

ARCH 527 Exercise Building Costs Worksheet

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Project Data Sheet

1. Total Site Area Square Footage (TSASF)

85,100 sqft

2. Total Building Gross Square Footage (TBGSF) Include roof terraces and balconies if you have them.

210,720 sqft

3. FAR Floor Area Ratio. $FAR = TBGSF / TSASF$

2.47

4. Site Coverage Ratio. Building Footprint Square Footage / Total Site Area Square Footage

85,100 sqft

5. Impervious Cover Ratio. Building Footprint + All Paved Surfaces / Total Site Area Square Footage

85,100 sqft

(However, both Market roof and residential courtyard are provided with rainwater harvesting system)

6. Net residential Square Footage.

- a. Total Building Gross Square Footage minus the square footage of
 - i. Hallways and dedicated horizontal circulation
 - ii. Stairs, elevators and all vertical circulation not contained in units
 - iii. Any voids, openings, mechanical shafts etc.

98,802sqft

7. Net Leasable / Saleable Square Footage

- a. Net Building Square Footage minus any mechanical rooms, building storage or other non leasable or sale able spaces in your project.

76,000 Sqft

8. Total number of residential units in your project

144 UNITS

9. Summary of unit types and their sizes

- a. **Studio**
37 units
336sqft

- b. **1 Bedroom unit**
44 units
560sqft

c. 2 Bedroom unit

27 units

820 sqft

d. 3 Bedroom unit (type A)

18 units

1100 sqft

e. 3 Bedroom unit (type B)

18 units

1100 sqft

10. Total built area - **210, 730 sqft**

11. Total Building Facade Square Footage

97,200 sqft

12. Percentage of Facade Windows / Glass: Total Glass-Window Area / Total Facade Square Footage

85%

13. Structural System(s) used in project

Parking structure is made of cast-in-place concrete.

All other structures are composed of Glulam and CLT.

14. Active Mechanical Systems used in your building

Centralised HVRF heating and cooling system

Heat recovery unit

15. Total number of elevators in your building, their load capacity and type

5 Otis gen2 Hoist elevators with 2100lbs capacity

16. Additional number of bathrooms in your building beyond the baseline number of one-per-unit.

7 public restrooms

Building Cost Estimate Worksheet (Calculated or residential building only)

Area Modification Factor (AMF) from the 2017 National Building Cost Manual (NBCM)

7%

Building Cost Historical Index (HCI) from the 2017 NBCM

For Your Birth Year: Wood frame building 1994 - **2.02**

For Your Parent's Birth Year: Wood frame building 1965 - **9.00**

Quality Classification: Multi-Family Residences–Apartments from NBCM

Quality Class 2

Provide a brief summary as to why and how your team selected this Quality Classification for your project.

CLT and Glulam construction is a modern, upcoming technique that will require higher workmanship and details.

Base Per Square Foot Cost for Your Average Unit Area Based on NBCM Tables for Multi-Family

Residences.

\$98.10

Indicate from which table in the NBCM resources your selected this number.

Multi Family Residences - Apartments 10 or more units

Total Unit Area X Base Per Square Footage Cost + Cost Modification Factors

$98,802 \times 98.10 \times 1.07 = \$10,373,063$

Average unit cost

$\$10,737,063 / 144 \text{ units} = \$74,563$

Additional Costs to add to your Base Overall residential Building Cost: Elevators

Number of elevators your have in your project by type

4

Elevator(s) Base Cost(s)

\$121,000

Determine the number of floors / stops your elevators will travel

3-7

Total Elevator Cost per car / shaft

\$121,000

Multiply your Total Elevator Cost(s) by the number / types of elevators in your project.

$\$121,000 \times 4 = \$484,000$

Estimated Residential Building Cost

$\$10,373,063 + \$484,000 = 10,857,063$

Historical Cost Index

HCI Your Birth Year

2.02

Estimated Residential Building Cost

\$5,374,783.

HCI Your Parent's Birth Year

9.00

Estimated Building Cost for Your Parent's Birth Year

\$374,381

Inflation Adjusted Building Cost for Your Birth Year

\$9,328,186

Inflation Adjusted Building Cost for Your Parent's Birth Year

\$2,882,231