

Property Assumptions

Property and purchase assumptions

Property size	120,000	sf
Rent	\$11.00	psf
Vacancy allowance	6.00%	
Operating expense ratio	45.00%	
Purchase price	\$7,500,000	
Acquisition costs	\$150,000	
Date property will be put in service	1/1/2012	

Loan assumptions

Maximum LTV ratio	70.00%	
Minimum debt-coverage ratio	1.25	
Mortgage interest rate	7.00%	
Amortization length	20	years
Loan term	10	years
Loan fees	2.00	points

Depreciation assumptions

Depreciable life	39.0	years
Tax assessor building value	\$80	
Tax assessor land value	\$15	
Appraised building value	\$5,200,000	
Appraised land value	\$800,000	

Tax assumptions

Ordinary income tax rate	28.00%
Capital gains tax rates	15.00%
Depreciation recapture tax rate	25.00%

Sale assumptions

Cap rate at sale	9.50%
Sale costs	5.00%
Date property will be sold	12/31/2016
Year 6 NOI	\$772,118

Other assumptions

After-tax equity discount rate	12.00%
Rent growth rate	2.50%
Operating expense growth rate	2.50%

Pro Forma Operating Statement (First Year)

Potential gross income	\$	1,320,000	= 120000 sf x \$11.00
- Vacancy & collection @ 6.00%	\$	79,200	
Effective gross income	\$	1,240,800	
- Operating expenses @ 45.00%	\$	558,360	
Net operating income	\$	682,440	
- Annual debt service	\$	488,438	
Before-tax cash flow	\$	194,002	
- Taxes from operations	\$	40,734	
After-tax cash flow	\$	153,268	

Capitalization rate	9.10%	= NOI ÷ purchase price
Cash-on-cash return	8.62%	= BTCF ÷ (purchase price – loan amount)

Mortgage Calculations

Property value	\$7,500,000	
Maximum loan-to-value ratio	70.00%	
LTV-based maximum loan amount	\$ 5,250,000	
Net operating income	\$ 682,440	
÷ Minimum debt coverage ratio	1.25	
Maximum annual debt service	\$ 545,952	
Maximum monthly payment	\$ 45,496	= Maximum ADS ÷ 12
DCR-based maximum loan amount	\$ 5,868,188	P/Y = 12, N = 20 x 12, I = 7.00%, PMT = -45,496, FV = 0
Maximum loan amount	\$ 5,250,000	= Minimum of LTV- and DCR-based calculations
Monthly payment	\$ 40,703	P/Y = 12, N = 20 x 12, I = 7.00%, PV = -5,250,000, FV = 0
Annual debt service	\$ 488,438	Monthly payment x 12
Debt coverage ratio	1.40	= NOI / ADS
Mortgage constant	9.30%	= ADS / loan amount
Total loan fees	\$ 105,000	= \$5,250,000 x 2.00 / 100

Tax Calculations

Taxable Income Calculations (First Year)

Net operating income	\$	682,440	
– Depreciation allowance	\$	162,917	
– Interest expense	\$	363,543	P1 = 1, P2 = 12
– Amortization expense	\$	10,500	
Taxable income	\$	145,480	
x Tax rate		28.00%	
Tax	\$	40,734	

Depreciation Calculations

Assessor's building value ratio	84.21%	= \$0,080 / (\$0,080 + \$0,015)	
Appraiser's building value ratio	86.67%	= \$5,200,000 / (\$5,200,000 + \$800,000)	
Purchase price	\$	7,500,000	
+ Acquisition costs	\$	150,000	
Initial basis	\$	7,650,000	
x Percent of value in building		86.67%	Maximum of assessor and appraiser ratios
Depreciable basis	\$	6,630,000	
÷ Depreciable life		39.0	
Annual depreciation allowance	\$	170,000	Depreciation allowance when held full year
First year depreciation allowance	\$	162,917	Normal allowance x 11.5 ÷ 12
Last year depreciation allowance	\$	162,917	Normal allowance x 11.5 ÷ 12
Total straight line depreciation	\$	835,834	= 3 x \$170,000 + \$162,917 + \$162,917

Amortization Calculations

Loan amount	\$	5,250,000	
x Points		<u>2.00</u>	
Total loan fees	\$	105,000	
÷ Term of loan		<u>10</u>	
Annual amortization expense	\$	10,500	Amortized expenses when loan is held full year
First year amortized expenses	\$	10,500	Normal expense × 12 ÷ 12
Last year amortized expenses	\$	10,500	Normal allowance × 12 ÷ 12
Total loan fees	\$	105,000	
– Amortized expenses claimed	\$	<u>52,500</u>	= 3 × \$10,500 + \$10,500 + \$10,500
Unclaimed amortized loan fees	\$	52,500	

Sale Calculations

Sale Cash Flows

Year 6 NOI	\$ 772,118
÷ Cap rate at sale	9.50%
Sale price	\$ 8,127,555
– Costs of sale at 5.00%	\$ 406,378
Net sale price	\$ 7,721,177
– Mortgage balance due	\$ 4,528,473
Before-tax equity reversion	\$ 3,192,704
– Taxes from sale	\$ 204,935
After-tax equity reversion	\$ 2,987,769

P2 = 60

Adjusted Basis Calculations

Initial basis	\$ 7,650,000
– Straight-line depreciation	\$ 835,834
Adjusted basis	\$ 6,814,166

Capital Gains Calculations

Net sale price	\$ 7,721,177
– Adjusted basis	\$ 6,814,166
Total gain on sale	\$ 907,011
– Straight-line depreciation	\$ 835,834
Gain due to appreciation	\$ 71,177

Limited to the greater of the total gain or 0

Taxes from Sale

Depreciation recapture at 25.00%	\$ 208,959	= \$835,834 × 25.00%
Capital gains at 15.00%	\$ 10,677	= \$71,177 × 15.00%
Unclaimed amortization at 28.00%	\$ (14,700)	= \$52,500 × 28.00%
Total taxes from sale	\$ 204,935	

NPV and IRR Calculations**Initial Cash Flow Calculations**

Purchase price	\$	7,500,000
+ Acquisition costs	\$	150,000
– Mortgage loan proceeds	\$	5,250,000
+ Mortgage loan fees	\$	105,000
Total date 0 cash flows	\$	2,505,000

Cash Flow Analysis

<u>Year</u>	<u>Cash Flow</u>	
Date 0	\$	(2,505,000)
Date 1	\$	153,268
Date 2	\$	165,007
Date 3	\$	174,887
Date 4	\$	184,886
Date 5	\$	3,180,784 = \$193,015 + \$2,987,769

NPV @ 12.00% = \$ (189,770) Do not invest, because NPV < 0.

IRR = 10.03% Do not invest, because IRR < discount rate.

Cash Flow Analysis

Annual Operating Statements

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Potential gross income	\$ 1,320,000	\$ 1,353,000	\$ 1,386,825	\$ 1,421,496	\$ 1,457,033	\$ 1,493,459
– Vacancy & collection @ 6.00%	\$ 79,200	\$ 81,180	\$ 83,210	\$ 85,290	\$ 87,422	\$ 89,608
Effective gross income	\$ 1,240,800	\$ 1,271,820	\$ 1,303,615	\$ 1,336,206	\$ 1,369,611	\$ 1,403,851
– Operating expenses @ 45.00%	\$ 558,360	\$ 572,319	\$ 586,627	\$ 601,293	\$ 616,325	\$ 631,733
Net operating income	\$ 682,440	\$ 699,501	\$ 716,988	\$ 734,913	\$ 753,286	\$ 772,118
– Annual debt service	\$ 488,438	\$ 488,438	\$ 488,438	\$ 488,438	\$ 488,438	
Before-tax cash flow	\$ 194,002	\$ 211,063	\$ 228,550	\$ 246,475	\$ 264,848	
– Taxes from operations	\$ 40,734	\$ 46,056	\$ 53,663	\$ 61,589	\$ 71,833	
After-tax cash flow	\$ 153,268	\$ 165,007	\$ 174,887	\$ 184,886	\$ 193,015	

Taxable Income Calculations

Net operating income	\$ 682,440	\$ 699,501	\$ 716,988	\$ 734,913	\$ 753,286
– Depreciation allowance	\$ 162,917	\$ 170,000	\$ 170,000	\$ 170,000	\$ 162,917
– Interest expense	\$ 363,543	\$ 354,515	\$ 344,833	\$ 334,452	\$ 323,321
– Amortization expense	\$ 10,500	\$ 10,500	\$ 10,500	\$ 10,500	\$ 10,500
Taxable income	\$ 145,480	\$ 164,486	\$ 191,655	\$ 219,961	\$ 256,548
x Tax rate	28.00%	28.00%	28.00%	28.00%	28.00%
Tax	\$ 40,734	\$ 46,056	\$ 53,663	\$ 61,589	\$ 71,833