

Raising Your Commercial IQ

103 Development Analysis and Valuing land

In-house Training Program Participant Package

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	2
LEARNING OBJECTIVES	3
Calculator	3
AGENDA TIME TABLE.....	4
PRACTICE QUIZ and 103 COURSE EXAM	8
FLASH CARDS. QUESTIONS	9
Introduction to development analysis and valuing land.....	9
Impact of soil conditions on development cost and land and value.....	15
Impact of excavation and foundation costs on land value	23
Impact of zoning regulations on land value	28
Market and design considerations.....	38
Construction financing	45
Profitability measures	53
Development analysis. Unit projects.....	57
Development analysis. Income properties.....	66
Development analysis. Monthly cash flow method.....	79
Analyzing “Mixed Use” developments	83
Sensitivity Analysis	85
Tips for creating an offer	91
Land assemblies	104

LEARNING OBJECTIVES

The overall objective of the video is to provide an understanding of:

1. how to carry out development analysis to determine land values for unit projects such as land subdivisions and condominium projects, and for income properties such as office buildings
2. the issues and difficulties associated with determining land value

Topics

1. Issues related to using simplistic approaches, such as \$ per Acre or Sq. Ft to value land
2. The backdoor or land residual approach to valuing land
3. Factors that affect land values. Examples are illustrated using photographs
4. Soil conditions
5. Architectural, design & zoning constraints
6. Development Analysis Case Study. Condominium development
7. Development Analysis Case Study. Retail center development
8. Sensitivity & Risk analysis. What numbers have the biggest impact on the development profit?
9. Analyzing a "Mixed" unit and income property development.
10. Income property development. Sell or hold analysis
11. Renovation analysis
12. Profitability analysis and ratios & assessing the development risks
13. Quick Proforma approach versus detailed monthly cash flow development analysis
14. Construction loan requirements
15. Offer to Purchase versus Options. Pros & cons.
16. Tips for creating an offer
17. Keeping the offer together
18. Land assembly and analyzing sites with assembly potential

Skills and benefits obtained from the video

1. How to analyze development sites and determine land values using the development analysis approach
2. Appreciate the difficulties and uncertainties in determining land value

The knowledge and skills developed during the program will improve your ability to value, list and sell development sites or develop successful projects.

Calculator

You will need to bring a calculator. It can be any kind of calculator. It doesn't have to be a financial calculator.

AGENDA TIME TABLE

Line number	Video	Play Micro	Manual Page Number	Play Flash Card Set	Participant Guide Page number
1	Introduction to valuing land (3 min)		2		
2	Check for a demolition clause (2 min)		4		
3	Two approaches to valuing land (4 min)		4		
4	Land residual (11 min)		5		
5	Total Development Cost (2 min)		9		
6				Introduction to development analysis and valuing land	9

FACTORS THAT AFFECT LAND VALUE

Line number	Play Micro Video	Manual Page Number	Play Flash Card Set	Participant Guide Page number
7	Impact of soil conditions on land value (28 min)	10		
8	Examples of factors that affect land values (5 min)	24		
9			Impact of soil conditions on development costs and land and value	15
10			Impact of excavation and foundation costs on land value	23
11	Zoning regulations. Impact on land values (3min)	27		
12	Building envelopes and light angles (6 min)	28		
13	Be wary of long narrow sites (10 min)	32		
14	Parking requirements (10 min)	35		
15	Underground vs. surface parking. Case study (6 min)	36		
16	Example. Highest and most stupid use (4 min)	37		
17	Market and design considerations (6 min)	39		
18	How to select an architect (3 min)	43		
19			Impact of zoning regulations on land value	28
20			Market and design considerations	38

CONSTRUCTION FINANCING

Line number	Play Micro Video	Manual Page Number	Play Flash Card Set	Participant Guide Page number
21			Construction financing	45

CREATING AN OFFER

Line number	Play Micro Video	Manual Page Number	Play Flash Card Set	Participant Guide Page number
22	Tips for making an offer (4 min)	42		
23	Using development timelines (8 min)	43		
24	Purchase versus an Option (6 min)	44		
25	Deposits and payments (1 min)	46		
26	Potential subject clauses (1 min)	46		
27	Built-in extensions (1 min)	47		
28	Waiving "Subject to" clauses (1 min)	47		
29	Offers on land assemblies (1 min)	47		
30	Tips for creating offers (4 min)	48		
31	Keeping an offer together (6 min)	49		

DEVELOPMENT ANALYSIS and CASE STUDIES

Line number	Play Micro Video	Manual Page Number	Play Flash Card Set	Participant Guide Page number
32	Introduction to development analysis and valuing land (9 min)	51		
33			Profitability measures	53
34	Condominium development. Case study (35 min)	54		
35	Condominium development. Sensitivity analysis (7 min)	64		
36	Development Risks. A story (11 min)	65		
37	Determining the Sales Price. Challenges (1 min)	66		
38	Realtors becoming developers. Beware (3 min)	66		
39	Retail development. Case study (15 min)	67		
40	Sensitivity analysis. Income property Development (13 min)	79		
41			Development analysis. Unit projects	57
42			Development analysis. Income properties	66
43	Build and Sell or Keep (15 min)	83		
44	How to analyze "Mixed Use" developments (3 min)	89		
45	Two approaches to development analysis (8 min)	90		
46	Lender requirements (3 min)	93		
47	Renovation analysis (1 min)	94		
48			Development analysis. Monthly Cash Flow Method	79
49			Analyzing Mixed Use developments	83
50			Sensitivity analysis	85

CREATING AN OFFER

Line number	Play Micro Video	Manual Page Number	Play Flash Card Set	Participant Guide Page number
51			Tips for creating an offer	91

LAND ASSEMBLIES

Line number	Play Micro Video	Manual Page Number	Play Flash Card Set	Participant Guide Page number
52	Land assembly. Case study (9 min)	95		
53	Analyzing a potential land assembly (5 min)	102		
54			Land assemblies	104

PRACTICE QUIZ and 103 COURSE EXAM

We recommend you take the **103 Practice Quiz** to test your knowledge and measure your progress.

You can take the test many times, and the grade will be recorded and can be reviewed

Your quiz results are confidential and cannot be viewed by anyone else.

103. Course Exam.

Take the 103 course exam which is set up by your manager or office administrator.

FLASH CARDS. QUESTIONS

Introduction to development analysis and valuing land

Q1.

How do you go about valuing land?

Your Answer

Q2.

How does the “Land Residual” or “Back Door” approach to valuing land work?

Flip side

Following is an example of the “Back Door” or “Land Residual” approach for valuing land where we work backward to calculate the land value.

We calculate the market value and then deduct all the development costs, real estate fees and closings costs, and the desired development profit to give us the land value.

Condominium Development Example

Market Value. 30 units x \$350,000	\$10,500,000
------------------------------------	--------------

Less: Development Costs

Site clearing and preparation	
Construction	
Financing	
Professional fees	
City permits and fees	
Miscellaneous	6,575,000

Real estate fees	25,000
------------------	--------

Developer’s Profit	<u>1,900,000</u>
--------------------	------------------

Land Value (The Land Residual)	\$1,500,000
--------------------------------	-------------

Residual means “What’s left over”

Q3.

Why is it called the “Land Residual.”

Your Answer

Q4.

Can the “Land Residual” or “Back Door” approach to determining land value be used on a site where there’s an existing older building?

Your Answer

Q5.

How can we tell if a site with existing buildings has development potential?

Your Answer

Q6.

Does an old obsolete income property always have development potential?

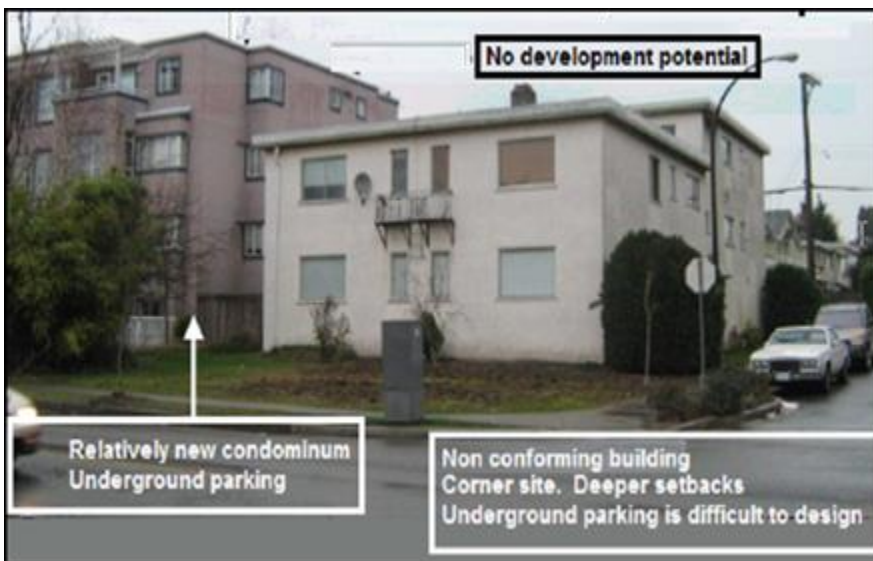
Flip side

This property looks like it has development potential but does it?

It would be very difficult to redeveloped this site and build condominium or rental units because of the city regulations that would require:

1. Front yard and side yard set backs
2. Underground parking

This would be a risky investment. If the building burnt down it would be very difficult to replace the building because of the zoning and building codes. It's called a non-conforming property.



Q7..

The development potential of an old building on a narrow lot often depends on a land assembly.

It's very difficult and costly to develop a building on a narrow site, 50 feet or less if underground parking is required.

Flip side

The area where buildings A, B, and C are located is zoned for hi-rise development with retail on the ground floor with offices and condominiums above, which will have a spectacular view of the mountains and downtown area.

On their own, it's not possible to economically develop individually sites A, B, or C because they are narrow sites.

It requires an assembly of either buildings A & B or B & C or A, B, and C to effectively develop these obsolete rental properties.

Potential assemblies A & B, B & C or A, B & C

Q8..

Beware of long narrow sites. Why?

Your Answer

Q8.

A good starting point in carrying out development analysis to determine the land value is the have an architect develop sketch plans.

WHY?

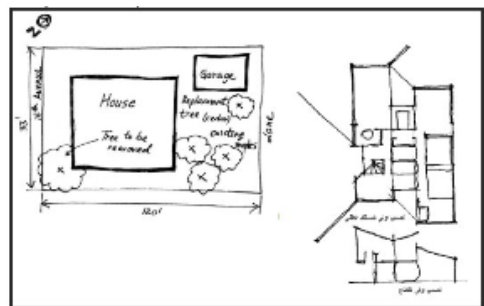
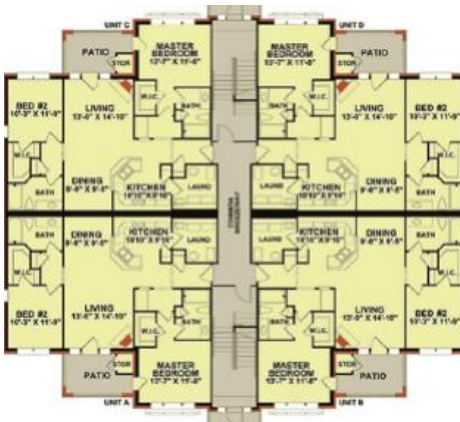
Your Answer

Q10.

What do architectural sketch plans look like?

Flip side

Architectural sketch plans can be rough and simple or more detailed, as shown in the two examples below.



Q11.

How does a developer determine an acceptable development profit?

Your Answer

Q12.

.Are there circumstances where a developer might accept a lower development profit, such as 12% of Total Development Costs?

Your Answer

END

.

Impact of soil conditions on development cost and land and value**Q1.**

It is very difficult to value land. WHY?

Your Answer

Q2.

Soil conditions can have major impact on foundation and construction costs. Provide some examples of soil condition that would impact the value of land

Your Answer

Q3..

How are soil tests done?

Flip Side

Various soils test are conducted on-site and laboratory analysis carries out to decide the quality of soil for building construction purposes which help the architect and structural engineers design the building.

On-site drilling using a drilling rig, as shown in the photo, is a standard method for carrying out a soil test.



A soil test is carried out before the design of a condominium building with underground parking.

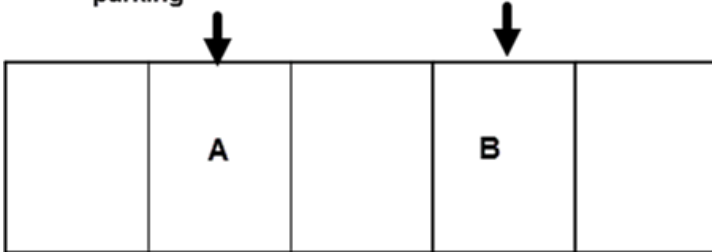
A wonderful location.

Q4.

Site A sold recently for \$200 PSF. The developer proposes to build a 3 floor office building with underground parking

Another developer wants to acquire site B to also build a similar three floor office building to site A

How much will site B sell for?



Your Answer

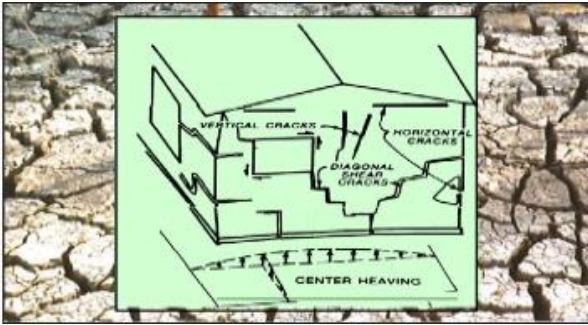
Q5.

What is expandable clay?

Your Answer

Q6.

On the flip side are some examples of the damage to buildings created by expandable clay.

Flip side

Q7..

What are some of the ways architects and engineers use to deal with expandable clay to prevent building damage?

Flip side

Techniques for dealing with expandable clay

Remove and replace the expandable soil with stable fill

Keep water away from the building

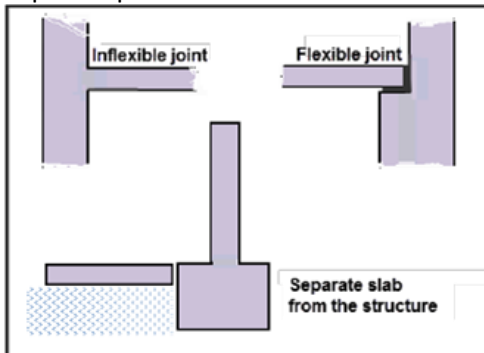
Slope the soil away from the building

Install a waterproof apron or moisture barrier around the building

Use pilings to support the structure

Design flexibility into the structure (See examples below)

Separate paved areas and slabs from the main structure



Examples of flexible versus inflexible structural design used to prevent building damage caused by expandable clay

Q8.

What is organic soil?

Your Answer

Q8.

For examples of organic soils see the flip side

Flip side

Examples of organic soil, buried materials and rubbish.



Q10.

What are sink holes, and how do sink holes develop?

Your Answer

Q11.

When I first got involved in development, I was looking for an industrial site to develop an industrial building. I found a large site where the price per acre seemed cheap compared to similar sites elsewhere.

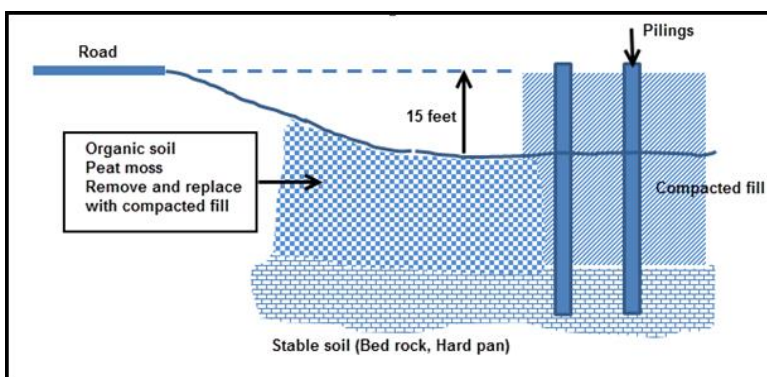
Why was the price per acre so cheap?

Flip side

When I told the senior partner he replied: That's on river road where:

- A large amount of fill has to be bought in to bring the ground level with the road
- The organic soil and peat moss has to be removed and replaced with compacted fill
- Expensive pilings have to be used to support the foundation and structure

The cost to develop this industrial site is very high hence the low price per acre. Not such a great deal after all.



Q12.

Building on unstable soil may require pilings driven into the ground to support the foundation and building.

Pile driving is a costly and time-consuming process that lowers the land value.

Flip side



Q13.

What is "Pre-loading"?

Your Answer

Q14.

What is dynamic compaction?

Your Answer

Q15.

How does the developer reduce the risks associated with soil conditions on construction costs, development profit, and land value?

Your Answer

Q16.

Can the impact of soil conditions on construction costs kill a project?

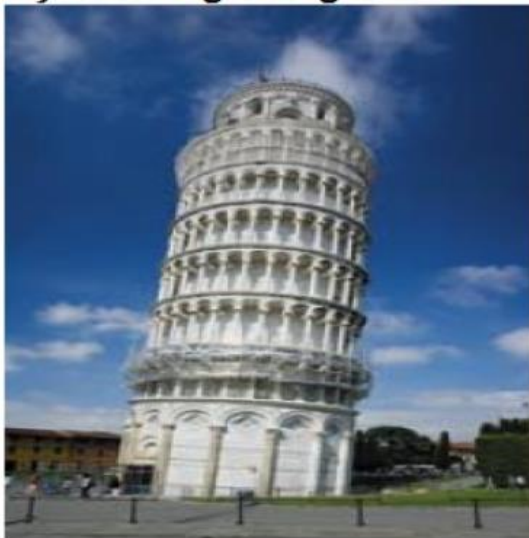
Your Answer

Q17.

It looks like the “Geoscientist” and “Engineers” didn’t get it right.

Flip side

If you don't get it right ???



END

Impact of excavation and foundation costs on land value**Q1.**

How do excavation and foundation costs impact land value?

Your Answer

Q2.

What is underpinning

Your Answer

Q3..

Show me an example of:

1. Underpinning

2. What can happen to adjacent buildings if not underpinned during excavation?

Flip side.



Failure caused by inadequate or no underpinning of the adjacent property

Q4.

What is "Shotcrete" or "Gunitite"?

Your Answer

Q5.

Example of protecting the building adjacent to the site being excavated to develop a hotel and condominium tower on the flip side.

Flip side



Q6.

A client had a piece of land in Brooklyn, NY, in a neighborhood that was being gentrified.

He proposed building a three storey condominium development.

The adjacent buildings bordered on the property line. I.e., there were no side yard setbacks.

He asked me what he had to look out for related to construction?

1. What questions would you ask him?
2. What should he worry about?

Your Answer

Q7..

True case.

When excavating against an existing building, even though the excavation is shallow, E.g., 3 to 4 feet, there will likely be a need to underpin to protect the adjacent building from damage.

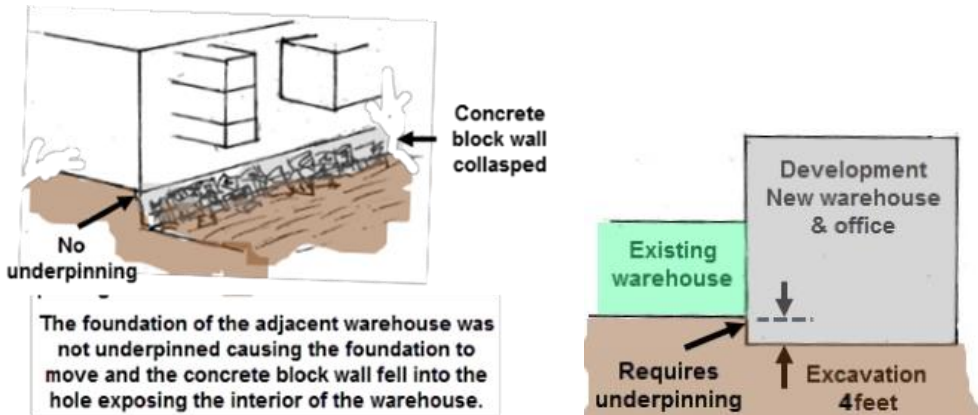
What can happen if the foundation of the adjacent building is not underpinned?

Flip side

The structural engineer and the City required the developer of a warehouse facility to underpin the foundation of the adjacent warehouse.

The developer didn't provide the specified underpinning to save money, and the side concrete block wall collapsed into the hole.

A very costly and dangerous decision, including a lawsuit and damages.



END

Impact of zoning regulations on land value

Q1.

A large number of architectural, design, and building code regulations reduce the buildable area, increase the construction cost, and reduce the land value.

Write down some examples.

Your Answer

Q2.

How is the maximum buildable area calculated?

What are some of the dangers of using the buildable area to determine what can be built on the site?

Flip side

You have found a site that is zoned for condominiums and want to determine how many one bedroom units can be built on the site.

Floor Area Ratio (FAR): 2.5 (specified in the zoning regulations)

Site Size: 125 feet x 120 feet

The objective is to build large one bedroom units for the first time home buyer market

Average Suite size: 800 Sq. feet

Common Area: 100 Sq. feet per unit

Gross Area: 900 Sq. feet

Buildable Area: FAR x Site Area = 2.5 x 125 x 120 = 37,500 Sq. Ft

Number of one bedroom units:

$$= \frac{\text{Buildable area}}{\text{Gross area per unit}} = \frac{37,500}{900} = 41 \text{ Units}$$

Gross area per unit 900

This answer is nonsense. Why? See next flash card.

Q3..

Why is this calculation incorrect?

Number of one bedroom units

$$= \frac{\text{Buildable Area}}{\text{Gross Area per Unit}}$$

$$= \frac{37,500}{900} = 41 \text{ One bedroom units}$$

This is Nonsense. Why?

Flip side

Why is this calculation nonsense?

Buildable Area: FAR x Site Area = 2.5 x 125 x 120 = 37,500 Sq. Ft

Number of one bedroom units:

$$= \frac{\text{Buildable area}}{\text{Gross Area per Unit}} = \frac{37,500}{900} = 41 \text{ Units}$$

The calculation provides us the maximum buildable area.

There are many factors that reduce the maximum buildable area, including:

Zoning and building regulations such as building envelopes
Design & market considerations

Q4.

What are building envelopes?

Your Answer

Q5.

Provide some examples of vertical light angles

Your Answer

Q6.

Example. Fort Lauderdale beaches

Another example of using vertical light angles to allow sunlight into the street using vertical light angles.

Flip side

This example is located in Fort Lauderdale. Earlier buildings did not incorporate vertical light angles, which prevented sunlight from reaching the popular beach walk and shading a portion of the beach in the late afternoon.

The shading problem was solved by the City using vertical light angles to allow sunlight into the street.



Q7..

An interesting and unusual example of shadow prevention.

Flip side

No building can cast a shadow on the Alamo.

Nearby downtown buildings are limited to 12 floors and can't cast a shadow on the Alamo, a historical building in San Antonio, Texas.



Q8..

What are "Horizontal Light Angles"?

Your Answer

Q8.

An example of the impact on a buildings shape created by horizontal light angles.

Flip side



Q10.

What's a "Traffic View Angle.

Your Answer

Q11.

What's a corner or double set back?

Your Answer

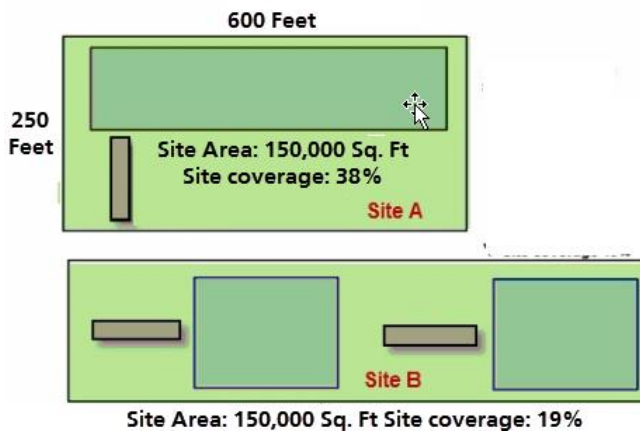
Q12.

The size and the shape of the lot and the intended use influence the size and shape of the building and land value.

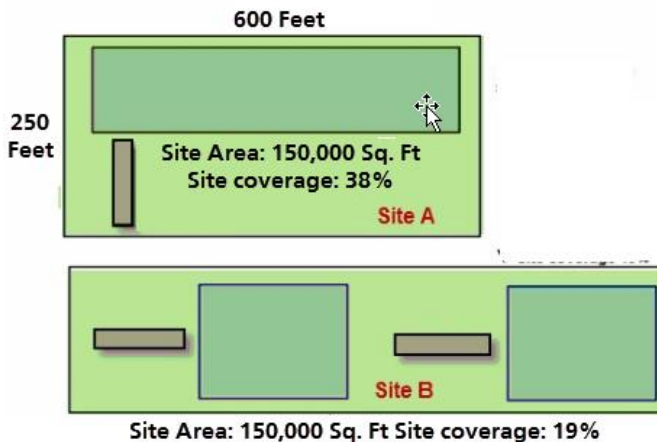
Flip side

Two industrial sites with the same area of 150,000 Sq. Ft but different shapes.

Site a has a 38% site coverage. Site B is narrower but a longer site than Site B with a 19% site coverage. Provision has to be made for maneuvering the semi-trailers into the loading docks which requires 88 to 120 feet.

**Q13.**

If site A sold recently for \$3,000,000 or \$25 per Sq. Ft what will site B sell for?



Your Answer

Q14.

Underground parking design.

A site width of 50 feet versus 75 feet is more difficult to design efficient underground parking. Why?

Your Answer

Q15.

On the flip side is an example of the underground parking for a 45 foot wide site.

Flip side

This examples shows how difficult and costly it is to create underground parking on a narrow site.

The ramp to the underground parking is curved

There is only space for four cars after providing the stairwell and electrical room.

Very costly. The cost per parking space is very high.



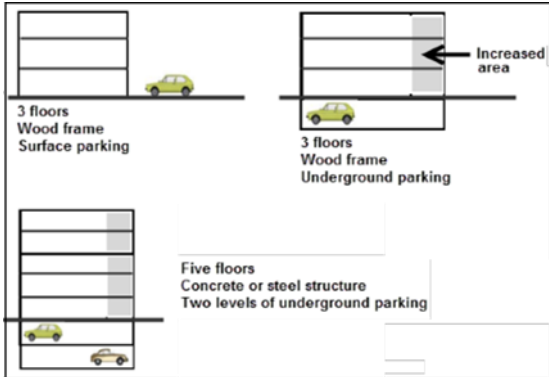
Q16.

An architectural engineering firm acquired a site to build a building where the firm would occupy around 3,000 Sq. Ft.

The zoning allows:

1. Wood frame. Three floors with surface parking at the rear and around 9,000 Sq.Ft
2. Wood frame. Three floors with one level of underground parking for 15,000 Sq. ft
3. Concrete building. Two floors of underground and five floors for 25,000 Sq. Ft

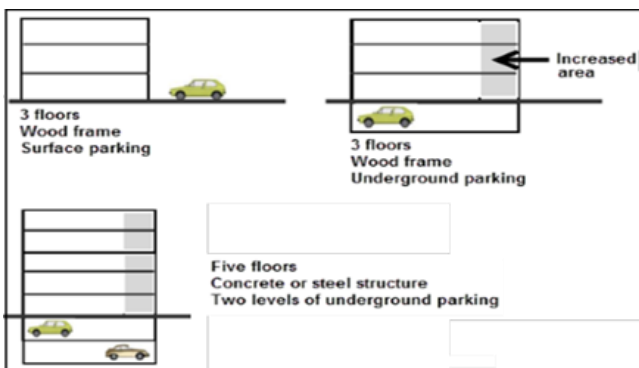
The question is “What should they build?”

**Flip side**

The large concrete building with two levels of underground parking and five floors was quickly eliminated. The cost per Sq. Ft was much higher and couldn't be supported by the local rent rates. The location was close to downtown but it was questionable if the area could absorb 25,000 Sq. Ft of office space. Required a lot of equity. High cost, high risk.

The three floor, wood-frame building with surface parking, was chosen as the safest investment for this local area. The economics of a three floor wood-frame building with underground parking couldn't be justified.

The decision was made using development analysis to compare the three development options. The result was choosing the lowest cost, lowest risk option.

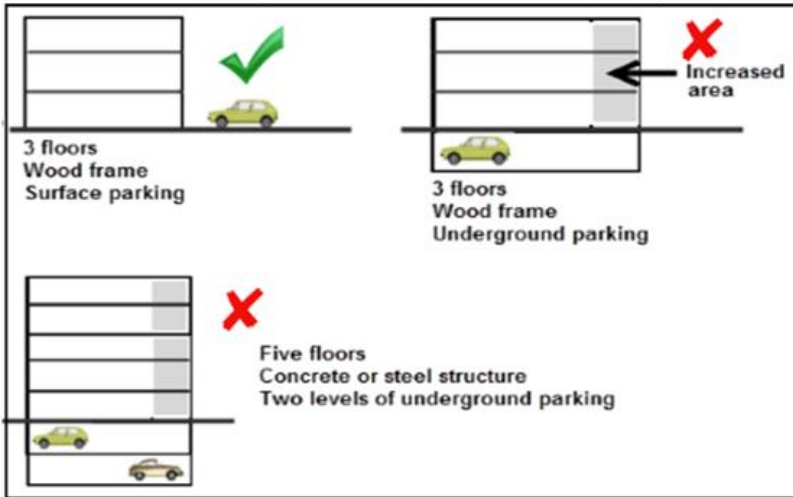


The building was completely leased before construction was completed to a government agency.

A photo of the completed building is on the next

Q17.

On the flip side is a photo of the completed building.

**Flip side**

The completed and fully rented three floor wood frame office building with surface parking at the rear of the building.



Q18.

What is the "Concept of highest and most stupid use."?

Your Answer

Q19.

Can a developer always build one large building on the site?

Your Answer

Q20

What are retention ponds or storm water basins, and how do they impact land value?

Your Answer

END

Market and design considerations

Q1.

The last flash card set explored the impact of zoning and building regulations that reduces the buildable area and lowers the land value.

We will now explore the impact of design and market considerations on the buildable area and land value.

Example

A developer targeting the one bedroom room condominium market has instructed the architect to design the floor plans using only one bedroom units. Can this be done?

Building size: 150 feet x 54 feet deep.

Typical unit sizes

One bedroom units: 22 feet wide x 25 feet deep. 550 Sq. feet

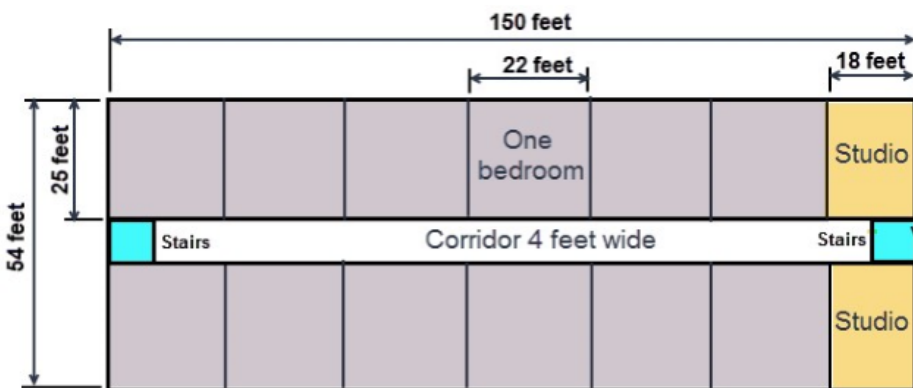
Studio units: 18 feet wide x 25 feet deep. 450 Sq. Feet

Flip side

No. The architect cannot do a layout that has all one bedroom units.

The layout below shows why this is not possible

Each floor can have 12 one bedroom units and two studio units except for the ground floor because of the space taken up by the lobby.



Q2.

The floor plan suite layout is much more complex than the previous flash card example.

In designing the floor plan, the architect has to include in the design:

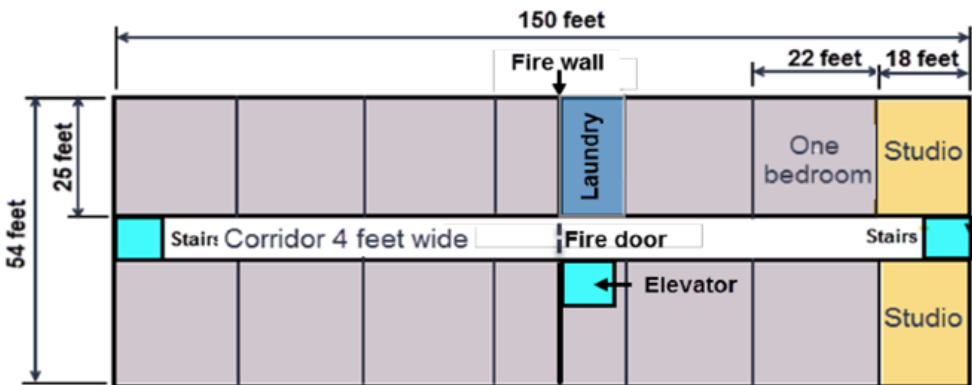
1. A firewall, which is located near the center of the building, which prevents fire from spreading from one side of the building to the other side.
2. An elevator
3. Laundry room
4. A lobby on the ground floor

Flip side

The architect needs to provide the firewall in the center of the building plus an elevator and laundry rooms which complicates the floor layout.

The final result would be a combination studio and one bedroom units, possibly including some two bedroom units.

Achieving a floor plan with all one bedroom units is not be possible.



Q3..

Can you think of retail examples where you wouldn't build the maximum space allowed for the site because of the tenant's space needs?

Your Answer

Q4.

What are some of the design challenge facing architects when designing rental or condominium units?

Flip side

When laying out the units, the living room and bedrooms have to have windows, which complicate the layout.

The images below show the typical layout and dimensions for one and two bedroom units.



One bedroom units are typically 22 feet wide and 25 feet deep



Two bedroom units are typically 33 feet wide and 25 feet deep

Q5.

Due to the Covid virus there may be less need for office space as more employees work from home.

What are the design and construction challenges in converting an office building to rental or condominium units?

Your Answer

Q6.

Beside market and design considerations can you think of other things an architect may have to consider when designing a building?

Your Answer

Q7..

A developer was considering buying an old retail property, demolishing the building and developing a three storey building with retail on the ground floor and offices on the second and third floor.

There was large cedar tree on the site which the City wanted protected because it was a neighborhood landmark.

Protecting the tree would result in less rentable area and reduce the value of the property.

Calculate the drop in value based on:

Lost rentable area: 25 feet x 25 feet x 3 floors = 1,875 Sq. Ft

Average rent rate: \$27 psf per yr.

Cap Rate : 7.50%

Your Answer

Q8.

How can an industrial building be built on slopping land? and what's the impact on the land value and development costs?

Your Answer

Q8.

If you are going to be involved in land sales you need to get to know some architects.
WHY?

Your Answer

Q10.

True case

Having an architect develop sketch plans for free to market a potential development site.

Flip side

A realtor was aware of a large site that consisted of two side-by-side properties owned by the same owner, each with a different low-density zoning.

He asked an architect to develop some sketch plans for the site.

The architect suggested consolidating the two sites and then have the consolidated site rezoned for four storey condominium development.

The two properties had been on the market for some time at around \$1,000,00 but had not sold.

The idea of consolidating the two properties and rezoning to a higher density was presented to a developer, and the site sold for around \$1,300,000, which is \$300,000 over the original asking price of \$1,000,000.

END

Construction financing**Q1.**

What the difference between a construction loan and a conventional mortgage?

Your Answer

Q2.

How does Construction or Draw Mortgages work?

Your Answer

Q3.

What does a construction draw schedule based on reaching specified milestones look like?

Develop an example.

Your Answer

Q4.

What is a "Builders Lien" or Lien Holdback?

Your Answer

Q5.

Assume you are a construction lender and offering the following construction loan on a condominium development:

Development cost: \$5,000,000

Construction loan 75% of development costs: \$3,750,000

Developer's equity 25%: \$1,250,000

What would be two important conditions of the loan agreement that reduce the risk for the lender?

Your Answer

Q6.

Assume you are a construction lender and offering the following construction loan on an income property such as an office building development.

Development cost: \$7,000,000

Construction loan 75% of development costs: \$5,250,000

Developer's equity 25%: \$1,750,000

What would be the three major conditions of the loan agreement to reduce the risk for the lender.

Your Answer

Q7..

What's a "Construction to Permanent Loan"?

Your Answer

Q8..

Why might the developer of an office building not want to arrange the long-term loan as requested by the construction lender?

Is there another option that satisfies both the needs of the lender and the developer?

Your Answer

Q8.

What the difference between:

Recourse loan

Non recourse loan?

Your Answer

Q10.

What are "personal guarantees" and "limited personal guarantees"?

Your Answer

Q11.

What are "Limited Liability" Personal Guarantees?

Your Answer

Q12.

What's an "Origination" Fee?

Your Answer

Q13.

What's involved in applying for a construction loan?

Flip side

The amount of equity needed to fund a development project will depend on the type of development and the risks involved from the lenders perspective.

A good starting is that the developer's equity is equal to the land value or higher.

In some cases, the lender maybe willing to fund a portion of the land value which reduces the developer's equity.

If the lenders Loan/Cost Ratio is 75% then the developer's equity will be 25% of the development costs.

Q14.

How does the construction loan application process and requirements affect the Offer to Purchase?

Your Answer

Q15.

How much equity does a developer need?

Any ideas?

Your Answer

Q16.

How does the lender secure the construction loan?

Can a second mortgage be placed on the land?

Your Answer

Q17.

If the landowner wants to be involved with the developer in developing the land and share in the profits, what are the benefits and risks for the landowner.

Your Answer

The landowner could end up with nothing or very little money for the land.

Q18.

A developer wants to acquire some land to rezone to multifamily, build a and sell a condominium project.

The developer has offered the landowner an opportunity to be involved in the development by contributing the land and sharing in the development profits.

The development steps are:

1. Rezone the land from single-family to multifamily zoning
2. Construct the condominium building
3. Sell the units

Can you think of a way to involve the landowner in profit sharing while avoiding the development risks and losing a lot of money if the development fails financially?

Your Answer

.

Q19.

Calculate

1. Rezoning profit
2. How much the landowner receives for the land

1. Value of the land before rezoning: \$3,000,000
2. Value of the land after rezoning to multifamily use: \$4,500,000
3. Cost of rezoning paid by the developer: \$80,000
4. The cost of rezoning of \$80,000 is deducted from the rezoning profit when calculating the profit
5. Rezoning profit sharing
 - Land owner: 40%
 - Developer: 60%

Your Answer

END

Profitability measures

Q1.

How do you determine if the development profit is realistic?

Flip side

A development analysis indicated a development profit of \$6,400,000.

How do we know if this is a reasonable profit?

An acceptable development profit depends on the development time and the risks involved.

The higher the risk, the higher the development profit

For a typical moderate risk development taking two years, the development profit should be around 20% to 25% of "Total Development Costs."

"Total Development Costs" are all the development costs to the point where leasing or renting commences or the sale of units or lots starts.

Q2.

How do you determine if the development profit is realistic?

As an example, if the development profit is \$3,200,000

Is this a good deal?

Flip side

If the development profit is \$3,200,000, we can't tell if it's a good deal.

Examples

If the development cost was \$45,000,000, the profit of \$3,200,000 is too low, given the amount of money involved and the development risk.

On the other hand, if the development profit is \$3,200,000, and the development cost \$21,000,000, this might be an acceptable profit.

To evaluate the development profit, we use several measures of profitability.

See the next flash card.

If the development profit is \$3,200,000, we can't tell if it's a good deal.

See the next flash card.

Q3.

What are the measures of profitability?

Flip side

% of TOTAL DEVELOPMENT COSTS.

Typically 25% for a medium risk development taking several years and 15% for industrial developments.

% of SALES REVENUE

Not widely used because it is hard to predict the sales revenue or market value, which is several years away. It's much easier to predict the "Total Development Cost" than the sales revenue or future market value.

RETURN ON EQUITY

Developers will often look for a Return on Equity greater than 100%, which means they want to more than double their equity or investment in the development. Useful, but somewhat questionable measure as the Return on Equity is dependant on how much construction financing is involved.

Q4.

What are the Land & Development Cost Measures used to evaluate a development project?

Flip side

Land & Development Cost Measures

The following measures can be used to check if the building and development cost estimates are realistic for the City and the location?

1. Land to Building Cost Ratio
2. Land to Development Cost Ratio

These ratios depend on the City and the location. In areas where the land prices are very high, the land to Building cost and Development Cost Ratios will be high, and they will be much lower in areas where the land costs are low.

Developers familiar with the type of development and location usually have a good feel for the value of the ratios, and they use them to check the accuracy of the development analysis.

A high ratio requires a high sale price or high rents and a low cap rate to offset the high land cost.

These kinds of ratios can be helpful.

Development profit per unit, per square foot, and per lot, etc.

Q5.

On the flip side is an example using the Profitability Measures

Flip side

Condominium Development. Profitability measures

DEVELOPMENT PROFIT	6,736,443
% of Total Development Costs	26.92%
% of Sale Revenue	19.49%
Return on Equity	96.23%
Average Profit per Unit	112,274
Land to Building Cost Ratio	28.61%
Land to Total Development Cost Ratio	20.05%

Q6.

On the flip side is an example of a bid proposal for a low risk development.

Flip side

True Case Study

Prime industrial land

The developer owns the land

Soils test, architectural and engineering design have been completed

Construction bids have been received, and the construction costs and time and financing costs are known.

The developer has been asked to submit a proposal to construct the building and sell it to a Triple A industrial tenant.

This is a low-risk development. The developer knows that there are other developers submitting a proposal.

Using the sale price that achieves a development profit of 25% of Total Development Costs would result in a high, non-competitive sale price.

Because of the low risk, the developer used a Development Profit of 12% of the Total Development Profit in structuring the deal.

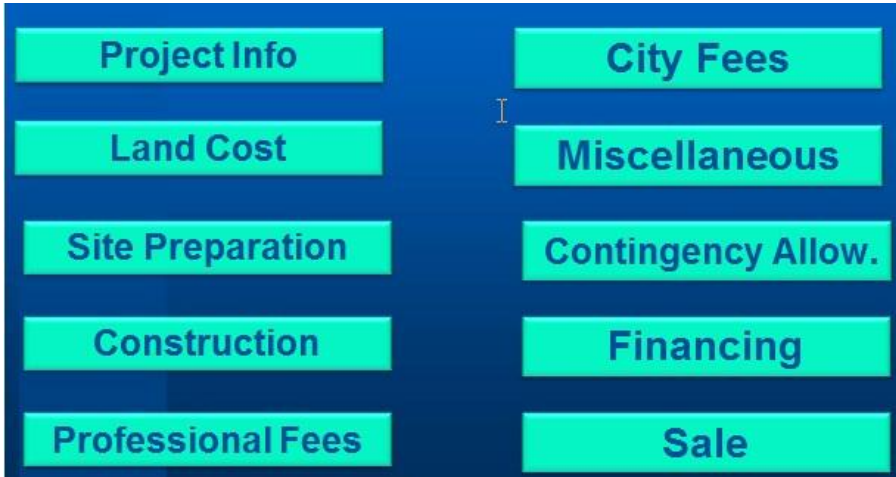
END

Development analysis. Unit projects**Q1.**

What are the building blocks for analyzing a unit development like a condominium development or land subdivision?

Flip side

The building blocks of development analysis for unit projects like a condominium development or land subdivision.



Q2.

What information is needed to analyze a unit development like a condominium development or a land subdivision?

Part 1 Development Cost and Unit Sales

Flip side**PROJECT INFORMATION**

Basic information used to develop the development costs and sales revenue, such as the number of units or lots, building area, etc.

LAND COST.

Cost of the land and acquisition costs such as legal and appraisal fees.

SITE PREPARATION.

Clearing the land, removing buildings, trees, etc.

CONSTRUCTION.

Cost to build the building, underground parking, landscaping, etc. All the costs to complete the development ready for sale.

PROFESSIONAL FEES.

Architects, engineers, geoscientists, lawyers, appraisers, environmental engineers, building envelope specialists, mortgage brokers, etc.

CITY FEES

Application and processing fees, crossing permits. A significant cost is Development Cost Charges (DCC's) or Impact fees.

Q3.

What information is needed to analyze a unit development like a condominium development or a land subdivision?

Part 2. Timing

Flip side

TIMING

In order to calculate the interest costs, the following times are needed:

Time to get the required permits before construction can start.

Construction time.

Sales time. Time to sell the units or lots taking into account presales.

Q4.

Condominium Development. Input example

Project Info.	
Report Headers	
Property Name	Arcadia Place
Description	60 Condominium Project
Building	
Building Area	65,000 Sq. Ft
Total No. of Units	60

Land Costs

Costs		
Description	Costs Hard Soft	Amount
Land	<input checked="" type="radio"/> <input type="radio"/>	\$ 5,000,000
Legal Fees	<input type="radio"/> <input checked="" type="radio"/>	\$ 10,000
Appraisal	<input type="radio"/> <input checked="" type="radio"/>	\$ 8,000

Site Preparation

Costs		
Description	Costs Hard Soft	Amount
Site Clearing	<input checked="" type="radio"/> <input type="radio"/>	\$ 25,000
Site Servicing Costs	<input checked="" type="radio"/> <input type="radio"/>	\$ 150,000
Miscellaneous Site Costs	<input checked="" type="radio"/> <input type="radio"/>	\$ 10,000

Flip side

Construction

Costs				
Description	Entry Choice	Qty	Costs Hard Soft	Amount
Building	\$ per Unit of Total Building Area	65,000	<input checked="" type="radio"/> <input type="radio"/>	\$ 190,000
Parking	\$ per Parking Space	75	<input checked="" type="radio"/> <input type="radio"/>	\$ 25,000

Professional Fees

Costs			
Description	Entry Choice	Costs Hard Soft	Amount
Architctural & Engineering	% of Construction & Site Prep. Costs	<input type="radio"/> <input checked="" type="radio"/>	8.00%
Geo-Scientists	Amount	<input type="radio"/> <input checked="" type="radio"/>	\$ 20,000
Mortgage Brokerage Fees	Amount	<input type="radio"/> <input checked="" type="radio"/>	\$ 35,000

Miscellaneous

Costs				
Description	Entry Choice	Qty	Costs Hard Soft	Amount
Miscellaneous costs	Amount	—	<input checked="" type="radio"/> <input type="radio"/>	\$ 25,000

Q5.

Condominium Development. Inputs continued.

Contingency

Contingency Allowance

% of Land, Dev. & Financing Costs

Construction Financing

Equity
Amount

Financing
Construction Loan Interest Rate

Development Time (in Months)
Pre-Construction Period
Construction Time
Sales Period

Financing Adjustment Factors
Equity Adjustment

Construction Loan

Description	Amount
Land Costs	1.00
Site Preparation	0.75
Construction	0.50
Professional Fees	0.75
City Fees	0.75
Miscellaneous	0.50
Selling Expenses	0.50
Sales Period	0.50

Flip side

Unit Sales

Sales Revenue

Description	Sale Price Based on	Qty	Price
One Bedrooms	\$ per Unit	15	\$ 520,000
Two Bedrooms	\$ per Unit	34	\$ 570,000
Three Bedrooms	\$ per Unit	9	\$ 610,000
Penthouses	\$ per Unit	2	\$ 950,000

Selling Expenses

Real Estate Commission
Fixed % of Total Sale Price

Selling Expenses

Description	Entry Choice	Expense
Marketing & Advertising	Amount	\$ 27,000
Legal Fees	% of Sale Price	2.00%

Q6.

What does the “Quick Proforma” development analysis look like for a condominium development?

Where we:

Buy the land

Construct the building

Sell the condominium units

Flipside

The development analysis indicates a development profit of \$6,393,034, which is 25.54% of the “Total Development Costs” with a land price of \$5,018,000.

SALES REVENUE		Revenue	
One Bedrooms	\$ 520,000 per Unit x 15 Units	\$ 7,800,000	22.56%
Two Bedrooms	\$ 570,000 per Unit x 34 Units	19,380,000	56.06%
Three Bedrooms	\$ 610,000 per Unit x 9 Units	5,490,000	15.88%
Penthouses	\$ 950,000 per Unit x 2 Units	1,900,000	5.50%
	Total Sales Revenue	34,570,000	100.00%
LAND & DEVELOPMENT COSTS			
Land Costs		5,018,000	14.52%
Site Preparation		185,000	0.54%
Construction		14,225,000	41.15%
Professional Fees		1,207,800	3.49%
City Fees		1,895,000	5.48%
Miscellaneous		25,000	0.07%
	Land & Development Costs	22,555,800	65.25%
Interest Costs		617,666	1.79%
Contingency Allowance		1,853,877	5.36%
	Total Development Costs	25,027,343	72.40%
	GROSS DEVELOPMENT PROFIT	9,542,657	27.60%
SELLING EXPENSES			
Real Estate Commissions		1,728,500	5.00%
Marketing & Advertising		27,000	0.08%
Legal Fees	2.00% of the Sale Price	691,400	2.00%
	Total Selling Expenses	2,446,900	7.08%
Less: Interest during the Sale Period		359,314	1.04%
	DEVELOPMENT PROFIT	6,736,443	
	% of Total Development Costs	26.92%	
	% of Sale Revenue	19.49%	
	Return on Equity	96.23%	
	Average Profit per Unit	112,274	
	Land to Building Cost Ratio	28.61%	
	Land to Total Development Cost Ratio	20.05%	

Q7.

What is “Goal Seeking” and how can it be used in analyzing the condominium development?

Flip side

“Goal Seeking” can be used to establish the price to pay for the land to achieve the desired profit.

To achieve a development profit of 27% of Total Development Costs, the most we can pay for the land is \$5,004,883

If we want a 100% Return on Equity (i.e., double our equity investment), the most we can pay for the land is \$4,809,495

Calculate the Total Land Cost for		
Desired Profit	Total Land Cost	
% of Total Development Cost	27.00%	\$ 5,004,883
% of Sale Price	20.00%	\$ 4,877,531
Return on Equity	100.00%	\$ 4,809,495

Compute

Q8.

What are "HARD COSTS" and "SOFT COSTS"?

Your Answer

Hard costs _____

Soft costs _____

Q9.

Construction Cost Report. Hard and Soft Costs

Flip side

		Hard Costs	Soft Costs	Total	
Land Costs					
Land		5,000,000	-	5,000,000	19.98%
Legal Fees		-	10,000	10,000	0.04%
Appraisal		-	8,000	8,000	0.03%
		5,000,000	18,000	5,018,000	20.05%
Site Preparation					
Site Clearing		25,000	-	25,000	0.10%
Site Servicing Costs		150,000	-	150,000	0.60%
Miscellaneous Site Costs		10,000	-	10,000	0.04%
		185,000	-	185,000	0.74%
Construction					
Building	\$ 190.00 per Sq. Ft x 65,000 Sq. Ft	12,350,000	-	12,350,000	49.35%
Parking	\$ 25,000 per Parking Space x 75 Parking Spaces	1,875,000	-	1,875,000	7.49%
		14,225,000	-	14,225,000	56.84%
Professional Fees					
Architectural & Engineering	8.00% of Construction & Site Prep. Costs	-	1,152,800	1,152,800	4.61%
Geo-Scientists		-	20,000	20,000	0.08%
Mortgage Brokerage Fees		-	35,000	35,000	0.14%
		-	1,207,800	1,207,800	4.83%
City Fees					
Application Fees	\$ 5,000.00 per Unit x 60 Units	-	300,000	300,000	1.20%
Connection Fees	\$ 3,000.00 per Unit x 60 Units	-	180,000	180,000	0.72%
Inspection Fees	\$ 2,500.00 per Unit x 60 Units	-	150,000	150,000	0.60%
Development Cost Charges	\$ 20,000.00 per Unit x 60 Units	-	1,200,000	1,200,000	4.79%
Property Taxes		-	65,000	65,000	0.26%
		-	1,895,000	1,895,000	7.57%
Miscellaneous					
Miscellaneous costs		25,000	-	25,000	0.10%
		25,000	-	25,000	0.10%
	LAND & DEVELOPMENT COSTS	19,435,000	3,120,800	22,555,800	
Financing Interest Costs					
Construction Loan		-	617,666	617,666	2.47%
Contingency Allowance	8.00% of Land, Development & Financing Costs	-	1,853,877	1,853,877	7.41%
	TOTAL DEVELOPMENT COST	19,435,000	5,592,343	25,027,343	
	% of Total Development Cost	77.66%	22.34%	100.00%	
	Cost Per Unit	323,916.67	93,205.72	417,122.38	
	Cost per Sq. Ft of Building	299.00	86.04	385.04	
	Land to Building Cost Ratio	28.61%			
	Land to Total Development Cost Ratio	20.05%			

Q10.

How is the construction interests costs calculated?

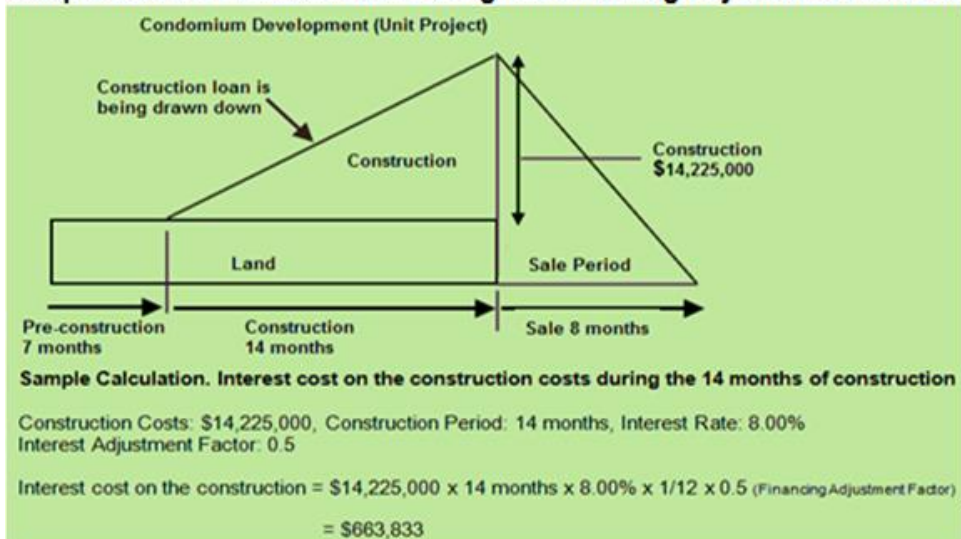
Flip side

Calculating the total interest costs is tricky because the construction loan is a “Draw mortgage” and drawn down in stages. If the construction cost is \$14,225,000, the lender advances funds as the construction proceeds based on the cost to complete as ascertained by an independent professional.

To adjust the interest costs, we use “Financing Adjustments Factors” to modify the interest calculations because the loan is drawn down in stages as the construction progresses.

In this example, the “Financing Adjustment Factor” for the construction portion of the loan is “0.5”.

Continued on the next flash card

Q11.**Sample interest cost calculation using the Financing Adjustment Factor of 0.5**

Flip side

Condominium development. Interest cost calculations

INTEREST COSTS DURING PRE-CONSTRUCTION
& CONSTRUCTION PERIOD

Construction Loan

Assuming 100% Financing using Construction Loan

Land Costs	$\$ 5,018,000 \times 21 \text{ mo.} \times 8.000\% \times 1/12 \times 1.00$	\$ 702,520
Site Preparation	$\$ 185,000 \times 14 \text{ mo.} \times 8.000\% \times 1/12 \times 0.75$	12,950
Construction	$\$ 14,225,000 \times 14 \text{ mo.} \times 8.000\% \times 1/12 \times 0.50$	663,833
Professional Fees	$\$ 1,207,800 \times 14 \text{ mo.} \times 8.000\% \times 1/12 \times 0.75$	84,546
City Fees	$\$ 1,895,000 \times 14 \text{ mo.} \times 8.000\% \times 1/12 \times 0.75$	132,650
Miscellaneous	$\$ 25,000 \times 14 \text{ mo.} \times 8.000\% \times 1/12 \times 0.50$	1,167
		<u>1,597,666</u>

Adjusting for interest not paid on Developer's Equity

Equity	$(\$ 7,000,000 \times 21 \text{ mo.} \times 8.000\% \times 1/12 \times 1.00)$	<u>(980,000)</u>
		617,666

INTEREST COSTS DURING THE SALES PERIOD

Construction Loan

Assuming 100% Financing using Construction Loan

Total Development Costs	$\$ 25,027,343 \times 8 \text{ mo.} \times 8.000\% \times 1/12 \times 0.50$	667,396
Real Estate Commissions & Selling Expenses	$\$ 2,446,900 \times 8 \text{ mo.} \times 8.000\% \times 1/12 \times 0.50$	65,251
		<u>732,647</u>

Adjusting for interest not paid on Developer's Equity

Equity	$(\$ 7,000,000 \times 8 \text{ mo.} \times 8.000\% \times 1/12 \times 1.00)$	<u>(373,333)</u>
		359,314

976,980**Q12.**

What are the typical Financing Adjustment Factors used to calculate the development interest costs?

Flip side

Financing Adjustment Factors	
Equity Adjustment	1.00
Construction Loan	
Description	Amount
Land Costs	1.00
Site Preparation	0.75
Construction	0.50
Professional Fees	0.75
City Fees	0.75
Miscellaneous	0.50
Selling Expenses	0.50
Sales Period	0.50

Some examples

Construction. FAF 0.5 because the construction portion of the loan is drawn down over the construction period.

Professional Fees and City Fees. FAF 0.75 because most of the fees are paid before the start of construction.

END

Development analysis. Income properties

Q1.

What's the difference between analyzing unit developments like condominium and land subdivisions versus income property developments like an office building or a rental apartment building?

Flip side

UNIT PROPERTY DEVELOPMENT (Condominiums, land subdivisions, etc.)

1. Buy the land and obtain the building permits
2. Build the building
3. Sell the units

Value. Based on the sales price per unit or price per lot, times the number of units or lots.

Lender requirement. A specified amount of presales before funding commences.

INCOME PROPERTY DEVELOPMENT (Offices, industrial, retail and rental apartments)

1. Buy the land and obtain the building permit
2. Build the building
3. Lease up space. This generates Income & Expenses during the lease-up period
4. Sales period. Time to find a buyer. Generates Income & Expenses during the sales period

Value. Based on the Cap Rate and the stabilized Income and Expenses

Lender requirement. A specified amount of preleasing before funding is advanced.

Q2.

When carrying out an analysis of an income property development, what questions do we want to answer?

Your Answer

Q3.

What are the building blocks for analyzing income property developments like rental apartment buildings, office, industrial and retail developments?

Flip side**Q4.**

What information is needed to analyze income property development such a rental apartments, office, industrial and retail developments?

Part 1 Development Phase***Flip side*****SITE PREPARATION**

Cost of clearing the land, removing buildings, trees, etc.

CONSTRUCTION.

Cost to build the building, underground parking, landscaping, etc. All the cost to complete the development ready for leasing.

PROFESSIONAL FEES.

Architects, engineers, geoscientists, lawyers, appraisers, environmental engineers, building envelope specialists, mortgage brokers, etc.

CITY FEES

Application and processing fees, crossing permits. A significant cost is Development Cost Charges (DCC's) or Impact Fees.

Q5.

What information is needed to analyze income property developments such as rental apartments, office, industrial and retail properties?

Part 2 Leaseup and Sale Phase

Flip side

What are the Income and Expenses:

During the lease up period?

During the sales period based on the stabilized Income & Expenses?

The Cap Rate to use to determine the likely sale price.

What long term financing might be available?

Questions.

If the developer keeps the project, how much equity is needed?

Should the developer hold the project as a long term investment?

How much equity does a buyer need to purchase the property and is the equity amount realistic?

Q6.

What information is needed to analyze income property development such a rental apartments, office, industrial and retail?

Part 3. Timing

Flip side

In order to calculate the interest costs the following times are needed:

PRECONSTRUCTION TIME

Time to get the required permits before construction can start.

CONSTRUCTION TIME

The time from the start of construction until the building is ready for occupation.

LEASE UP TIME

Time to lease the building taking into account preleasing.

SALES TIME.

The time it will take to sell the property after it's substantially leased.

Q7.

How do we determine the “Long Term Financing”

Flip side

		Period 6 months	
Rental Income during Lease Up period			
Rental Income		\$ 181,000	
Recoverable Expenses (TIU's)		67,000	
		<u>248,000</u>	
Operating Expenses during Lease Up Period			
Taxes		85,000	
Insurance		16,000	
Maintenance		8,000	
Property Management		15,000	
		<u>124,000</u>	
	Net Operating Income during Lease Up Period		124,000
RENTAL INCOME & EXPENSES DURING SALES PERIOD			
		Stabilized Income 12 Months	Sale Period 7 Months
Potential Gross Income		\$ 777,000	\$ 453,250
Less: Vacancy & Credit Loss		38,850	22,663
	Effective Gross Income	<u>738,150</u>	<u>430,588</u>
Operating Expenses		241,908	141,113
	Net Operating Income during the Sale Period	<u>496,242</u>	<u>289,475</u>
SUMMARY			
		Net Operating Income	
	Lease up Period: 6 months		124,000
	Sales Period: 7 months		289,475
	Total		<u>413,475</u>

Q8.

Calculating the equity required by the buyer

Flip side**LONG TERM FINANCING**

Nominal Annual Interest Rate	6.75%
Amortization Period	25 Years
Payment Frequency	Monthly (End of Period)
Compounding Frequency	Semi-annually
Loan to Value Ratio	75.00%
Debt Service Ratio	1.25

NET OPERATING INCOME \$ 496,242

LOAN AMOUNTS & MONTHLY PAYMENTS

	<u>Loan Amount</u>	<u>Monthly Payment</u>
Loan to Value Ratio: 75.00%	\$ 4,962,420	\$ 33,996
Debt Service Ratio: 1.25	\$ 4,829,256	\$ 33,083 * Loan Amount

EQUITY REQUIRED BY THE BUYER

Market Value (Purchase Price)	\$	6,616,560
Less: Long Term Financing		4,829,256
	Buyer's Equity	1,787,304
	% of Market Value	27.01%

The equity required by the buyer is 27.01% which seems realistic.

If the answer had been say 51% equity, this would suggest that it would be hard to sell the completed development as it requires too much equity.

Q9.

How do we determine the equity required by the developer if the property is held as a long term investment?

Flip side

To calculate the long term financing and equity needed by the developer to keep the development as a long term investment, we need the following:

The total development cost to the end of the leaseup period which is when the long term financing kicks in.

The stabilize Net Operating Income

Long term financing information from the lender

Interest rate

Debt Service Coverage Ratio

Loan to Value Ratio

We then calculate the loan amount based on

Debt Service Coverage Ratio and Loan to Value Ratio

and choose the lower loan amount giving us the developer's equity required to keep the development as a long term investment.

Q10.

How do we determine the equity required by the developer if the property is held as a long term investment?

Flip side

To calculate the long term financing and equity needed by the developer to keep the development as a long term investment, we need the following:

The total development cost to the end of the leaseup period which is when the long term financing kicks in.

The stabilize Net Operating Income

Long term financing information from the lender

Interest rate

Debt Service Coverage Ratio

Loan to Value Ratio

We then calculate the loan amount based on:

Debt Service Coverage Ratio

Loan to Value Ratio

and choose the lower loan amount giving us the developer's equity required to keep the development as a long term investment.

Q11.

How do we determine the equity required by the developer if the property is held as a long term investment?

Sample calculation on the flip side.

Flip side

EQUITY REQUIRED BY THE DEVELOPER

Total Development Cost	4,880,513
Plus: Leasing fees	75,000
Financing costs during the lease-up period	166,241
Operating Costs during the lease-up period	124,000
Less: Income during the lease-up period	<u>(248,000)</u>
	4,997,754
Less: Long Term Financing	<u>4,829,256</u>
Developer's Equity	168,498
% of Market Value	2.55%

**Development Costs
to end of lease up period**

Q12.

What does the "Quick Proforma." development look like for a retail store development?

Income Property Development

Buy the land
Construct the building
Lease
Sell or keep the development?

Flip side

		21,000 Sq. Ft Retail Center		
				<u>% of Revenue</u>
SALE PRICE	7.50% Cap Rate & NOI of \$496,242	\$	6,616,560	
LAND & DEVELOPMENT COSTS				
Land Costs			1,220,000	18.44%
Site Preparation			112,000	1.69%
Construction			2,482,500	37.52%
Professional Fees			350,395	5.30%
City Fees			217,000	3.28%
Miscellaneous			25,000	0.38%
	Land & Development Costs		4,406,895	66.60%
Interest Costs			154,332	2.33%
Contingency Allowance			319,286	4.83%
	Total Development Costs		4,880,513	73.76%
GROSS DEVELOPMENT PROFIT				
			1,736,047	26.24%
SELLING EXPENSES				
Real Estate Commissions			330,828	5.00%
Marketing & Advertising			30,000	0.45%
Legal fees			25,000	0.38%
Leasing Fees			75,000	1.13%
	Total Selling Expenses		460,828	6.96%
DEVELOPMENT PROFIT (Before Operating Income & Expenses)				
			1,275,219	
	% of Total Development Costs		26.13%	
	% of Sale Revenue		19.27%	
	Return on Equity		182.17%	
OPERATING INCOME & EXPENSES during lease up and sales period				
Net Operating Income, Lease Up period of 6 months			124,000	1.87%
Net Operating Income, Sales period of 7 months			289,475	4.38%
			413,475	6.25%
Less: Interest costs during Lease up & Sale Period			347,176	5.25%
OVERALL DEVELOPMENT PROFIT				
			1,341,518	
	% of Total Development Costs		27.49%	
	% of Sale Revenue		20.28%	
	Return on Equity		191.65%	
	Land to Building Cost Ratio		38.28%	
	Land to Total Development Cost Ratio		25.00%	

Q13.

How does the developer decide whether to keep the development as a long term investment?

Flip side

The developer carries out long term real estate investment analysis making the following assumptions.

Example.

Developer holds the property for 5 years and sells based on a 5% Cap Rate

Leases are renewed after three years based on a 5% increase in rent.

The investment is the development cost to the end of the leaseup period

The mortgage is \$4,400,000

Loan to Value Ratio: 63%

Debt Coverage Ratio: 1.62

The resulting Net Cash Flow and financial returns are shown on the next flash card.

Q14.

The Internal Rate of Return (IRR) is 66.57%

Why is the Internal Rate of Return (IRR) so high at 66.57%?

Year	Investment	Financing		Operating Cash Flow (Before Tax)	Sale Proceeds (Before Tax)	Net Cash Flow (Before Tax)
		Borrow	Paid Back			
Year 1 Jan-Year 1 Dec	\$ (4,990,000)	\$ 4,400,000	-	\$ 189,155	-	\$ (400,845)
Year 2 Jan-Year 2 Dec	-	-	-	187,670	-	187,670
Year 3 Jan-Year 3 Dec	-	-	-	186,089	-	186,089
Year 4 Jan-Year 4 Dec	-	-	-	287,542	-	287,542
Year 5 Jan-Year 5 Dec	-	-	(3,894,330)	285,936	7,855,670	4,247,276
					Total	\$ 4,507,731

Financial Returns (Before Tax) with Financing 	
Internal Rate of Return (IRR)	66.57%
Net Present Value (NPV) at 12.00%	\$ 2,453,708

Financial Returns (Before Tax) without Financing	
Internal Rate of Return (IRR)	18.47%
Net Present Value (NPV) at 12.00%	\$ 1,370,437

Flip side

There are several reasons:

1. The developer is getting the income property at the cost of \$4,990,000. If instead, he bought the completed project at a 5% Cap Rate, he would have to pay \$9,924,840
2. Impact of Financial Leverage. The amount of the equity of \$590,000 is low for an investment of \$4,990,000 which significantly increases the Internal Rate of Return (IRR)

Q15.

What is "Mortgaging Out"?

Your Answer

Q16.

Is it possible to mortgage out?

Flip side

To "mortgage out" means that when the long term financing is placed on the property, the developer (investor) requires zero equity and may even receive cash when the long term financing kicks in.

There are several reasons:

1. The developer is getting the income property at the cost of \$4,990,000. If instead, he bought the completed project at a 5% Cap Rate, he would have to pay \$9,924,840
2. Impact of Financial Leverage. The amount of the equity of \$590,000 is low for an investment of \$4,990,000 which significantly increases the Internal Rate of Return (IRR)

Over the years, the lender's underwriting has become more restrictive. It's very unlikely that that a lender would allow a developer to mortgage out.

They will require the developer to contribute equity.

Q17.

What is the:

Development Spread Yield?

Development Pop?

Flip side

The difference between the "Market Cap and the Yield or Cap Rate based on the development costs.

Example.

Market Cap Rate: 6%

Cap Rate based on development costs: 4%

Development Spread Yield: 2%

The greater the development spread yield, the more likely the development is financially attractive.

What if the Development Spread Yield is negative?

Example.

Market Cap Rate : 6%

Cap Rate based on development costs: 8%

Development Spread Yield: -2%

This negative yield indicates that the development is not financially feasible.

DEVELOPMENT POP

The value added by the developer, created by taking the development and leasing risks.

END

Development analysis. Monthly cash flow method

Q1.

There are two different approaches to development analysis.

What are they?

Your Answer

Q2.

Monthly Cash Flow Approach

Sample entries

Flip side

The development expenses, draw mortgages, revenues are entered monthly.

	Year 1					Etc.
	Jan	Feb	Mar	Apr	May	
Architects fees		75,000	120,000	35,000		
City fees				65,000	21,000	
Soils test	43,000					
Appraisal fee	26,000					
Etc.						
Mortgage Draw		60,000	105,000	67,000	19,000	

Q3.

Monthly Cash Flow Report

	Year 1 Jan	Year 1 Feb	Year 1 Mar	Y A	Year 1 Nov	Year 1 Dec	Yearly Total
Sales Revenue							
One Bedrooms	-	-	-		-	600,000	600,000
Two Bedrooms	-	-	-		-	2,720,000	2,720,000
	-	-	-		-	3,320,000	3,320,000
DEVELOPMENT COSTS							
Land Costs							
Land	1,200,000	-	-		-	-	1,200,000
	1,200,000	-	-		-	-	1,200,000
Development							
Site Preparaton	50,000	20,000	-		-	-	70,000
Construction	-	-	300,000	5	480,000	-	3,705,000
Prof. Fees	155,000	40,000	20,000		-	-	271,000
City Fees	235,000	-	-		-	-	270,000
Marketing	-	-	-		10,000	10,000	30,000
Contingencies	4,000	4,000	4,000		4,000	-	44,000
	444,000	64,000	324,000		494,000	10,000	4,390,000
Interest Costs							
Land Loan	4,000	4,000	4,000		4,000	4,000	48,000
Construction Loan	938	5,250	2,688		18,500	18,500	123,250
	4,938	5,250	6,688		22,500	22,500	171,250
Total Development Costs	1,648,938	69,250	330,688	5	516,500	32,500	5,761,250
Financing							
Land Loan							
Borrow. Inflow (+)	600,000	-	-		-	-	600,000
Repay. Outflow (-)	-	-	-		-	-	-
Construction Loan							
Borrow. Inflow (+)	150,000	50,000	230,000		-	-	2,960,000
Repay. Outflow (-)	-	-	-		(2,300,000)	(2,300,000)	
Cash Flow	(896,938)	(19,250)	(100,688)	(1)	(516,500)	987,500	(1,181,250)
Cumulative Cash Flow	(896,938)	(918,188)	(1,018,875)	(1,17)	(2,168,750)	(1,181,250)	
Equity Contribution	898,938	19,250	100,688	1	516,500	-	2,168,750
Account Balance	-	-	-		-	987,500	

Flip side**Development Profit Report**

SALES REVENUE	
One Bedrooms	\$ 1,950,000
Two Bedrooms	5,480,000
Sale Revenue	7,430,000
DEVELOPMENT COSTS	
Land	1,200,000
Site Preparation	70,000
Construction	
Construction costs	3,535,000
Parking	130,000
Landscaping	40,000
	<u>3,705,000</u>
Prof. Fees	271,000
City Fees	270,000
Marketing	150,000
Contingencies	44,000
Financing Interest Costs	
Land Loan	52,000
Construction Loan	127,375
	<u>179,375</u>
Total Development Costs	5,889,375
DEVELOPMENT PROFIT	1,540,625
% of Total Development Costs	26.16%
% of Sale Revenue	20.74%
Maximum Equity	2,168,750
Return on Equity	71.04%
Average Profit per Unit	77,031

Q4.

How do you evaluate Phased Developments?

Flip side

Certain developments such as large scale housing or industrial subdivisions can be phased.

The advantages phased developments are:

Less capital is required than completing the development in one phase

The profits from the first phase can be used to partially fund the next phase, reducing the construction, and interest costs

The development risk is reduced compared to completing the development in one go.

ANALYZING PHASED PROJECTS

Requires developing the monthly cash flows showing the monthly outflows like development costs, inflows from sales over time, and the development of the construction draw mortgages.

END

Analyzing “Mixed Use” developments**Q1.**

What are “Mixed Use” Developments?

Flip side

Mixed Use developments are developments that involve a combination of:

Unit Developments such as condominium and land subdivisions.

Income Property Developments such as rental apartment units, office, industrial and retail developments.

Q2.

What are some examples of “Mixed Use” developments?

Your Answer

Q3.

Why is it difficult to analyze “Mixed Use” Projects using the “Quick Proforma approach?”

Your Answer

Q4.

Is there a way to analyze “Mixed Use” projects using the Quick Proforma approach?

Flip side

To analyze “Mixed Use” developments, analyze the Unit Project and the Income Property component separately, as follows:

1. Allocate the land cost to:
 - a) Unit development
 - b) Income property development
 2. Analyze the Unit Development using the allocated land cost and calculate the development profit
 3. Analyze the Income Property Development using the allocated land cost and calculate the development profit
 4. Calculate the combined development profit
-

Q5.

Analyzing “Mixed Use” developments using the monthly cash flow projection approach

Flip side

The best way to analyze “Mixed Use” projects is to project the development costs and sales revenue sources on a monthly basis using a spreadsheet or Investit Pro real estate analysis software.

END

Sensitivity Analysis

Q1.

What is sensitivity analysis?

Your Answer

Q2.

How can I carry out sensitivity analysis?

Your Answer

Examples:

1. The rent is \$800 per month. If the rent is increased by 10%, what's the financial impact?
 2. The mortgage interest rate is 5%. What happens if it is increased by 10% to 5.50%?
 3. If we paid 10% more for the property, how does that affect the Return on Investment (IRR)?
 4. If the Cap Rate changes by 10% from 6.00% to 6.60%, what's the impact on the property value?
-

Q3.

Show me an example of Sensitivity Analysis

Flip side

Sensitivity analysis. Example

If the Cap Rate changes from 8.00% to 9.00%, that doesn't seem like much, but it reduces the property value by 12.50%. The calculation is $\frac{9\% - 8\%}{8\%} = 12.5\%$

8%

A small change in the Cap Rate creates a large change in value.

When valuing an income property using the Cap Rate approach, it is really important to get an accurate Cap Rate from comparables because the value of the property is highly sensitive to the Cap Rate.

Q4.

Be careful when using Cap Rates to determine the value of a property because the property value is very sensitive to the Cap Rate.

If the Cap Rate is 6% changes to 6.5% which doesn't seem like much the property value will drop by 8.33%

Flip side

Rental building. Net Operating Income (NOI): \$230,000 per year

Asking price is \$4,600,000 which is a 5% Cap Rate

What if the true Cap Rate from comparables is 5.5% instead of 5%?

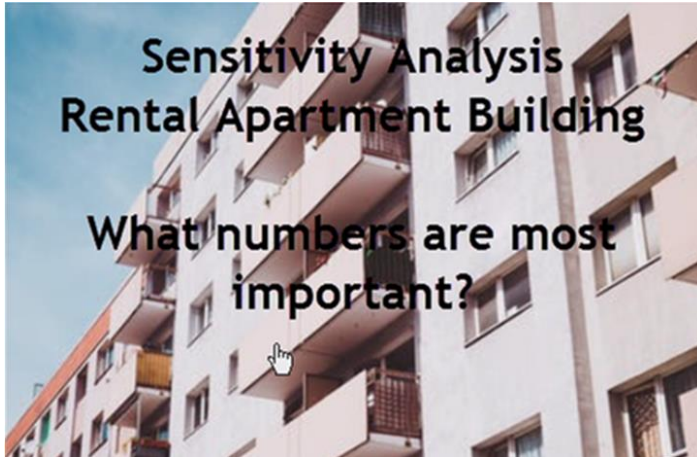
Property value = $\$230,000 / 5.5\%$ Cap Rate = \$4,181,818 or \$418,182 or 9.1% drop in value

The value of an income property is highly sensitive to the Cap Rate.

A small change in a Cap Rate creates large changes in the property value.

When valuing a property using the Cap Rate approach it is really important to get an accurate Cap Rate from comparables.

Q5.

*Your Answer*

Q6.

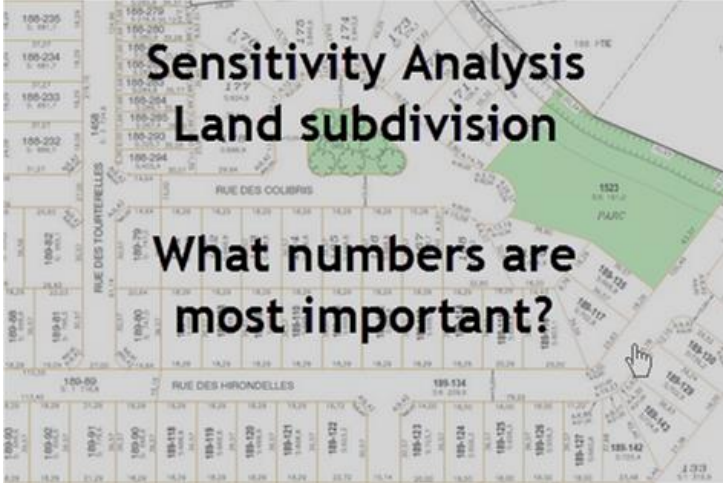
*Your Answer*

Q7.



Your Answer

Q8.



Your Answer

Q9.

What is “What if” analysis?

Your Answer

END

Tips for creating an offer**Q1.**

Creating an offer for a development site is very challenging. Why?
Think about the unknowns facing the developer

Your Answer

Q2.

Make a list of the uncertainties facing a developer that have to be dealt with when creating an offer for a development site.

Think in terms of the development of an office building or condominium development.

Your Answer

ETC.

Q3.

Developing “Subject to” clauses

In developing the offer think in terms of “Unknowns” that will later become “Knowns”

Can you think of a way to handle the uncertainty of how many condominium units or square feet of office space will be approved by the City?

Your Answer

Q4.

Can you think of an objection that the seller might raise to the following “Subject to” clauses.

Condominium unit development

The offer is subject to obtaining a building permit for 35 one bedroom units by a specified date.

Office building development

The offer is subject to obtaining a building permit for a minimum of 35,000 Sq Ft office building by a specified date.

Your Answer

Q5.

There is very old office building on the site with tenants that the developer wants to demolish and build an office building.

What does the developer have to be concerned about?

Your Answer

Q6.

Sellers are often concerned about the developer tying up the property and attempting to flip the property and making a quick profit.

How can you reduce the seller's anxiety about dealing with a potential flipper?

Your Answer

Q7.

In putting together an offer to purchase land that is going to be developed, why is it important to understand:

- A) The City Hall approval process?
- B) The architectural and engineering process?

Your Answer

Q8.

What are the architectural and engineering processes involved in obtaining a building permit?

Flip side

Architectural sketch plans which provide the developer an approximate idea of what can be built on the site. This enables the developer to carry out a development analysis to determine the value of the land.

Architectural plans are submitted for a development permit which are scale drawings that describe the site layout, floor plans, exterior design, building materials and landscape design.

Detailed working drawings and building specifications are prepared by architects and professional engineers are submitted to obtain a building permit.

Professionals involved include:

Registered architects who assumes the overall responsibility and engages:

Structural , electrical and civil engineers

Heating and air conditioning engineers

Geoscientist to carry out soil tests

Landscape architects

Building envelope engineers

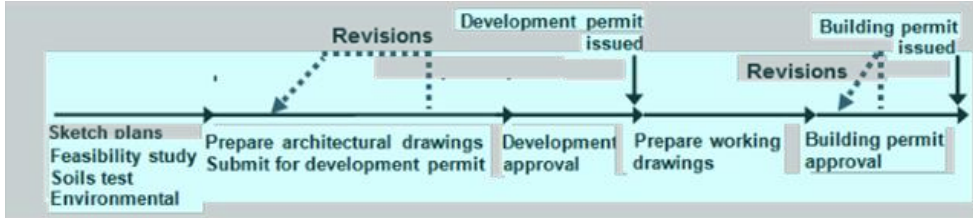
Environmental engineers who deal with site contamination and remediation issues

Q9.

How can you use a time line to help develop the subject removal dates.

Flip side

The time line below a simple example of a development approval time line which can be used to set realistic subject removal dates.



The time line above is a very simple example. The approval process can be far more complex and may involve:

- Rezoning application
- Public hearings
- Approval from other agencies such the Department of Highways etc.

The city requests revision be made and the application resubmitted.

Make sure you allow plenty of time for the approvals. There can be a lot of setbacks that delay the approvals.

Q10.

What the difference between an “Offer to Purchase” and an “Option”?

Your Answer

Q11.

What are the pros and cons for an “Option to Buy” from the developers’ and seller’s perspective?

Flip side

Owner	Developer
OPTION	
Simple contract. Easy and quick to construct	
Loses control over the property for the option period	Maintains control over the property
Doesn't obligate the developer to carry out work such as applying for a development permit, building permit, rezoning	Can decide what to do & when Do nothing, apply for a development permit etc.
Doesn't know what's going on	Can sell at any time
May get more cash than with an offer The owner may be wary of an option and only accept an offer to purchase	Simple, provides a lot of freedom and choices plus the option to buy at any time within the option period
Keep the option period short?	Ideal for flipping the property

Q12.

What are the pros and cons for an “Offer to Purchase” from the developers and seller’s perspective?

Flip side

Owner	Developer
OFFER TO PURCHASE	
More complex and difficult to construct than an option	
Obligates the developer to carry out work such as applying for a development permit, building permit, rezoning by certain dates	Has to meet the terms of the “subject to” clauses and spend the effort and money or the deal collapses
If the developer fails to satisfy the subject clause the owner regains control over the property	The owner may be wary of an option May be easier to negotiate with the owner because of the obligations it places on the developer to perform
Seller is more aware of what the developer is doing	
If the developer is tying up the property to flip the property the owner will find out faster than with an option	

Q13.

What are “Rights”?

How are “Rights” used by developers?

Your Answer

Q14.

What are typical “subject to” clauses?

Your Answer

Q15.

How are deposits and payment for options structured?

Your Answer

Q16.

How are “Extensions” used?

Your Answer

Q17.

What are the issues related to the right to waive a subject clause from the seller's and buyer's perspective?

Flip side

Extensions

What if the developer, despite best efforts, can't remove the subject to clause and needs more time?

The best approach is to build the extension clauses into the "Offer to purchase" or the option ahead of time.

As an example

"The subject to a rezoning permit can be extended for another 3 months upon payment of \$25,000" which is non-refundable"

Q18.

How does a "Right to waiver" or a lack of "Right to waiver" impact the buyer or seller?

Flip side

What if the subject to a development permit being issued by the City by <date> is not satisfied by the specified date...and the value of the property has gone up a lot?

The developer wants to waive this subject and buy the property even though the "Subject to" event hasn't occurred.

The seller wants to escape from the deal and sell at the higher price. Maybe the seller has a backup offer?

The right to waive a subject clause, if appropriate, needs to be built into the offer.

Warning. This is a complex area of law and potential for litigation

Q19.

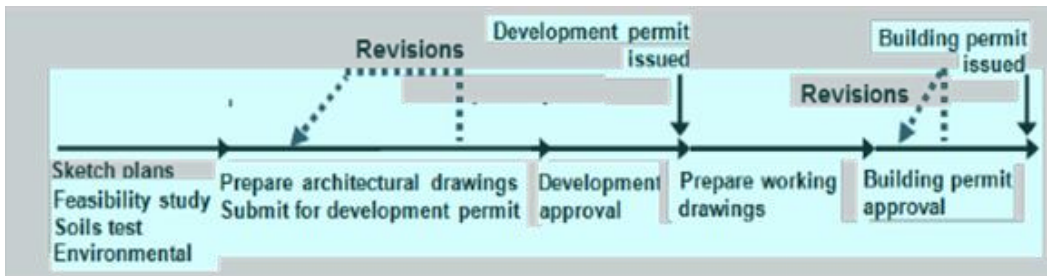
When attempting to assemble several adjacent properties what "Subject to" clauses should be included in each offer?

Your answer

Q20.

Creating the offer. Tips

- Become familiar with the city approval processes, the submission process and the work to be completed and times involved.
- There will be inevitable delays and setbacks that need to be taken into account when developing an offer
- Keep the number of “subject to” clauses to a minimum
- Make sure you allow plenty of time for the city approval processes
- Develop a time line that lays out the work to be done and the permit application process.

**Flip side**

Creating and Offer. Some tips continued.

Put the onus on the developer to perform activities that are under his control within a specified time period.

Example:

- The developer must submit for the “Building Permit” within four months of receiving the “Development Permit”
 - Consider whether to use an “Offer” or an “Option”
 - Effective subject clauses can be difficult to construct and enforce. Consider using a lawyer.
 - The right to “waive” a subject clause needs to be specified into the offer
-

Q21.

Offers on development sites tend to have the following characteristics:

- A long time frame
- Number of sequential subject clauses or options
- Subject clauses create uncertainty and anxiety for the seller
- Seller's don't like flippers

What strategies can be used to help keep an offer together?

Flip side

Seller's don't like flippers.

Consider an anti-flipping clause or a clause where the seller shares a percentage in the flipper's profit.

Potential price changes

Sometimes the land price is adjusted as the developer learns more about the building costs or the city reduces the size of the building.

Example:

The soils test found an unexpected soils problem which will increase the construction cost by \$200,000. The developer wants to reduce the price by \$200,000 or will collapse the deal.

Keep the seller involved and informed on a regular basis. Some suggestions

- Give them a copy of the architectural drawings
- Send them copies of the city permits as they are issued
- Name the development after the family.

Continued on the next flash card.

Q22.

Strategies for keeping the offer together continued...

Flip side

When putting an offer together explain the costs that are being incurred by the developer

The costs can be extensive

E.g. Scale model \$20,000

Architectural and engineering fees: 5% to 12% of the construction costs

Show the seller other projects completed by the developer

The idea is to reassure the seller that the developer is serious and not just tying up the property to flip and make a quick profit

Keeping the seller informed on a regular basis with progress reports in writing may make it easier to get an extension if this becomes necessary because of unexpected delays in the development approval process.

END

Land assemblies**Q1.**

Make a list of:

FIXED BUILDING COSTS

Costs that don't change with the size of the building

VARIABLE BUILDING COSTS

Costs that depend on the size of the building

Your Answer**FIXED BUILDING COSTS**

Costs that don't change with the size of the building

VARIABLE BUILDING COSTS

Costs that depend on the size of the building

Q2.

Can you think of some development costs which are fixed to a certain point then increase at some point as the building size increases?

Called "Semi-variable" costs.

Your Answer

Q3.

Explain “Economies of Scale” and how the concept applies to real estate development and land assemblies.

Your Answer

Q4.

How do “Fixed building costs” and “Economies of scale” influence land assemblies and acquisition strategies?

Your Answer

ECONOMIES OF SCALE

FIXED COSTS

Q5.

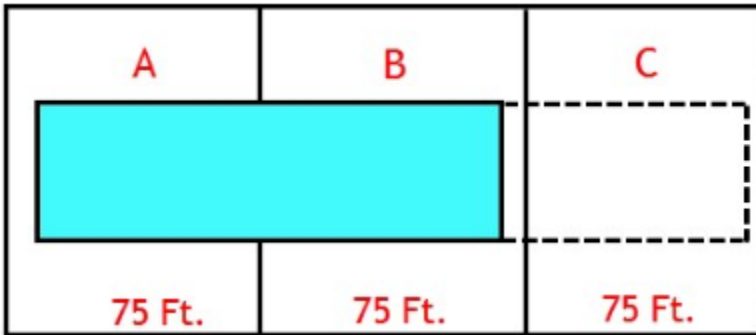
A developer has acquired lots A and B and has had a preliminary design for a three floor condominium development.

The developer wants to include lot C in the development, but the owner of lot C wants a much higher price than lots A & B.

Questions.

Q1. How would you suggest the developer goes about analyzing whether to buy lot C?

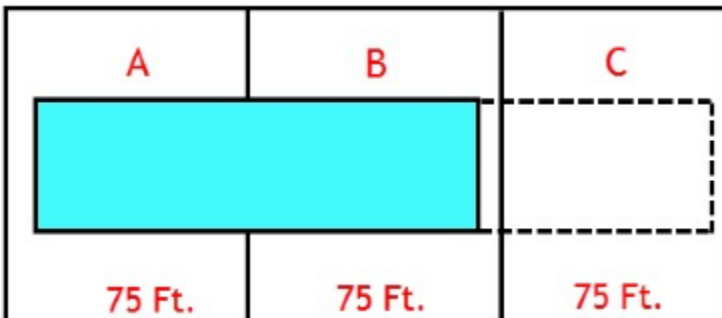
Q2. Can you think of a way to encourage the owner of lot C to sell?



Your Answer

Q1. How to analyze buying lot C.

Q2. Can you think of a way to encourage the owner of lot C to sell?

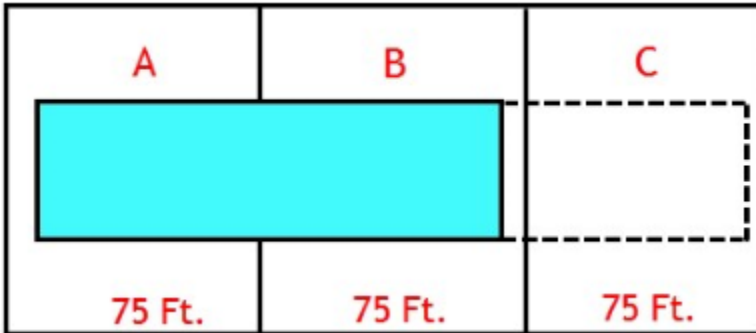


Q6.

List the advantages of developing lots A,B & C compared:

Developing lots A & B

Developing lot C



Your Answer

Q7.

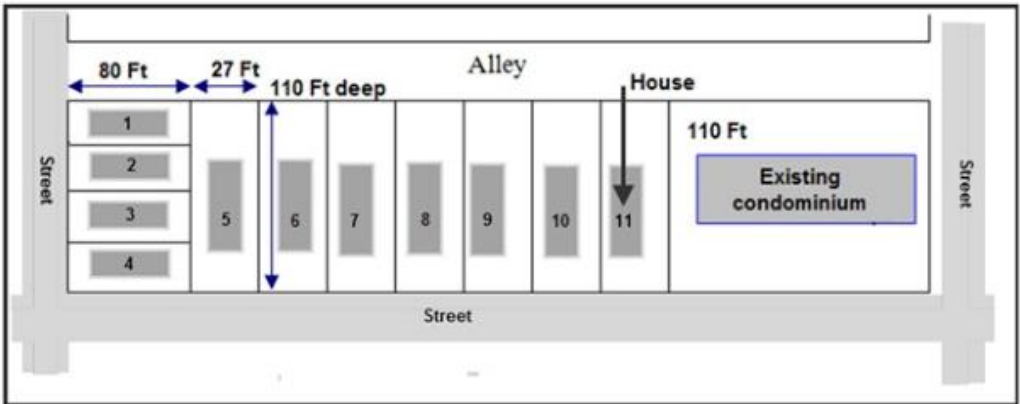
Exercise:

Eleven houses have the potential to be assembled by a developer to build a condominium project. Each home is worth \$500,000.

You can afford to buy one of the homes for \$500,000 and rent it out and hopefully sometime in the future sell it to a developer and make lots of money.

Zoning is Multi-family.

Which house would you buy to make the most money?



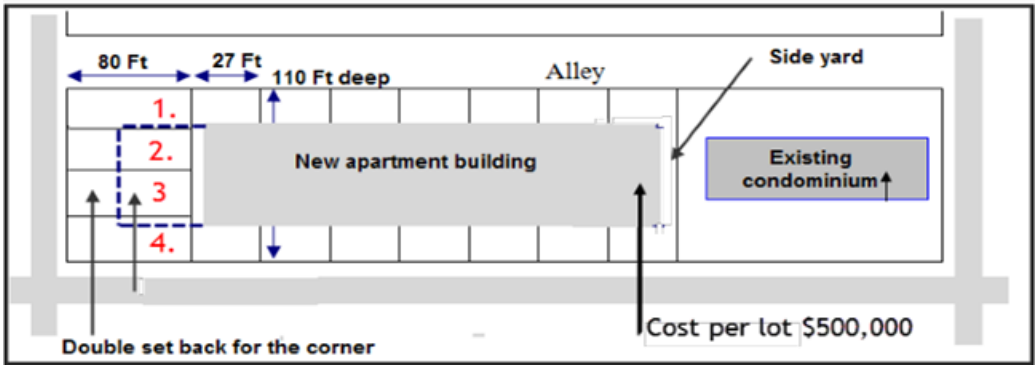
Your Answer

Q8.

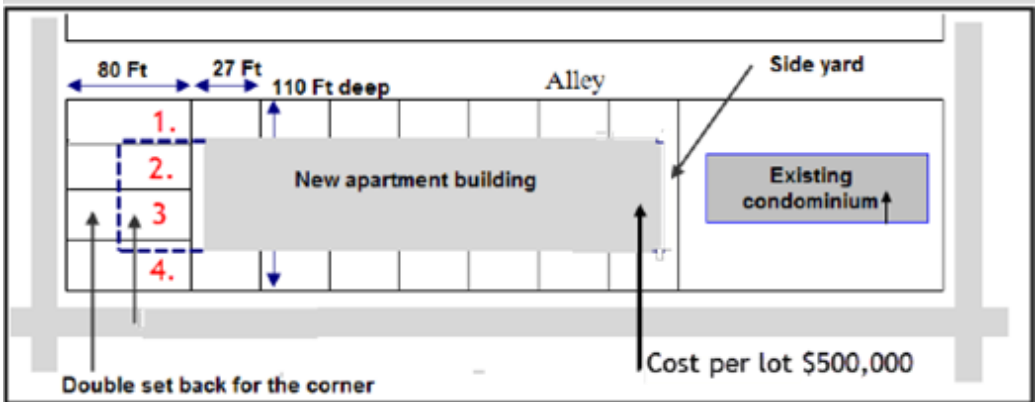
Land assembly. True case study.

The potential land assembly consisted eleven lots with a house on each lot. All the homes were listed for sale. The price for each home was around \$500,000.

Do you think the developer should acquire lots 1, 2, 3 & 4 as part of the land assembly?



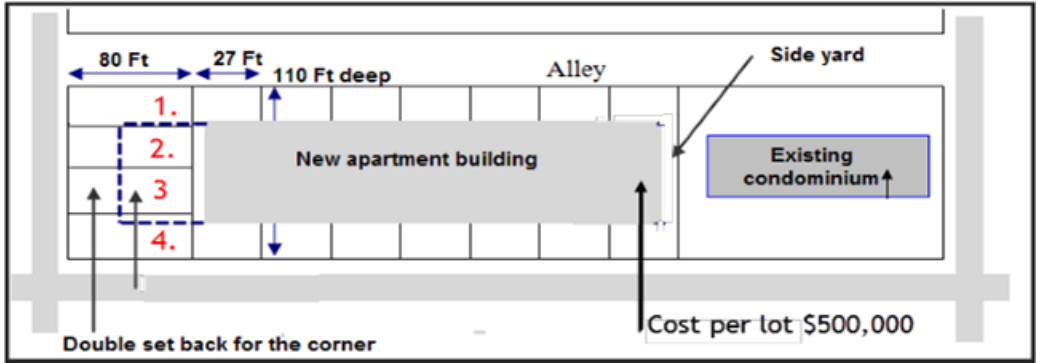
Your Answer



Q10.

Why did the development profit drop when the four end lot were added to the assembly.

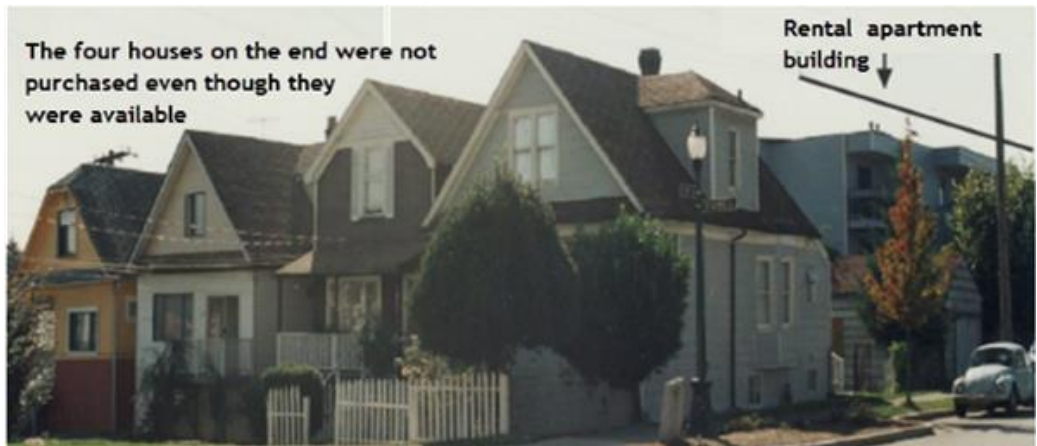
What did the developer decide?

***Flip side***

The developer decided not to buy the four end lots because the economics of adding the four end lots didn't work.

Many years later the four end lots remain as houses.

The highest and best use for the four end lots is single family homes, even though the zoning is multifamily.



Q10.

What's a "Blocking" strategy?

Your Answer

Q11.

TIP. Be on the constant lookout for assembly potential. Why?

Your Answer

Q12.

A realtor had a listing on a large site and wondered how to determine the value of the land. A consultant made the following observations upon visiting the site.

1. Zoning. Townhomes
2. Two large live Oak trees which had to be protected
3. Deep drainage ditch on the right side of the property. Suggests water problems and the need for a retention pond

Building around the two live oak trees and providing a retention pond increases construction costs and significantly reduces the buildable area and land value.

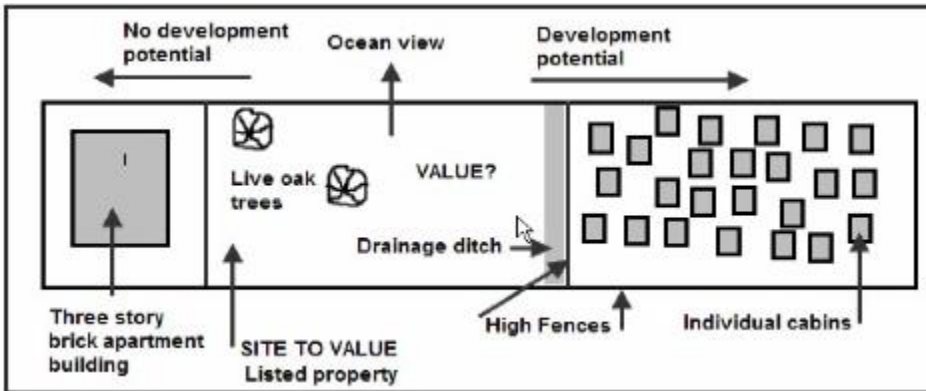
The consultant then looked to see if there was a land assembly potential by observing what was on either side of the property?

Flip side

Always look for development potential. What is beside and behind the site. Is there a potential land assembly?

Property to the left. Has an existing, relatively new, three story brick apartment building. No development potential.

Property to the right. There was a high fence surrounding the property. The site is large and has a cluster of small old cabins. Clearly not operating at the highest and best use.

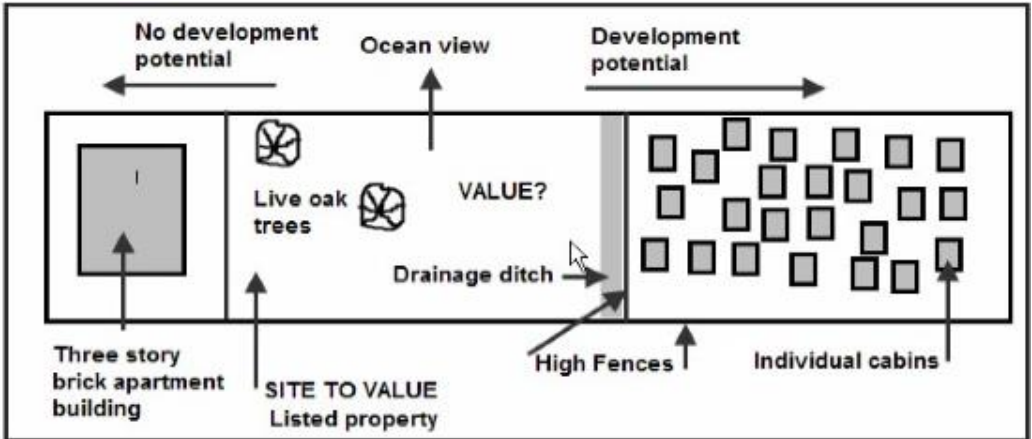


The consultant recommended finding out if the site on the right could be purchased.

Q13.

How would you go about determining:

1. The value of the site?
2. The value of a land assembly created by acquiring the site on the right of the listed property?



Your Answer

Q14.

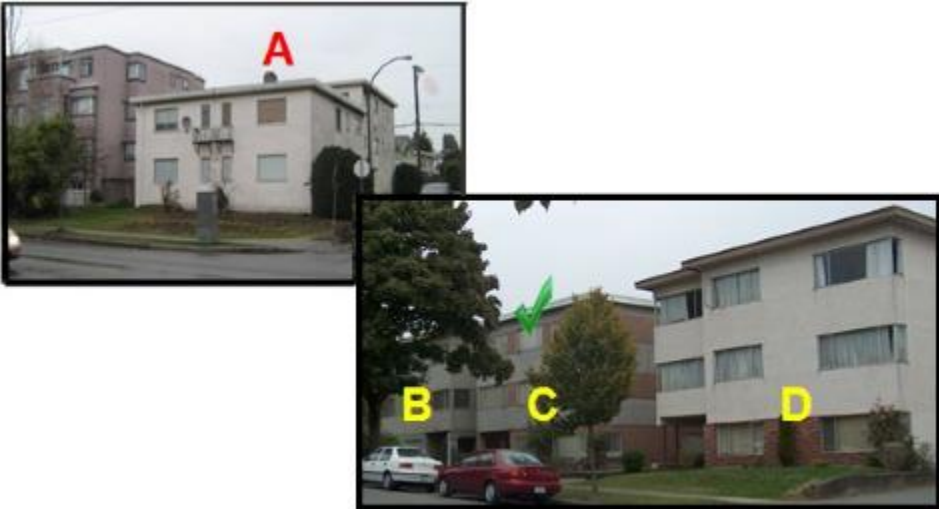
When purchasing an older income property, should the buyer think about long term assembly potential?

Flip side

When purchasing an older income property, should the buyer think about long term assembly potential? YES

Which property is best to buy A, B, C and D?

Property A is a non conforming old rental apartment building. If it was destroyed it would be difficult to replace. Current zoning would require underground parking, front and side yard set back. There is no assembly potential because the building to the left is a relatively new condominium building. A poor and risky investment.



Properties B, C, and D all have long-term assembly potential. Assembling any two side-by-side buildings, B & C or C & D would provide a nice-sized condominium development.

The best choice would be C, the property.

Q15.

Why is developing a land assembly challenging?

Your Answer

Q16.

What is the impact of land assemblies on property values?

Your Answer

Q17.

What strategies can you use for “Hold Outs”?

Your Answer

Holdouts are the property owners who want to sell but are asking an unrealistic price.

Q18.

True case.

Strategy used to encourage a “holdout” to accept the developer’s offer and be part of the assembly.

Flip side

The developer had the houses on lots 6 to 10 under contract

It was not economical to buy the four homes on the end. Why? See flashcard No.10

Lot 11 was not available. The owner had lived there all his life and didn’t want to sell

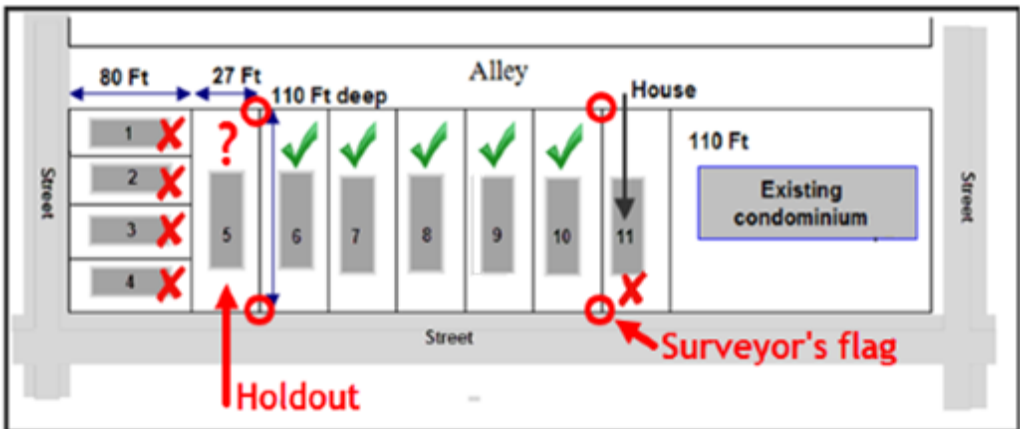
The “holdout” was lot 5, who want far too much money for his home.

The developer explained to the “holdout” that time was running out and that this home is worth a lot more as part of the development. He didn’t budge.

When the surveyors were going out to survey the assembly, the developer asked them to exclude the “holdout’s” land from the survey using the survey stakes with red flags.

The next day the “holdout” turned up at the developer’s office and signed the offer.

The surveyor’s flag stake provided tangible evidence that the developer was prepared to proceed without the “holdovers” property.



Q19.

Some examples of what can happen to “Holdouts”

Flip side



END