements, and may require that an affirmative action report be completed and updated on an annual basis.

State governments also have requirements for annually updating information with the state's procurement

office. State departments of transportation, environmental quality, water resources, or parks and recreation may also have specific rules or requirements for doing business with them.

The federal requirements include annual updating of SF254 forms used in procuring federal consulting work and tax records, which will be discussed in greater depth later in this chapter.

Information for each of the governmental agencies and their requirements for doing business should be kept on file. If an agency requires an annual report, keeping last year's report and other materials in the file will simplify the annual update.

Marketing Information

Marketing staff, principals, and project managers engaged in marketing and job development in the landscape architecture office will have a wide variety of materials to keep on file. Company brochures, project cut sheets, slide files, videotapes, copies of old proposals, presentation boards, and supplies and materials used in putting proposals together are some of the marketing materials that require administration and filing in the professional landscape architecture office.

Project cut sheets can be conveniently filed by type-of-work category. Much of the marketing materials are best filed or located in a separate marketing area, office, or studio geared toward marketing and sales. The marketing section of the office may have lots of storage space for the materials mentioned in the preceding paragraph, as well as other equipment such as computers equipped with the types of software helpful in proposal preparation and a hole puncher for spiral binding. A separate area in the office for marketing functions provides space for developing and producing much of the firm's marketing materials. Many firms now produce their own cut sheets, brochures, and proposals in house using word processing and page layout software.

Drawings in Progress

Flat files, vertical hanging files, desk drawers, and side throw tables are some of the most commonly used methods of filing drawings in progress. For projects with a large number of sheets, a flat file in which plans in progress can be laid flat after working on them is a necessity. CADD files will also have to be maintained for work in progress, but the reproducible original

drawings that take up the greatest amount of space cause the filing headache. Periodically cleaning out filing drawers that hold drawings of completed projects and moving these drawings to project archives is an important housekeeping procedure. If the office uses a photo storage system, this is the time that the plans should be sent to be photographed for the microfiche archive files.

Secretarial Information and Supplies

There is a wide variety of business equipment, office supplies, and administrative paraphernalia, such as a mail scale or boxes of labels, used by office administrative staff in running the day-to-day business of the office. No office can run without these materials and supplies, and they need to be filed and stored.

Vacations, Holidays, and Sick Leave

An established office with a number of employees will have a fair amount of record keeping associated with administering vacations, holidays, and sick leave. Regular reporting on the available days each employee has remaining for leave time or sick pay is very important for employees to manage their time off from work.

Vacation time may change with the number of years each staff person has been employed based on company policy. Keeping track of vacation time earned and vacation time used is an administrative task important to employees. Time should be calculated and the information should be filed in office computer data files. Hard copies should regularly be made available to employees. Vacation, leave time, sick days, and holidays taken should be read from time cards by administrative staff and subtracted from time available. Using spreadsheet software can simplify record keeping if this timekeeping function is not a part of an integrated timekeeping and financial software program.

Insurance

Office-management staff frequently refer to insurance policies. The filing system for policies should be well

ACE LANDSCAPE ARCHITECTS							
MONTHLY LEAVE TIME UPDATE				ACCUAL THROUGH SEPTEMBER 1, 1996			
UPDATE: 9/30/96				UTILIZATION THROUGH SEPTEMBER 30, 1996			
EMPLOYEE BY NUMBER	ANNIVERSARY DATE	MONTHS	MONTHLY ACCUAL	HOURS ACCURED	HOURS BORROWED	HOURS TAKEN	HOURS REMAINING
01WR	May-80	JAN-SEPT	10	90	0	51.6	38.4
04JH	Jun-82	JAN-SEPT	10	90	0	76	14
76JH	May-90	JAN-SEPT	5.33	49.97	0	26.5	23.47
LEAVE TIME CRITERIA:		YEAR 1	40 HOURS/YEAR		(3.33/MONTH)		
		YEAR 2	64 HOURS/YEAR		(5.33/MONTH)		
		YEAR 3	80 HOURS/YEAR		(6.67/MONTH)		
		YEAR 4	96 HOURS/YEAR		(8.00/MONTH)		
		YEAR 5+	120 HOURS/YEAR		(10.00/MONTH)		

FIGURE 7-9. Example of leave time calculations carried out on a spreadsheet program for a small three-person landscape architecture office.

organized and complete, because they are often consulted during a time of stress due to loss or pending loss.

The main types of insurance required by a professional landscape architecture office are as follows:

- property insurance
- property liability insurance
- worker's compensation insurance
- disability insurance
- professional liability (errors and omissions) insurance
- life insurance and key-person insurance
- unemployment insurance
- health insurance

Property Insurance

All of the real property owned by the landscape architecture office, including real estate, vehicles, equipment, and valuable papers, should be insured for its

replacement value. The firm's insurance agent will have a great deal of input on the insurance valuation of the real property owned by the landscape architecture office.

Purchasing property insurance requires attention to detail to ensure that all of the firm's property is covered. There are a large number of extensions, endorsements, and options available from insurance companies. Such options, which should be carefully considered, includes debris removal, collapse of buildings, water damage, loss due to fire, payment of extra expenses if business is interrupted, pollutant cleanup and removal, arson coverage, accounts receivable, valuable papers and records, insurance of property while off the insured premises, property in transit, property of others, damage from burglary, and employee dishonesty (stealing from the company). Insurance policies may also carry a wide range of exclusions and legal liabilities. The office insurance administrator must review all of the endorsements, options, and exclusions to see that the landscape architecture firm is purchasing the insurance coverage

it needs. Automobile insurance is usually sold with the property insurance and liability coverage.

Property Liability Insurance

If a person is injured while on the firm's property or is hurt while using equipment in the firm's office, that person is covered by liability insurance purchased by the landscape architecture firm. The general liability insurance policy is often sold in tandem with property insurance and is sometimes referred to as casualty insurance.

In addition to the insurance goals of the design firm, the dollar-limit requirements for property and liability insurance may be determined by the public agencies the firm consults with. Most local, state, and federal contracting agencies have set limits of property and liability requirements. Many governmental agencies require a minimum of \$1,000,000 in general liability insurance coverage.

Worker's Compensation Insurance

Employers are required by state laws to insure workers against work-related injuries. Worker's compensation insurance is provided by private insurance companies or state-authorized agencies. Most states also allow a firm to be self insured, but the firm must adhere to strict regulations.

Worker's compensation insurance premium rates are based on the amount of remuneration paid to employees times a rating factor for various job classifications. A registered landscape architect, such as a principal in a firm, will be classified at a higher rate than a draftsman, for example. Staff who regularly go out to job sites for construction surveillance will be classified at a higher rate. The National Council on Compensation Insurance (NCCI) collects data on job-related accidents and classifies all jobs on a uniform basis. Most states adhere to the NCCI's job classification and rates reflecting the relative hazards of each job. Landscape architecture firms pay worker's compensation insurance premiums on a quarterly basis.

In the event of an accident, claims on worker's compensation policies should be made promptly. Laws require that the employer immediately tell an injured worker the name and address of the insurance

carrier, the policy number, and the expiration date. Most worker's compensation insurance laws require the employer to complete a report about the injury within ten days.

Worker's compensation insurance laws cover medical treatment of the work-related injury, disability benefits, and benefits, including burial expenses, for dependents in the event of fatal injury or death caused by a work-related accident.

Workers injured on the job may experience a period of anxiety about the extent of their injury, the treatment, and potential adverse impacts on their job, their economic status, and their family's well-being. The proper handling of a worker's compensation claim by the administrative managers of the landscape architecture office, as well as the insurance carrier and state agencies, beginning at the time of the injury, can be a significant factor in promoting an early recovery, return to work, and a reduction in claim losses.

Disability Insurance

If an employee of the landscape architecture office becomes disabled and cannot return to work because of the injury, disability insurance will provide for the well-being of the insured. *Disabled* means that because of injury or sickness one cannot perform the material duties of one's gainful occupation for which one is reasonably trained or educated. Disability benefits are normally paid as a percentage of base monthly earnings. The benefit may be stated as an amount equal to the lesser of (1) 60 percent of one's basic monthly earnings, or (2) 70 percent of your basic monthly earnings less other income benefits, or (3) the maximum monthly benefit.

When the insurance administrator of a landscape architecture firm negotiates and renews disability insurance coverage, he or she must resolve many questions about the terms of the coverage:

- When do disability benefits become payable? Is there an elimination or waiting period? How is the benefit calculated?
- Will the paid benefits have exclusions of other income benefits (e.g., social security benefits or worker's compensation insurance)?
- What happens if one tries to return to work and becomes disabled again (recurrent disability)?

- What happens to the benefit upon the employee's death?
- What disabilities, if any, are not covered by the plan?
- Are there exclusions for preexisting conditions?
- Are there limitations due to mental illness, alcoholism, and drug addiction?
- Is one covered if one is not in active employment due to injury or sickness?
- If one's employment ends, can the disability policy be converted to individual coverage?
- When must the insurance carrier be notified of a claim? Must proof of claim be given?
- What happens if facts are misstated during the application period?

Disability insurance is a reasonably inexpensive and valuable company benefit. It should be provided by the landscape architecture firm, perhaps jointly sharing costs with eligible employees. One last thing to remember about disability insurance is to pick a policy or plan that has a good track record and is easy to administrate. Call references and talk to representatives of firms that have made disability claims to see how easy and hassle free the claim process is.

Professional Liability Insurance

Insuring the firm's landscape architects against damages arising from the conduct of professional practice, including third-party claims made years after a project has been constructed, is the reason for professional liability insurance, sometimes called errors and omissions (E&O) insurance.

Professional liability insurance companies indemnify insured policyholders for errors, omissions, or negligent acts. A professional liability insurance policy usually provides coverage to defend the insured policyholder by providing legal counsel until limits set by the policy are exhausted. The professional liability insurance business commonly writes E&O policies in such a manner as to spell out the exclusions of the policy, or what is not covered by the insurance, rather than what is covered by the insurance.

There are a number of reasons why an E&O policy uses exclusions rather than describing in detail what the coverage includes. First, E&O insurance providers do not want to provide coverage that is

found in other types of insurance policies such as liability insurance, worker's compensation insurance, and disability insurance. Second, some kinds of risks, such as joint ventures, are not easy to define. Third, some risks, such as insuring activities dealing with toxic materials, are just too risky. Finally, E&O insurance providers are not interested in insuring dishonest, fraudulent, or criminal acts. Typical exclusions include worker's compensation, asbestos, joint ventures, computer errors, design-build coverage, punitive damages, quantity takeoffs, and cost estimates.

Most professional liability insurance policies are "claims-made policies." They cover claims made during the period of coverage. However, one policy might define a claim as "knowledge of circumstances" that might lead to a demand for money to remedy the error. Another policy might define a claim as the actual "demand for the remedy." Both of these definitions have problems associated with professional practice. In the first, a landscape architecture firm might have knowledge of a possible E&O claim while its deductible on its E&O policy is \$25,000. Because the firm's insurance administrator is concerned, he or she notifies the insurance company. Subsequently, the E&O insurance comes up for renewal and the deductible is reduced to \$5,000. After the renewal, the claim is actually made against the E&O policy, leaving the firm with the larger deductible because the firm notified the insurance carrier based on the "knowledge of the circumstances" that could possibly have led to the claim rather than waiting until the actual claim was made. In the second definition, the firm's insurance administrator may not want to change E&O insurance providers if the administrator "knows of circumstances" that might lead to a claim. A new insurer will ask about situations about which the administrator "has knowledge of circumstances," which could lead to a claim. Such circumstances are not likely to be covered.

Another issue when procuring professional liability insurance coverage is the retroactive date of the coverage. A claims-made policy usually applies to errors or omissions made prior to the first day of coverage. This prior-acts coverage is an important part of negotiating the E&O coverage. The prior-acts coverage is triggered by a retroactive date. Coverage is provided after this date. Before the retroactive date, prior acts are not covered. Obviously, an older retroactive date is more desirable to the landscape architecture firm.

Needless to say, the landscape architecture office administrator in charge of insurance has a difficult task evaluating the coverage of prospective E&O policies. The administrator should obtain annual quotes from a number of professional liability insurers. The administrator should evaluate the exclusions in each policy in detail to truly understand the impact that coverage, or excluded coverage, has on the exposure of the firm. Costs should also be carefully evaluated. Costs can vary as much as 200 percent among various companies. Office insurance administrators should work with an insurance agent who has a special interest and experience in working with design firms and who specializes in professional liability insurance. Using an experienced agent does not cost more and may save the firm a large amount of premium costs in the long run. Obtaining quotes from more than one E&O insurance company results in a backup if the firm's E&O insurance carrier raises premiums, goes out of business, or reduces or refuses coverage.

Life Insurance and Key-Person Insurance

Most landscape architecture firms provide and pay for life insurance for the key people in the office. This is done primarily to ensure that the loss of a key person does not cause significant disruption to the operations of the firm. For example, a firm has two key partners. One partner is the firm's lead marketer and is very effective at client development and maintenance. The second partner provides the lead in design and production of construction documents. If one or the other unexpectedly dies, the firm's ability to function might be seriously disrupted. If both partners maintain life insurance policies with each other as the beneficiary, the death benefit can be used as the capital needed to reorganize the firm to carry on business again.

Life insurance policies are also available for many of the firm's employees through add-ons to other policies such as disability insurance, which often includes a small life insurance benefit as part of the policy. In addition, most credit card companies also provide for life insurance benefits with the use of the credit card.

Unemployment Insurance

One of the most useful insurance coverages, especially for young professionals and new hires in a landscape

architecture office, is unemployment insurance. The federal government and state governments insure employees against loss of employment. This insurance coverage is paid for by the employer. Most employers pay both a state and federal unemployment tax. Federal unemployment tax, or FUTA, is paid entirely by the employer and is due annually. Employers use form 940 for reporting purposes and pay taxes on the first \$7,000 in wages paid to each employee.

If you are an employee and have lost your job, filing for unemployment insurance is usually handled through the state department of economic security. If you decide to file for unemployment insurance benefits, do it soon after employment is terminated, because most benefits are paid only after filing and are not paid for any time out of work before the unemployment claim is actually filed.

States have eligibility requirements and a base period of time that an employee must work in the year prior to making the claim for unemployment insurance. The benefit is usually figured as a percentage of the wages paid during the base period with a maximum cap such as \$165 per week. The maximum amount depends upon the total amount of wages reported in the last base period.

The unemployment insurance claimant must meet a considerable number of responsibilities in order to collect the unemployment insurance benefits. The claimant must register for work in the state work-referral system and must be ready to accept work if offered. The claimant must make an active, serious, and continuing effort to seek work. If the claimant has performed any work or has earned money or has received money from pension, annuity, or retirement plan while collecting unemployment insurance, he or she must report any such income. Employees who have lost their job can normally collect unemployment benefits for one year.

Health Insurance

Providing cost-effective health insurance coverage for the landscape architecture firm is one of the most time-consuming activities for the office business administrator. Health insurance is the one type of insurance used most often by the staff of the landscape architecture office. Therefore, making an informed decision about coverage for the firm's employees is important. The

benefits offered by the health plan and the amount the firm's employees must pay out of pocket for medical care and prescriptions differ substantially from plan to plan.

In general, there are two broad categories of health-care options:

1. fee-for-service plans
2. managed-care options

Fee-for-Service Plans

Fee-for-service health plans are the most traditional form of commercial health insurance available. Under these plans, the insured chooses his or her own doctors and hospitals. Many of these plans require deductible amounts and coinsurance payments. The insurer pays claims for reasonable and customary medical charges for physician and hospital care. Major medical plans are the most common type of fee-for-service coverage provided by employers.

Fee-for-service health plans are characterized by three major features:

1. Employer and employees share the cost of health insurance premiums.
2. Employees have complete freedom to select the medical care providers of their choice.
3. The insurance company pays only the allowable claim.

Fee-for-service health plans have long been an important type of employee benefit because of their flexibility and the freedom of the insured to choose health coverage providers.

Managed-Care Plans

A managed health-care plan integrates the delivery of health-care services with how the services are paid for. There are significant financial incentives integrated in the plan for the participants to use the doctors, health-care providers, and procedures associated with the plan. The two most common types of managed-care options are preferred provider organizations (PPOs) and health maintenance organizations (HMOs). Most managed-care plans share the following basic characteristics:

1. The provider organization arranges for physicians, hospitals, clinics, and other providers

to supply a comprehensive set of health-care services to insured members of the plan.

2. The provider organization sets up formal programs for the selection of medical practitioners and for quality assurance.
3. The provider organization establishes incentives for the insured participants to use the services and procedures associated with the plan.

Preferred Provider Organizations (PPO). Typically, a PPO consists of groups of physicians and hospitals that contract with employers or third-party administrators to provide health-care services to the insured persons. The providers accept pre-negotiated fees and payment for services provided. The PPO may be sponsored by a group of hospitals, a group of doctors, a third-party administrator such as Blue Cross and Blue Shield, or any other insurance entrepreneur.

Health Maintenance Organizations (HMO). The name *health maintenance organization* was coined in the early 1970s and was given to the 1973 federal legislation that promoted the development of the HMO concept. Basically, an HMO is an organized system for providing health care, usually in a certain geographic area. An HMO provides an agreed-upon set of health maintenance services, as well as illness and injury treatment services, to the enrolled participants in exchange for a set premium. Nonparticipants are excluded from any services, even if they can pay full value for the services. These plans provide services that are agreed upon in advance and generally require no deductible payments. Some plans may require a nominal co-payment for doctor visits and prescriptions. In recent years, many HMOs have offered plan options that feature higher co-payments in efforts to contain the overall costs of employer-provided health-care plans.

Choosing a Health Insurance Plan

Selecting health coverage and a health insurance company is a time-consuming and important task for the landscape architecture office. The firm's administrator must develop a good working relationship with an insurance agent who specializes in health insurance plans, and work with the agent to determine the type of plan (HMO, PPO, or major medical, for example) most suitable to the landscape architecture office. The plan

must be acceptable to the firm's owners and principals, as well as the employees. The best way to find out what type of plan coverage the firm's employees want is to ask them. Accessibility of services, costs, and the range of coverage will be the key concerns of most employees.

Once the type of plan desired by the firm is decided, the agent will be very helpful in assisting the firm's insurance administrator in selecting the actual provider company. The insurance administrator should evaluate how easy it is to make a claim, as well as how willing the provider company is to pay claims. Checking references on a prospective health insurance company is also a good idea. Most states have an insurance department that regulates insurance companies and receives complaints about insurance companies. Checking with the state department during the process of selecting a health insurance company is a good idea (Health Insurance Association of America 1991).

Price should not be the primary consideration in selecting a health insurance company. The service provided and the help you receive from the company's agent are also important. The following checklist is a starting place for determining the firm's needs and comparing health insurance plans and services:

HEALTH INSURANCE COMPANY COMPARISON CHECKLIST

1. What are the needs of the landscape architecture firm's employees?
 Number of employees _____
 Number of employees
 with dependents _____
 Age of employees _____
 Sex of employees _____
 Employees and dependents
 of childbearing age _____
 Employees and dependents with
 preexisting medical conditions _____
 Employees with high-risk
 health problems _____
 Employees with health insurance available
 from other sources _____
2. What percentage of coverage will be paid for by the landscape architecture firm, by the employee?
3. What medical services does the firm want to have covered (yes or no)
 Inpatient hospital services

Outpatient services
 Psychiatric and mental-health coverage
 Drug and alcohol abuse treatment
 Nursing care
 Home health care
 Hospice care
 Dental provisions
 Maternity care
 Prescription drugs
 Eye care and coverage
 Preventative care and checkups
 Chiropractic care
 Medical tests and X-rays
 Mammograms
 Cancer coverage

4. Does the plan contain exclusions for preexisting conditions that will affect employees?
5. Are there service limitations or exclusions that will affect employees?
6. What are the cost-reduction options available to the firm (i.e., higher co-payment, higher deductible)?
7. What is the total cost of the policy?
8. Is the cost equal for each employee?
9. Is the employer required to pay for a certain percentage of the coverage?
10. What is the deductible rate structure?
11. Is the premium rate guaranteed? If it is guaranteed, for how long?
12. What has been the rate increase history for the company?
13. What will happen to premiums if one of the firm's employees has a major claim?
14. What is the process for handling individual claims?
15. How often will the landscape architecture firm be billed? Monthly? Quarterly?
16. How much administrative time and effort will be required of the landscape architecture firm?
17. Will the agent be available to meet with the employees of the landscape architecture firm?
18. How long will it take to process a claim?
19. What do references say about the insurance company?
20. What do the landscape architecture firm's employees say about the insurance company after listening to the explanation of services provided (Health Insurance Association of America 1991).

COBRA Requirements

In 1986, the federal government passed Public Law 99-272, Title X, which requires that most employers with fifteen or more employees offer temporary health insurance coverage when an employee loses group health coverage due to a reduction in hours of employment, termination of employment, or because the firm has filed for reorganization protection under Chapter 11 of the federal bankruptcy laws. The spouse of an employer also has the right to protection under the law if health insurance coverage is lost due to death of the spouse, termination of the spouse's employment, divorce, legal separation, filing for Chapter 11 bankruptcy protection by the firm, or if the spouse becomes eligible for medicare. A dependent child of the employee also has rights to coverage under the law.

The law requires a landscape architecture firm to notify an employee who has lost coverage, or the employee's spouse or dependent children, of the employee's rights for access to continued health insurance coverage. Under the terms of the law, the employee who has lost coverage has up to sixty days from the date of lost coverage to notify the landscape architecture firm's plan administrator of the desire for continuing health-care coverage.

If the employee elects the continuing coverage, the landscape architecture firm is required to provide equal coverage for up to thirty-six months unless the employee is terminated or hours are reduced, in which case the required coverage must be afforded for a period of up to eighteen months. The law does not require that the landscape architecture firm pay for the coverage. The employee is responsible for payment. The law does require that the landscape architecture firm administer the cost of the coverage. The law also provides that the employee be allowed to enroll in an "individual plan" provided by the health insurance company after the eighteen-month or three-year period. Evidence of the notification of the employee of his or her rights under the law must be filed in the employee's personnel file (Health Insurance Association of America 1991).

Retirement Benefits

Landscape architecture firms use revenue and profits to provide retirement benefits for owners and employ-

ees of the firm. Whether a landscape architect works for a firm or starts his or her own firm, provisions for a pension plan or retirement benefits are an important consideration for employment. If a professional is interviewing several firms and public agencies for possible employment, the retirement benefits provided by each prospective employer should be one of the main evaluation criteria used in deciding which employer to go with. If the professional is starting a firm, providing retirement benefits or a pension plan should be one of the firm's financial goals.

Retirement benefits can help the landscape architecture firm promote the following employer and employee goals:

- *Assisting employees with retirement savings.* The foremost reason that pension plans and retirement benefits are provided is because most people find personal saving difficult to carry out of their own volition. Personal saving requires discipline. Moreover, our tax system and economy are oriented toward consumption rather than savings.
- *Providing tax deferral for owners and highly compensated employees of the firm.* Owners and highly compensated members of the firm can often benefit by sheltering a substantial part of their pre-tax income through the firm's pension plan or retirement benefits.
- *Recruiting, retaining, and rewarding employees.* All things being equal when comparing firms for employment, a prospective employee is more likely to work for the firm that has the best pension plan. A firm's retirement benefits can help recruit new employees by matching or bettering benefits offered by competitors. The firm can reward employees by tying benefits to productivity and profitability. Employees can be retained by tying maximum retirement benefits to longevity with the firm.
- *Retiring employees with dignity.* A pension plan will allow professionals who have spent a lifetime with the firm to retire with dignity without suffering a huge drop in their standard of living.
- *Encouraging productivity.* Retirement benefits that are tied to the productivity and profitability of the firm can provide employee incentives. Employee stock ownership plans are one

of the methods used to encourage productivity (Leimberg 1990).

Qualified and Nonqualified Plans

Retirement programs and pension plans are either qualified or nonqualified. Qualified plans generally receive more favorable tax benefits, but are subject to strict government regulations. Qualified plans include the Section 401(k) plans, the Simplified Employee Pension (SEP) and various profit-sharing or savings plans. Most firms that implement a pension plan or retirement benefits use a qualified plan option that is available to all employees as the firm's basic retirement benefit.

Nonqualified plans are used to provide retirement benefits to a select group of employees such as owners, principals, or key senior staff. A nonqualified plan provides benefits in addition to or instead of the firm's qualified retirement plan. Nonqualified plans do not provide the same tax benefits as qualified plans. In the nonqualified plan, the employer is not allowed to take the income-tax deduction at the time of the contribution to the savings plan. The firm must wait until the year when the employee withdraws from the savings account and actually reports income from the deferred compensation plan. Nonqualified plans are very useful to the owners of a landscape architecture firm when they want to provide deferred income to themselves or to a select group of principals, but the cost of implementing a qualified plan might be too high because a large number of the firm's employees would also have to be covered. The nonqualified plan is ideal for firms that want to provide owners and key employees with retirement income but cannot afford to implement a qualified plan, or that want to provide different or additional benefits to key employees already receiving the maximum benefits under the firm's qualified plan. One useful method of funding a nonqualified pension plan is to fund the plan through life insurance that is held by the landscape architecture firm but that benefits the employee.

Because the majority of pension plans or retirement programs sponsored by landscape architecture firms are qualified plans, the remainder of this section will be devoted to these valuable methods of saving for future security (Leimberg 1990).

Types of Qualified Pension Plans

Qualified retirement plans receive tax benefits that are not available to nonqualified plans. Payments into the qualified plan in the form of employer contributions and employee salary deductions are exempt from being taxed in the year in which they are paid. Being tax-free, the funds deposited in the pension plan account will accumulate to greater amounts over time than money saved privately, for which taxes are due on the interest earned.

Qualified retirement plans are defined either by the *contribution*, where the employer specifies an amount to be contributed, or by the *benefit*, where the employer guarantees a predetermined benefit level.

In a defined-contribution plan, the landscape architecture firm starts and maintains an account for each employee who participates in the retirement program. Benefits are paid to each employee when he or she retires or leaves the firm. The amount of the benefit is based on the amount contributed by the employer, the employee, and earnings on the account over the time the employee has participated. The employer does not guarantee that a certain amount will be in the account or a specified benefit will be available, only that a specified amount will be deposited. Typical defined-contribution plans include specific contributions based on a percentage of the employee's annual compensation, such as 10 percent, or profit-sharing plans where the employer determines the amount contributed each year based on the profitability of the firm.

In a defined-benefit plan, the landscape architecture firm starts and maintains an account for each employee who participates in the retirement program. The plan is designed to provide a specific amount of income to each participant at the normal age of retirement. These plans are difficult to design and implement because they provide adequate levels of benefits for all employees regardless of their age at the time of entry into the plan. Defined-benefit plans are actuarial. Employers must fund the plan with regular deposits determined actuarially to ensure that the plan will have sufficient funds available to pay the benefits promised to all participants. Such plans are very useful, however, for small landscape architecture firms where an older controlling employee wants to maximize tax-deferred retirement benefits, and there are a number of younger employees in the firm to help balance out the cost of

the required regular deposits. Defined-benefit plans are also useful for a group of young professionals about the same age who start an office and want to have known future retirement benefits while keeping the costs to a set amount for the duration of the plan. Because the professionals are young, they will have a longer time to make the required periodic deposits, and costs will be lower in proportion to the payout at the time of retirement.

There are many ways to determine the benefits of a defined-benefit retirement plan. Common formulas are the flat amount, the percentage of salary, and the unit of time served.

Under the flat-amount formula, the plan provides a specified amount of income (such as \$1,000 per month) to each participant beginning at a set retirement age (age sixty-five, for example). The plan usually requires the employee to work a minimum number of years for the firm (fifteen to twenty years is common) in order to receive the benefit, and the benefit may be prorated if he or she has worked fewer years for the firm. The flat-amount formula does not differentiate between employees with different compensation levels. This formula is appropriate when salaries are more or less equal.

Another formula provides a retirement benefit that is a percentage of the employee's salary or earnings. The formula might provide a retirement benefit of 50 percent, 65 percent, or 80 percent of the employee's annual earnings at the time of retirement. If an employee is making \$80,000 at retirement and the retirement benefit is 80 percent of the salary at retirement, the benefit would be \$64,000 per year. Like the flat-amount formula, percentage plans usually require the employee to work a minimum number of years for the firm (again, fifteen to twenty is common) in order to receive the full benefit, or receive prorated benefits for fewer years with the firm.

The unit-of-time-served method bases the benefit on the length of time the employee works for the firm. The formula might provide 2 percent of earnings for each year of service, and the cumulative percentage would be applied to the employee's salary when he or she retires. An employee who retires after thirty years of service with a salary of \$100,000 would receive a retirement benefit of \$60,000, computed by multiplying 2 percent by thirty years of service by the salary at retirement, or 60 percent of \$100,000.

Defined-Contribution Plans

Defined-contribution retirement plans are the most common, and developing a defined-contribution plan for a landscape architecture firm can be stressful. There are many plan options to choose from and many alternatives for investing the funds. Selecting a plan that the firm's employees will perceive as valuable is difficult. The larger the number of employees, the greater the difficulty due to age differences and personal priorities for spending disposable income. The defined-contribution plans include

- Employee stock ownership plans (ESOPs)
- Direct contribution plan
- Profit sharing
- Savings plan
- Section 401(k)
- Simplified Employee Pension (SEP)

Employee Stock Ownership Plans

Under an ESOP, employees receive ownership in the firm in the form of stock. Obviously, the firm must be set up as a corporation under this type of qualified plan, and the corporation must be a C type. ESOPs are not permitted for Sub S corporations.

Participants' retirement account balances are stated in terms of the number of shares of stock owned. In addition to contributed shares, which are typically calculated based on a profit-sharing formula, dividends may be reinvested to purchase additional shares of stock. The plan must be nondiscriminatory, and cannot favor highly compensated members of the firm. All of the qualifications, such as vesting, funding, reporting, and disclosure, required by law must be met. In a landscape architecture firm, where the stock is typically closely held and not traded publicly, employees taking part in the plan must have the right to vote on corporate issues that include mergers and changes in corporate structure, liquidation, dissolution, and sale of substantial amounts of assets. In a closely held corporation, stock valuations must be made regularly by an independent appraiser. ESOPs are a good way to transfer ownership to employees when the owners of a landscape architecture firm are nearing retirement and wish to retain the value of the firm.

Direct Contribution Plan

One of the simplest of qualified plans, the direct contribution plan allows employers to make contributions of money to each employee's individual account under the terms of a nondiscriminatory formula. Annual contributions are usually set up as a specific percentage of each employee's salary. The plan benefits from all of the tax-deferred elements of qualified plans. Direct contribution plans are exceptionally useful when most of the landscape architecture firm's employees are young and have a long time to accumulate benefits. The plan is ideal for a new firm that is being formed by a group of associates that are young and all around the same age. The plan rewards longevity with the firm and could be one of the elements that binds the members of the firm together. In addition to the regular reporting and other qualifications that must by law be met, the plan must meet minimum annual funding requirements and is subject to penalties if the minimum is not met.

Profit Sharing

When a landscape architecture firm's profits are likely to vary from year to year, a profit-sharing pension plan should be considered. Under a profit-sharing plan, employer's contributions may be flexible. They are discretionary and based on annual profits. A specific formula is used to make contributions to each employee's individual account. The profit-sharing retirement program provides incentives for employees because account deposits theoretically increase with greater profitability of the firm. The plan is simple, easy to administer, and easy to explain to employees of the firm. One disadvantage is that the total amount of annual contributions is limited to 15 percent of the firm's total payroll. Other plans allow up to 25 percent of the annual payroll amount. Another disadvantage to employees is the unpredictability of the contributions made by the firm because the amount of the owner's contribution is discretionary. A profit-sharing plan provides for tax-deferred income if all of the qualifications, such as vesting, funding, reporting, and disclosure, required by law are met.

Savings Plan

A savings retirement plan is set up to allow the employee to make voluntary after-tax contributions that

will be matched by contributions made by the landscape architecture firm. The plan allows employees to determine the funding level at which they choose to participate, but for the plan to be effective, employees must have the discipline necessary to make after-tax contributions. If the employee does not contribute sufficient funds, he or she jeopardizes an adequate retirement income. There are limitations on the amounts that may be contributed by highly paid employees.

The after-tax nature of the savings retirement plan is a disadvantage to this method of pension funding. Since the introduction of the 401(k), which allows pre-tax contributions, the popularity of the savings retirement plan has been preempted. Today, the savings plan is often provided as an add-on to the 401(k) plan (Leimberg 1990).

Section 401(k)

Through a Section 401(k) employer-sponsored pension plan, an employee of a landscape architecture firm can make contributions of up to \$7,000 indexed annually in the form of tax-deferred savings. The plan must be tested annually to ensure that it does not discriminate in favor of highly compensated members of the firm. The plan may be funded entirely by salary deductions at a level elected by the employee and supplemented by the employer. However, deductions are limited to 15 percent of the employee's compensation. Employer funding is normally made on a matching-contribution basis or by a discretionary amount frequently tied to the firm's profitability.

One of the attractive provisions of the 401(k) retirement plan is the possibility of withdrawing money for a personal hardship including death, disability, funeral expenses, medical expenses, eviction from the employee's residence, and payment of tuition for the employee's family members. Withdrawal for a hardship carries a 10 percent early-distribution tax penalty. Loans, subject to a number of limitations, may also be made against the 401(k) funds.

As with all qualified pension plans, vesting, funding, reporting, and disclosure requirements must be met. One of the attractive advantages of a 401(k) plan is that each employee can choose his or her own level of funding and is not tied to a prescribed amount. As part of the administration of the plan, employees normally complete a deduction form on an annual basis.

Another attribute of the plan that benefits employees is 100 percent vesting immediately. Even if an employee leaves a firm shortly after starting work and making contributions to the plan, the funds must be transferred to the employee. The funds may be paid as a cash lump sum and are typically rolled over into another retirement account administered by a new employer or into the employee's individual retirement account (Spencer 1991).

Simplified Employee Pension (SEP)

A Simplified Employee Pension (SEP) is a retirement plan that allows self-employed individuals and employers to make contributions under an easily administered qualified plan. The employer makes the contributions to the employee's individual retirement account (IRA). A single government form (5305-SEP) can be used to satisfy the written requirements of the SEP. An employer who signs a SEP agreement with employees is not required to make contributions to the SEP-IRAs that are set up. If the employer does make contributions, however, they must be based on a written allocation formula, and they must not discriminate in favor of the highly compensated members of the firm. Up to 15 percent of each employee's annual compensation or \$30,000, whichever is less, may be contributed to the SEP-IRA. Salary deductions may be used to implement the contributions.

A key benefit of the SEP program is that each employee has individual control over the investment vehicle for the account. Young professionals may choose more aggressive stock accounts for their deposits, and older employees may elect more conservative investment vehicles.

Individual Retirement Account (IRA)

An individual retirement account is a personal savings plan that offers an individual tax advantages to set aside money for retirement. IRAs can be set up and contributed to by an employer, such as a landscape architecture firm, but almost all IRAs are set up by an individual. IRAs may be set up with several types of organizations including banks, savings institutions, stock brokerage firms, mutual funds, and insurance companies, as long as the organization meets the Internal Revenue Code.

Individuals may contribute up to \$2,000 or 100 percent of the individual's taxable income, whichever

is less, to the IRA each year. The contributions may or may not be deductible based on the individual's total income for the year and whether the individual is also covered by an employer's retirement plan. The investment vehicle for IRA contributions is entirely controlled by the individual. Income earned in the IRA account is not taxed until the time of withdrawal after the age of fifty-nine and one-half. Early withdrawal may be made at the individual's discretion, but a 10 percent penalty will apply to the funds that are withdrawn early (IRS 1994).

No matter what type of retirement plan is provided by the landscape architecture firm, everyone should consider an IRA for funding retirement. An IRA probably will not provide for all of the long-term funds needed, but it is a retirement vehicle that should not be overlooked.

Product Literature Files and the Technical Library

Of all the files found in the landscape architecture office, the product literature files and technical reference library are the most useful to the office design and drafting staff.

Technical reference files can be sophisticated and highly developed like a general reference library, or they can be organized around a system of categories developed by the landscape architecture office staff. A well-planned filing system, however, should be user-friendly, efficient in terms of minimizing the time required to find a particular product or type of equipment, and expandable. The quantity of technical reference material and files of product literature grows as an office develops over time. Filing alphabetically by subject is an effective method for organizing technical reference files.

One very helpful file that should be maintained by the landscape architecture office is a hard copy and computer file of the firm's general construction details that are used and adapted project after project. Typically, a construction detail file is organized by types of landscape construction. Planting details, irrigation details, pavement details, walls, footings, drainage, fountains, curbs, benches, lighting, erosion control, and shade structures are common construction detail file headings.

Manufacturer's product literature should also be filed by categories. A system of loose-leaf binders works well. The firm's landscape architects will need to reference the product literature files for virtually every project that has a modest degree of difficulty or challenging design requirements. A well-organized system for filing product literature will cut down on the time required to access the files of manufacturer's information. Time saved will mean more time spent on design development, solving the problems associated with the project, and generating revenues and profits. The following categories are a starting point for organizing a landscape architecture office's product literature files:

- Alternative energy products and solar controllers
- Barbeques
- Bridges and decks
- Concrete technical information
- Docks and marinas
- Doors and gates
- Drains and drainage products
- Drinking fountains
- Exercise equipment and exercise courses
- Fences
- Fertilizers technical information
- Fountains and garden pools
- Garden ornaments
- Geotextiles and erosion control
- Handrails and railings
- Irrigation controllers
- Irrigation products, piping, and heads
- Irrigation pumps
- Landscaping products
- Lighting
- Nursery catalogs: bulbs and flowers
- Nursery catalogs: grasses
- Nursery catalogs: hydromulching products
- Nursery catalogs: nonregional
- Nursery catalogs: regional
- Nursery catalogs: seeds and seed mixes
- Outdoor art and artists
- Outdoor furniture
- Paving materials
- Planters
- Plant maintenance and growth, fertilizers
- Plants technical information
- Play structures and equipment
- Recreation surfaces
- Restrooms
- Root barriers and weed barriers
- Shelters and shade structures
- Signage and graphics
- Site furniture: bike racks and bike lockers
- Site furniture: concrete
- Site furniture: metal
- Site furniture: plastic and fiberglass
- Site furniture: wood
- Soil stabilization
- Spas and hot tubs
- Sport surfaces
- Swimming pools and equipment
- Surfaces: asphalt, concrete, gunnite
- Surfaces: stone
- Surfaces: unit pavers and brick
- Tree equipment and tree grates

Payroll Administration

Two general approaches are available for administering the landscape architecture office payroll: in-house or outside-service payroll administration.

In-House Payroll Administration

The in-house administration of office payroll normally appeals to the small firm with only a few paychecks to prepare per payroll period and the large firm that can afford to employ a full-time payroll manager or controller to administer the payroll preparation process. In-house payroll preparation is aided today by any one of a large number of computer payroll software applications. As discussed in other parts of this book, integrated business management software systems usually provide a payroll module as part of the system. If payroll administration is handled in house, tax deposits and quarterly reports must also be administered. These functions and other reporting and tax requirements add time to payroll administration over the time required for the task of making out payroll checks.

Outside Payroll Service

There are many nationally franchised and local payroll services that prepare payroll checks for a fee. In most cases the fee is reasonable, and the cost of the outside

payroll service should be regularly evaluated in relation to the costs of the landscape architecture office providing payroll services in house. One of the positive qualities of using a payroll service is that the service will calculate the tax deposit requirements of the landscape architecture office. The payroll service assumes the liability for the accuracy of the tax calculations. The firm's payroll administrator merely has to deposit the appropriate funds in the firm's checking account to cover the tax requirement.

Whether payroll is calculated in house or by a contracted payroll service, the decision rests with the firm's managers. There are pros and cons for each method, and the managers and owners of each firm will decide for themselves which method is best for them.

Payroll Periods

An important decision about the administration of the landscape architecture firm's payroll is how frequently the paychecks are written. Should paychecks be issued once each week, every other week, twice monthly, or monthly? Bimonthly and every two weeks are the most frequently used payroll periods because they put money in the hands of employees at a fairly frequent rate and require less time to administer. Weekly paychecks require too much administrative effort and higher administrative costs. Monthly paychecks (check with labor laws for legality) substantially reduce administrative costs and effort, but may cause undue hardship on employees in terms of personal cash-flow requirements and personal financial management.

For other payroll administration related to bonuses and reimbursements, there is a wider variety of plans. Typically, bonuses are paid quarterly or annually. Travel expenses, mileage for personal use of employees' vehicles, and personal out-of-pocket expenses are typically reimbursed on a monthly basis.

Employer's Tax Administration

The administration of the landscape architecture firm's federal and state tax obligations is an important and time-consuming task required for the successful

business management of the firm. The Internal Revenue Service (IRS) requires that an employer must withhold federal income taxes and other taxes, such as social security tax, for each employee by payroll period. States also require withholding taxes to be collected and prepaid; the methods and systems of state departments of revenue are related to the IRS's systems. The amount of taxes to be withheld for each employee is based on the gross wages paid and the withholding allowances claimed by each employee.

Landscape architecture firms also pay supplemental wages such as bonuses and overtime pay. Withholding for supplemental pay may be taken out at a flat rate of 28 percent as long as the supplemental pay is specifically identified by the employer and the appropriate withholding is made for the regular pay.

Withholding taxes must be withheld by every employer and must be paid in a timely fashion. If taxes are withheld but not deposited in a timely manner, the employer will face a penalty of 2 percent to 15 percent of the unpaid taxes. Unpaid taxes are also assessed interest. Not complying with federal and state withholding tax obligations can result in severe criminal penalties. If a firm decides to administer its own payroll and withholding-tax obligations, the firm should review the federal and state tax guides that are available and updated each year to ensure that the requirements are being met.

The administration of employer tax obligations requires excellent record keeping and can be carried out by the firm's bookkeeper, accountant, or one of many local and national payroll service companies. Using a payroll service can be one of the smartest management decisions made by the administrators of a landscape architecture firm. The payroll service not only will correctly calculate the employer's tax withholding obligations, but also will calculate the employer's tax contributions, complete the necessary tax forms (by payroll period and quarterly), and make the actual deposits. Employer tax obligations are an administrative headache that can be efficiently discharged to a payroll service, probably at less cost than they can be handled in house. In many cases, the payroll service will also assume complete responsibility for the accuracy of the tax withholding and filing of required forms. The remainder of this section will describe the main responsibilities and considerations of employer tax obligations.

Taxpayer Identification Number

All partnerships, corporations (including S corporations), and certain sole proprietors must have a federal employer identification number (EIN) to use as a taxpayer identification number. Sole proprietors may use their social security number, but must apply for and use an EIN if they pay wages to one or more employees or if they must file pension or excise tax returns. To apply for an EIN, the firm's office administrator should use Federal Form SS-5 available from the IRS. If the business form of the landscape architecture firm changes from partnership to corporation, for example, a new EIN may be required.

Employee Records

Each employer is required by law to keep all records of employment taxes (income-tax withholding, social security, medicare, and federal unemployment taxes) for at least five years. Records should contain the employer identification number, copies of the filed returns, and dates and amounts of withholding deposits made. The firm's income tax withholding records should include at least the following information:

1. Each employee's name, address, and social security number.
2. The total amount and date of each wage payment and the period of time the payment covers.
3. The amount subject to withholding tax, social security tax, and medicare tax paid on each payment date.
4. The amount of withholding, social security, and medicare tax collected on each payment and the date it was collected.
5. Copies of statements by any employee relating to residence in a foreign country, Puerto Rico, or the Virgin Islands.
6. Information about the amount of each payment made for health plans.
7. The withholding statement for each employee—Federal Form W-4.
8. Any agreement between the firm and the employee for the voluntary withholding of additional amounts of taxes.
9. Federal Form W-5 for any employees eligible for earned income credit and who wish to re-

ceive their payment in advance rather than when their income-tax return is filed.

For federal unemployment tax, the firm is required to keep the following records:

1. The total amount paid to the firm's employees during the calendar year.
2. The amount of compensation subject to the unemployment tax.
3. The amount the firm paid into the state unemployment fund.
4. Any other information required on Form 940.

Withholding Tax

Although there are a number of ways to calculate the amount of federal withholding required per pay period, the two most commonly used are the *percentage method* and the *wage bracket* tables.

Using the percentage method requires the employer to first calculate the amount of employee income for the pay period that is subject to withholding. This is determined by multiplying a single withholding allowance, specified by the federal government for each type of payroll period, by the number of allowances that the employee claims on the W-4 and subtracting this amount from the gross payroll amount. This amount is multiplied by specified percentage tables produced by the IRS for each category of payroll period. The percentage tables for one withholding allowance result in the following deductions:

Daily	\$9.04
Weekly	\$45.19
Biweekly	\$90.38
Bimonthly	\$97.72
Monthly	\$195.03
Quarterly	\$587.50
Semiannually	\$1,175.00
Annually	\$2,350.00

Withholding Example

A married employee is paid \$450 per week. The employee has claimed two allowances on Form W-4. Using the percentage method, the income-tax withholding is figured as follows:

1. Total wages paid	\$450.00
2. One allowance =	\$45.19
3. Allowances claimed on W-4 =	2
4. Multiply line 2 by line 3	\$90.38
5. Amount subject to withholding tax (subtract line 4 from line 1)	\$359.62
6. Tax to be withheld determined from the IRS tax table for married person	\$36.09

Using the wage bracket method requires a reasonably simple process of finding the proper IRS table for the type of payroll period and the filing status of the employee (unmarried or married).

Using the preceding example, referencing the proper tax table, the employee's withholding tax falls between \$35 and \$37 and can be rounded to \$36.

Once the federal withholding tax requirement is calculated, the state requirement is figured as a percentage of the federal obligation.

Social Security Tax

The Federal Insurance Contribution Act (FICA) provides for a federal system of old-age, survivors, disability, and hospital insurance. The old age, survivors, and disability insurance part is financed by the social security tax. The hospital insurance part is financed by the medicare tax. Beginning in 1991, each of these taxes began being reported separately. The FICA tax is paid in equal matching amounts by both employers and employees. The employer must collect and pay the employee's part of the tax and the employer must also pay an equal matching amount of tax. For 1995, the 6.2 percent old-age, survivors, and disability insurance tax is levied on the first \$61,200 of wages paid to the employee. There is no income restriction for the 1.45 percent hospital insurance (medicare) tax. In effect, the FICA tax is 7.65 percent of the first \$61,200 of wages and 1.45 percent on all wages exceeding \$61,200.

Earned Income Credit

Some employees may be eligible for earned income credit, and these employees may choose to have advance payments of the earned income credit added to their wages at the time the payroll check is prepared.

This tax credit is available to employees who have an adjusted gross income of less than \$24,396 in 1995 and who maintain a household for a dependent child. The maximum of advance earned income credit for 1995 is \$1,257. To receive the income credit in advance, the employee must fill out Federal Form W-5. Penalties and interest can be imposed on an employer if the advance earned income credit is not paid to an employee who has filed Form W-5.

Employers are required to notify employees who may be eligible for earned income credit. The employer will pay the amount of advance earned income credit from withheld income and FICA taxes. The IRS provides tables for calculating the amount of earned income credit that should be paid to the employee in each payroll period. The employer is required to report the total amount of earned income credit paid in advance on the employee's W-2. Employers that fail to pay the advance earned income credit will be liable for penalties and interest. Penalties are severe.

Tax Deposits

The employer is required not only to calculate the withholding tax obligation but also to deposit the amount of the taxes due, plus the employer's required matching amount of social security and medicare taxes, in a timely fashion in an authorized financial institution or a federal reserve bank. Deposits are due either semiweekly or monthly. If the total tax reported on Form 941 is less than \$50,000 for a four-quarter look-back period, the firm is a monthly depositor. If the total tax reported on Form 941 is more than \$50,000 for a four-quarter look-back period, the firm is a semiweekly depositor. The look-back period comprises the four quarters beginning July 1 of the second preceding year. Employers must pay careful attention to due dates to avoid the stiff penalties for deposits not made on time. The federal and state governments provide preprinted deposit coupons to all employers.

Deposits for monthly depositors are due by the fifteenth of the month following the month that the taxes are withheld. Semiweekly depositors must make deposits on the Wednesday or Friday of the following week depending on the payment date. If the payment day is Wednesday, Thursday, and/or Friday, the deposit is due the following Wednesday. If the payment

day is Saturday, Sunday, Monday, and/or Tuesday, the deposit must be made by the following Friday.

As mentioned earlier, a payroll service can help cut down on some of the firm's IRS obligations. The payroll service will be responsible for all of the regular payroll reporting that must go to the IRS. This can provide relief from the stress of meeting the IRS requirements and give the firm's administrative and professional staff more time to spend running the firm and producing revenue.

Form 941

All employers who are subject to income-tax withholding must file Federal Form 941—the employer's quarterly federal tax return. The first quarter report covering January, February, and March is due by April 30. The next three quarterly reports are due July 31, October 31, and January 31. Penalties for not filing are very steep, and penalties for not withholding or not depositing the income tax, social security, or medicare taxes may be up to 100 percent of the unpaid taxes if the act is deemed to be willful.

Federal Unemployment Insurance

The Federal Unemployment Tax Act (FUTA), together with state unemployment systems, provides for payments of unemployment compensation to workers who have lost their jobs. Most employers pay both a federal and a state unemployment tax. Only the employer pays this tax. It is not deducted from the employee's payroll check. An employer is required to pay FUTA tax if one or more persons are employed on at least some part of one day in each of twenty or more calendar weeks during a current or preceding calendar year, or if wages of \$1,500 or more are paid during any calendar quarter in the calendar year or immediately preceding year. The FUTA rate for 1995 is 6.2 percent. Employers are allowed a credit for payments made to state unemployment insurance systems of up to 5.4 percent. This tax, which is also paid entirely by the employer, is paid on only the first \$7,000 of wages paid to each employee.

If the FUTA tax liability for a quarter exceeds \$100, the amount must be deposited by the last day of the following month. If the FUTA liability is less than

\$100, it may be carried over to the next quarter to be added to the liability of that quarter to see if the \$100 criteria is met. Form 940 or Form 940-EZ is used to report the employer's federal unemployment tax.

Tax Status of Certain Types of Nonwage Payments to Employees

Certain types of payments to the firm's employees may not be considered as wages subject to income-tax withholding or FICA or FUTA taxes. A few common examples of such special payments are fringe benefits, company cars, commuting and moving expenses, group life insurance, meals and lodging, employee expense reimbursements, noncash compensation for services, distributions from qualified pension plans, and employer contributions to 401(k) plans. The business administrators of the landscape architecture office need to be current on the IRS policies regarding payments to employees not subject to income-tax withholding. These policies change regularly. It is helpful to obtain the most current IRS publications relating to these nonwage payments. Whereas two examples of recent policies are discussed below, the business administrators or owners of landscape architecture offices should keep current on all IRS policies regarding nonwage payments.

Company Cars

The first test applied by the IRS is to determine whether the company car is necessary for the employee to perform his or her duties. If the answer is yes, the employee is required to substantiate use by keeping adequate records. Employers must treat the personal use of the company car as wages to the employee unless the employee reimburses the firm, at a rate normally set by the IRS, for the personal use of the car.

Moving Expenses

Reimbursing an employee's moving expenses is not subject to income-tax withholding and FICA and FUTA taxes as long as the expenses are deductible by

the employee. Regulations on deducting moving expenses are likely to tighten in future years.

Information and Year-End Tax Returns

Some of the most common federal tax information returns required to be filed by the landscape architecture office include the following:

1. W-2 forms, used to report wages and other compensation paid to employees.
2. 1099 forms for the following:
 - Interest payments
 - Dividend payments
 - Pension, profit-sharing, and IRA distributions
 - Rent and royalty payments
 - Mortgage interest
 - Real estate transactions
 - Payments to nonincorporated vendors and subconsultants
3. Form 5500, filed by sponsors and administrators of the firm's qualified pension and profit-sharing plans.
4. Form 8300, used for reporting cash received for any business transactions.

Backup Withholding

In almost all cases that require the filing of an information return, the employer is required to make backup withholding on the amount paid unless the person receiving the payment provides his or her tax identification number to the employer. Payments that are subject to backup withholding are generally tied to the requirements for filing the 1099 information return. 1099 forms are not required to be sent to corporations. If backup withholding is required because the payee is an individual without a tax number, the backup withholding is calculated at 31 percent. The 1099 forms must be filed by January 31 of the following year.

Filing Information Returns

All W-2 forms must be provided to employees by February 1. Copies of the W-2 forms and the transmittal form, the W-3 form, must be filed by March 1.

All 1099 form summaries must be filed with the IRS by March 1.

If a firm is large and will be filing more than 250 information or W-2 forms, the federal government may require magnetic media filing.

The penalties for not filing correct and timely information forms are severe, and the landscape architecture office administrator must be sure to comply with the IRS requirements.

State Requirements

Each state will also have its own taxing and filing requirements. In most cases, the state withholding tax requirements are expressed as a percentage of the federal amount withheld. Information returns that are required to be filed for the federal government are usually also required by the state government. Because it would be impractical to reiterate the rules and regulations for all fifty states here, the business managers of landscape architecture offices must be aware of the state's requirements.

Resources and Information

The IRS is one of the most helpful of federal agencies. It provides a wide variety of assistance via toll-free numbers and publications aimed at helping the taxpayer. Each year, the IRS publishes the *Tax Guide for Small Business* to help firms comply with the federal tax requirements. Another good IRS reference is the *Guide to Free Tax Services*. The tax administrator in every landscape architecture office should obtain these handy references.

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Publication 502: Medical and Dental Expenses

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STUDY QUESTIONS AND ASSIGNMENTS

1. Contact landscape architecture firms and other A/E firms in your community and research the types of job numbering systems that the firms use. Write a paper discussing your findings and summarizing the different job numbering systems your research uncovers.
2. Divide your class into three-to-five-person teams. Obtain blank copies of Standard Forms 254 and 255. Each team is to function as a design office and prepare an SF254 and an SF255 form. Use

your studio design projects and your imagination as a basis for completing the forms.

3. Using this chapter and other references, write a paper that illustrates your understanding of an effective and organized office filing system. Describe a system that you would implement if you were starting an office.
4. Divide your class into three-to-five-person teams. Each team is to function as a design office. Develop a complete system of administrative forms that would be used in the office. Consider forms for the following uses:
 - Time cards
 - Phone message forms
 - Call records forms
 - Photocopy records
 - Blueprint records
 - Travel report forms
 - Transmittal letter forms
 - Fax transmittal forms
 - Reimbursable expense forms
 - Mileage report forms
 - Petty cash forms
 - Supply requisition forms
 - Routing forms
5. Using this chapter and other references, write a paper that illustrates your understanding of the insurance obligations of a typical landscape architecture office.
6. Using this chapter and other references, write a paper that illustrated your understanding of why a landscape architecture office provides retirement benefits for its employees. Research, discuss, and evaluate various retirement plans.
7. As individuals or the class as a whole, develop a filing category system for product literature and technical references. Contact product manufacturers and obtain product information. Implement your filing system.
8. Using this chapter as a reference and also by obtaining the current IRS booklets for calculating withholding taxes, work through the process of writing payroll checks as if you were the owner of a landscape architecture office. Set up three employees with different salary levels. Calculate the federal and state tax deductions and prepare sample payroll checks for the employees.