

PROFESSIONAL PRACTICE 544

OFFICE MANAGEMENT AND FEE CALCULATION, COPYRIGHT OF DRAWINGS

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FINANCIAL MANAGEMENT

Financial Management

Small Office Production Cost (payroll):

1 Principal @ \$175,000	\$ 175,000
2 Associates @ \$75,000	150,000
1 Senior Architect @ 65,000	65,000
2 Junior Architects @ \$55,000	110,000
2 Beginners @ \$35,000	<u>70,000</u>
	\$ 570,000
Plus	45,000
Health Insurance	<u>100,000</u>
	\$ 715,000

Billing 40hr/week @ 50 weeks = 2,000 hours

To bill 8 hours – work 10+ hrs/day

8 persons @ 2,000 hrs/year 16,000 hours

$\$715,000 \div 16,000 \text{ hours} = 44.69/\text{hour}$

Small Office Misc. Expenses (overhead):

Secretary	\$ 60,000
Receptionist	45,000
Rent	65,000
Professional Liability Insurance	70,000
Other insurance	15,000
3 cars (5 years)	25,000
Printing	15,000
Phone, Fax	10,000
Utilities, supplies	10,000
Legal	25,000
Accountant	10,000
Miscellaneous	<u>30,000</u>
	\$ 380,000

$\$380,000 \div 16,000 \text{ hours} = \$23.75/\text{hour}$

Total w/o profit $\$44.69 + \$23.75 = \$68.44/\text{hour}$

Financial Management

To Make A Profit

Total w/o profit $\$44.69 + \$23.75 = \$68.44/\text{hour}$

Goal of 20% of total: $\$68.44 \times .20 = \13.69

	Rate	\$ 68.44/hour
	add:	<u>\$ 13.69/hour</u>
Average hourly billing with profit:		\$ 82.13/hour
Round up to:		<u>\$ 85.00/hour</u>



SUSTAINING OPERATIONS

Fees to Sustain Operations

Need To Stay in Business (without profit)

Production cost	\$ 715,000
Overhead	<u>380,000</u>
	<u>\$1,095,000</u> ÷ 12 Months = \$91,250/month

Need to Stay in Business (with profit)

If 20% profit is added: $\$1,095,000 \times 1.20 = \$1,314,000$

Total: $\underline{\$1,314,000} \div 12 \text{ Months} = \$109,500/\text{month}$

This is for only the straight architectural portion of the Project.

Fees to Sustain Operations

If generating \$1,314,000 in architectural fees, the projects also will require consultants for the MEP engineering (mechanical, electrical, and plumbing)

Those consultant costs equal about 35% of total fee

Architect (65%):	1,314,000
Consultants (35%):	<u>707,500</u>
Total Fees Generated:	<u>\$2,021,500</u> fees per year**

If the average fee an architect charges is 4% of construction cost, then \$2,021,500 in fees represents \$50,537,500 of construction volume per year in order to sustain an office of this size.

In excess of \$50,000,000 in construction projects per year – every year!

** To look at it another way, you need to collect:

$$\$2,021,500 \div 12 = \$168,458/\text{month}$$

$$\$2,021,500 \div 52 = \$38,875/\text{week}$$

$$\$2,021,500 \div 260 = \$7,775/\text{work day}$$



WHAT TO CHARGE AND HOW TO STRUCTURE

Determining Fees

1. Fee is calculated on the basis of a percentage (%) of the construction cost

- Are there any generally accepted percentages?
- The issue of the \$ “curve.” More cash up front as opposed to a smooth line of payment.
- Is the client secure with it?
- The ethical issues of overruns (or under).
- What is the “construction cost” when calculating the Fee if based on a percentage of those construction costs, and when is the construction cost determined?
 - ▶ At the time of bid?
 - ▶ Is a change order needed if the all-in cost of the project winds up being greater than the bid?
 - ▶ How do you bill for the increased fee when the construction cost goes up?

Determining Fees

2. Fee is calculated on the basis of lump sum

- Must know your costs very well!
 - ▶ Look to the previous analysis.
 - ▶ Assess your overhead and profit margins.
- How do you bill for the increased fee when the construction cost goes up?
- What if scope changes?
- How to handle additive change orders?
- What about inflation?

3. Fee is calculated on the basis of hourly compensation

- No limits?
- This method could reward inefficiency!
- Fixed rates vs. current rates?

Determining Fees

Multiplier: 2.5% times “payroll”
40% labor
40% overhead
20% profit

Payroll should include benefits.

Small vs. large office overhead (multiplier of 2.75 or 3?).

Fixed rates of hourly compensation with overhead and profit.

Principal	\$120
Project Manager	\$ 90
Job Captain	\$ 75
Architect	\$ 60
Drafter	\$ 35

Problems of averaging (at \$65?).

In all cases you must know production cost and overhead not to go bankrupt.

Payment Schedule

Total Fee Quote
Consultant costs

\$600,000

200,000 - (about 1/3)

\$400,000 - Total Architectural Fee Generated

Phase	Duration	Fee	Payment
SD (15%)	2 months	60,000	2 @ 30,000
DD (20%)	2 months	80,000	2 @ 40,000
CD (40%)	4 months	160,000	4 @ 40,000
BN (5%)	1 month	20,000	1 @ 20,000
CON (20%)	12 months	80,000	12 @ 6,666

- ▶ Make a time chart showing phase durations, and intervals between phases (approximate). Then, insert realistic payments. (You must also always consider the time that will elapse between billing and receipt of payment).



FEES AND PRODUCTION COSTS

Fees and Production Costs

Percent of Construction Cost Method

Assume a project that has approximately \$12,000,000 in construction costs (small strip mall) and you quote a design fee based on 4% of the Cost of the Work. How do you budget the total amount of hours that may be spent to design and still remain profitable?

Architect's fee at 4% ($\$12,000,000 \times .04$)	\$480,000
Structural Engineer ($\pm 12.5\%$)	- 60,000
Mechanical/Electrical Engineer ($\pm 22\%$)	-105,500
Specification Writer	- 4,000
<u>Coordinating the Engineers (10% of engineers' fees)</u>	<u>- 16,500</u>
<u>Profit (20%)</u>	<u>- 96,000</u>
Left to produce job:	\$198,000

$$\$198,000 \div 68.44/\text{hour} = 2,893 \text{ hours}$$

Fees and Production Costs

SD	1 person	8 weeks@40hr	= 320 hours
DD	2 persons	8 weeks@40hr	= 640 hours
CD	3 persons	16 weeks@40hr	= 1,920 hours (120 hours/avg. sheet for 16 weeks. Is this enough?)
BN	1 person	4 weeks@40hr	= 160 hours
CON	$\frac{3}{4}$ person,	52 weeks@40hr	= <u>1,560 hours</u>
			4,600 hours required
			<u>-2,893 hours budgeted</u>
			1,707 hours (over budget!)
		Translation	= 1,707 x \$68.44 = \$116,827 loss to the business

Fees and Production Costs

Try increasing the architectural fee to 6.75%

Architect's fee at 6.75% ($\$12,000,000 \times 0.0675$)	\$ 810,000
Structural Engineer ($\pm 12.5\%$ of \$810,000)	- 101,250
Mechanical/Electrical Engineer ($\pm 22\%$ of \$810,000)	- 178,200
Specification Writer	- 5,000
<u>Coordinating the Engineers/Consultants (15% of the engineer costs)</u>	<u>- 41,918</u>
<u>Profit of 20% ($\\$810,000 \times 0.20$)</u>	<u>- 162,000</u>
Left to produce job:	\$ 326,132

Fees and Production Costs

SD	1 person	8 weeks@40hr	= 320 hours
DD	2 persons	8 weeks@40hr	= 640 hours
CD	3 persons	16 weeks@40hr	= 1,920 hours (120 hours/avg. sheet for 16 weeks. Is this enough?)
BN	1 person	4 weeks@40hr	= 160 hours
CON	$\frac{3}{4}$ person,	52 weeks@40hr	= <u>1,560 hours</u>
			4,600 hours required
			<u>-4,765 hours budgeted</u>
			165 hours excess
		Translation	= 165 x \$68.44 = \$11,293 cushion

Fees and Production Costs

Try increasing the architectural fee to 6.75%

$\$326,132 \div \$68.44 = 4,765$ hours budgeted against 4,600 hours required (very close – but you made it)

- Enough with a cushion of 165 hours?
- But now the client may want to bargain on the fees you are charging.
- You may need to give discounts or cut hours, that will eat into the profits you seek to generate on the project.
- Try 7.00% or 7.50%. Is this competitive?
- Will that cover you?
- Can you scale back on hours in your initial budget?
- Will the market support the rates?



MARKETING AND FEES

Marketing and Fees

Why would client select you as architect?

- Knows you
- Knows your work
- You were recommended

“Knows you . . .”

- Widen your circle of acquaintances.
- Belong to and become active in organizations.
- Be written up in articles, journals, trade magazines, etc.

“Knows your work . . .”

- In the beginning you take any promising job.
- Enter competitions for recognition.
- Increase professional activities (A.I.A., teaching, lectures, articles, etc.)
- Publicize whatever little you have (good presentation, relation with press, exhibits, agent? etc.)

Marketing and Fees

Difference between marketing and selling

1. Marketing: Cold calls, networking, conventions, professional press, RFQ-RFP, etc
2. Selling: Presentation (visual material, verbalization), politics

Now you get the client!

- What fee to charge?
- How to get client to sign an agreement?



WHAT OTHER ISSUES?

Other Issues to Settle

▶ The Terms of the Deal:

- What is included and what is not included in your fee?
- When is the fee being paid?
- What to charge for Reimbursable Expenses? Actual cost? Mark-up of 10% or 15%?
- How do you define the Scope of Work?
- Special cases:
 - Limit the number of field visits
 - Limit the amount of shop drawing/submittal review
 - Re-use of drawings for additional phases – copyright licenses, etc.
- What is the form of the agreement (handshake, letter, formal contract)?

Other Issues to Settle

Using Outside Consultants - Engineers:

- What do they charge? (The advantages of long-term relationships)
- What do they include in service (how many visits)?
- What is their rate of pay? Must be same as yours.
- Same contract conditions as yours.
- Insurance
- Settle the terms in writing



COPYRIGHT OF DRAWINGS

Copyright of Drawings

- **The U.S. Copyright Act (and foreign equivalents)**
- **Federal Law – Federal Courts.**
- **Only the specific expression of an idea can be copyrighted.**
- **Classifications of ownership:**
 - Default position: Architect owns the drawings
 - “Instruments of Service”
 - “Works for Hire”
 - Joint Ownership

Copyright of Drawings

- **“License” to use the drawings**
 - Contractual right, not formal certificate
 - Can be almost any conceivable combination of rights
 - Termination of license
 - Owner’s agreement to indemnify for non-project use

Copyright of Drawings

- **Notice and registration of copyright**
- **Damages for Infringement**
 - Intentional infringement
 - Need to access the work
 - Original expression of the work
- **Damages for Infringement**
 - Court injunction
 - Money damages:
 - Lost profits
 - Actual damages
 - Statutory damages

Copyright of Drawings

- **Exceptions**
 - Fair Use
 - Is the use for commercial or non-profit / educational in nature
 - The nature of the copyrighted work
 - The amount and substantiality of the work used in proportion to the copyrighted work as a whole
 - Effect on the potential market of the copyrighted work

Copyright of Drawings

- **Exceptions**
 - Parody/Political/Quotes or Illustration for Clarity
 - Expiration of the Copyright
 - Life of author plus 70 years
 - If corporate, anonymous or “work for hire” shorter of 95 years from publication or 120 years in total



QUESTIONS