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This chapter provides the guidelines for establishing the true tax value of residential yard and agricultural yard structures. This chapter includes guidelines for collecting and recording the physical characteristics of each type of yard structure, the procedures necessary to calculate the replacement cost of each yard structure, and the procedures necessary to calculate the true tax value of each yard structure.

Step-by-step instructions indicate how to enter information about residential and agricultural yard structures in the "Summary of Non-Residential Improvements" section of the property record card. The necessary depreciation tables and cost schedules are provided in Appendix B and Appendix C.

Residential yard structures include:

- utility sheds
- greenhouses
- tennis courts
- stables
- boat houses
- gazebos
- car sheds
- bath houses
- detached garages
- exterior features valued as yard items
- geothermal heating and cooling systems
- solar heating and cooling systems
- in-ground swimming pools
- above-ground swimming pools
- swimming pool enclosures

Agricultural yard structures include:

- dairy barns
- feed lots
- silos
- steel grain bins
- granaries
- milk houses
- milking parlors
- tobacco barns
- quonset buildings
- wire corn cribs
- slurry tanks
- lean-tos
- veal confinement facilities
- trench and bunker silos
- bank and flat barns
- chicken, duck, and turkey barns
- hog confinement facilities
- poultry confinement facilities
- poultry houses, non-confinement
- frame corn cribs, free-standing type
- frame corn cribs, drive-through type
- potato storage buildings
- butler low-moisture silage silos
- general purpose pole-framed barns and machine sheds

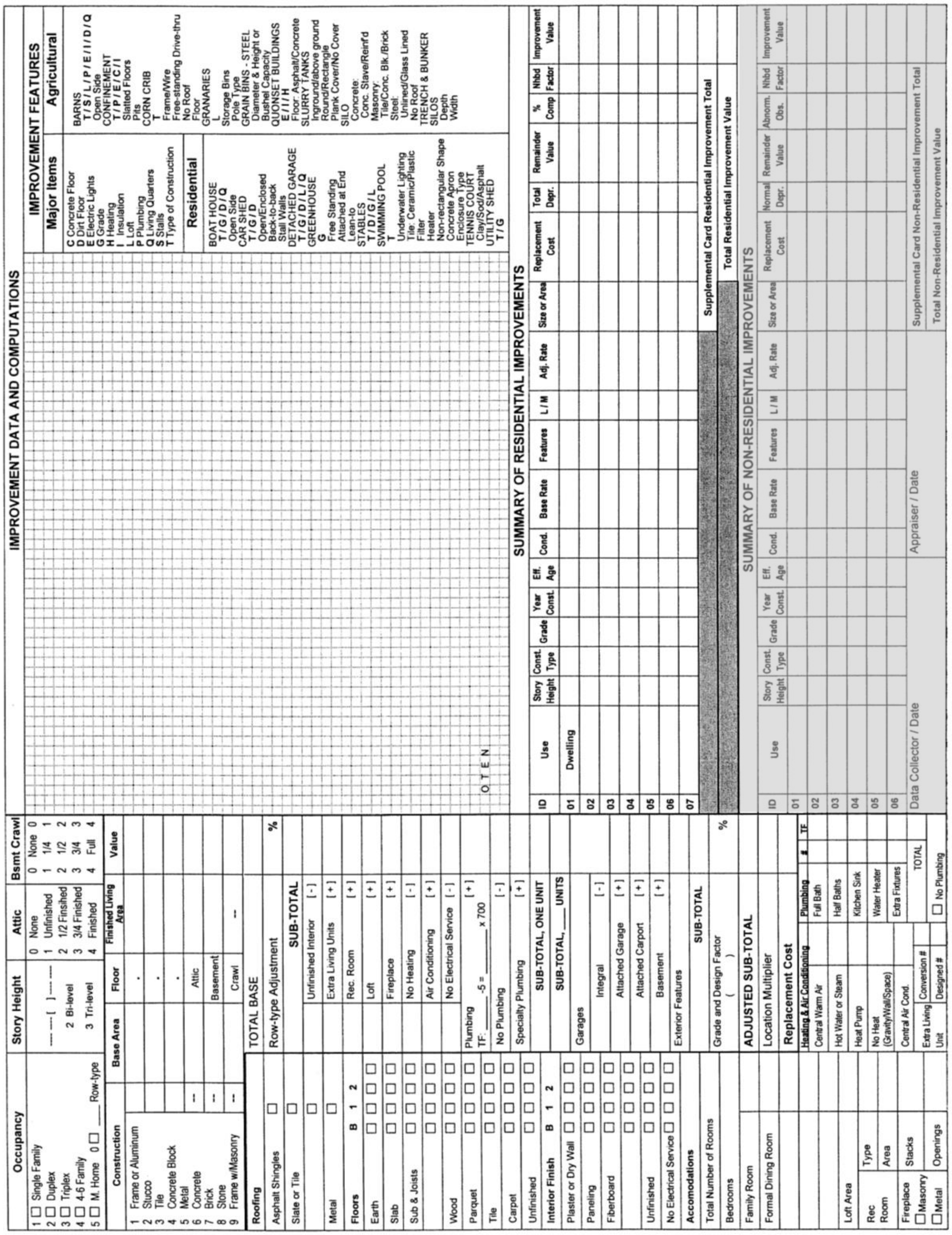
Completing a Property Record Card

The valuation of residential and agricultural yard structures is recorded in the “Summary of Non-Residential Improvements” section of the property record card, shown in Figure 5-1. Space is provided in the table to itemize each structure. Each row corresponds to one particular structure. The improvement value of all of the structures is totaled at the bottom of the table.

Note: If the property has more structures than there are rows in this section of the property record card, use an additional card (or cards) to describe those structures.

The steps for completing the property record card for residential and agricultural yard structures are grouped into the following tasks, described in the sections below:

- Task 1-Record information about the structure.
- Task 2-Determine the base rate for the structure.
- Task 3-Determine the adjusted base rate and replacement cost for the structure.
- Task 4-Calculate the remainder value of the structure.
- Task 5-Calculate the improvement value of the structure.
- Task 6-After performing Task 1 through Task 5 for each structure on the property, calculate the total non-residential improvement value for the property.



IMPROVEMENT DATA AND COMPUTATIONS

Occupancy	Story Height	Attic	Bsmt Crawl
1 ☐ Single Family 2 ☐ Duplex 3 ☐ Triplex 4 ☐ 4-6 Family 5 ☐ M. Home 0 ☐ ____ Row-type	---- ---- [ ] ---- ---- 2 Bi-level 3 Tri-level	0 None 1 Unfinished 2 1/2 Finsihed 3 3/4 Finished 4 Finished	0 None 0 1 1/4 1 2 1/2 2 3 3/4 3 4 Full 4

Construction		Base Area	Floor	Finished Living Area	Value
1 Frame or Aluminum 2 Stucco 3 Tile 4 Concrete Block 5 Metal 6 Concrete 7 Brick 8 Stone 9 Frame w/Masonry			.		
			.		
			.		
	--		Attic		
	--		Basement		
	--		Crawl	--	

Roofing			
Asphalt Shingles ☐	TOTAL BASE		
Slate or Tile ☐	Row-type Adjustment		%
☐		SUB-TOTAL	
Metal ☐		Unfinished Interior [-]	
Floors B 1 2		Extra Living Units [+]	
Earth ☐ ☐ ☐ ☐		Rec. Room [+]	
Slab ☐ ☐ ☐ ☐		Loft [+]	
Sub & Joists ☐ ☐ ☐ ☐		Fireplace [+]	
☐ ☐ ☐ ☐		No Heating [-]	
Wood ☐ ☐ ☐ ☐		Air Conditioning [+]	
Parquet ☐ ☐ ☐ ☐		No Electrical Service [-]	
Tile ☐ ☐ ☐ ☐	Plumbing [+] TF: ______ -5 = ________ x 700		
Carpet ☐ ☐ ☐ ☐	No Plumbing [-]		
Unfinished ☐ ☐ ☐ ☐	Specialty Plumbing [+]		
Interior Finish B 1 2	SUB-TOTAL, ONE UNIT		
Plaster or Dry Wall ☐ ☐ ☐ ☐	SUB-TOTAL, ____ UNITS		
Paneling ☐ ☐ ☐ ☐	Garages		
Fiberboard ☐ ☐ ☐ ☐		Integral [-]	
☐ ☐ ☐ ☐		Attached Garage [+]	
Unfinished ☐ ☐ ☐ ☐		Attached Carport [+]	
No Electrical Service ☐ ☐ ☐ ☐		Basement [+]	
Accomodations	Exterior Features		
Total Number of Rooms		SUB-TOTAL	
Bedrooms	Grade and Design Factor ( )		%
Family Room	ADJUSTED SUB-TOTAL		
Formal Dining Room	Location Multiplier		
	Replacement Cost		

		Heating & Air Conditioning		Plumbing	#	TF
		Central Warm Air		Full Bath		
Loft Area		Hot Water or Steam		Half Baths		
Rec Room	Type	Heat Pump		Kitchen Sink		
	Area	No Heat (Gravity/Wall/Space)		Water Heater		
Fireplace ☐ Masonry	Stacks	Central Air Cond.		Extra Fixtures		
☐ Metal	Openings	Extra Living Unit	Conversion # Designed #	TOTAL ☐ No Plumbing		

O T E N

IMPROVEMENT FEATURES

Major Items

C Concrete Floor
D Dirt Floor
E Electric Lights
G Grade
H Heating
I Insulation
L Loft
P Plumbing
Q Living Quarters
S Stalls
T Type of Construction

Residential

BOAT HOUSE
T / G / D / Q
Open Side
CAR SHED
T / G / D
Open/Enclosed
Back-to-back
Stall Walls
DETACHED GARAGE
T / G / D / L / Q
GREENHOUSE
G
Free Standing
Attached at End
Lean-to
STABLES
T / D / G / L
SWIMMING POOL
T
Underwater Lighting
Tile: Ceramic/Plastic
Filter
Heater
Non-rectangular Shape
Concrete Apron
Enclosure Type
TENNIS COURT
Clay/Sod/Asphalt
UTILITY SHED
T / G

Agricultural

BARNS
T / S / L / P / E / I / D / Q
Open Side
CONFINEMENT
T / P / E / C / I
Slatted Floors
Pits
CORN CRIB
T
Frame/Wire
Free-standing Drive-thru
No Roof
Floor
GRANARIES
L
Storage Bins
Pole Type
GRAIN BINS - STEEL
Diameter & Height or
Bushel Capacity
QUONSET BUILDINGS
E / I / H
Floor: Asphalt/Concrete
SLURRY TANKS
Inground/above ground
Round/Rectangle
Plank Cover/No Cover
SILO
Concrete:
Conc. Stave/Reinf'd
Masonry:
Tile/Conc. Blk./Brick
Steel:
Unlined/Glass Lined
No Roof
TRENCH & BUNKER
SILOS
Depth
Width

SUMMARY OF RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L / M	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Nhbd Factor	Improvement Value
01	Dwelling																	
02																		
03																		
04																		
05																		
06																		
07																		

Supplemental Card Residential Improvement Total

Total Residential Improvement Value

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L / M	Adj. Rate	Size or Area	Replacement Cost	Normal Depr.	Remainder Value	Abnorm. Obs.	Nhbd Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		

Data Collector / Date

Appraiser / Date

Supplemental Card Non-Residential Improvement Total

Total Non-Residential Improvement Value

Figure 5-1. Summary of Non-Residential Improvements Section

Task 1—Recording Information

In this task, you provide descriptive information about the characteristics of the structure. The shading in Figure 5-2 indicates the columns of the “Summary of Non-Residential Improvements” table that you complete in this task.

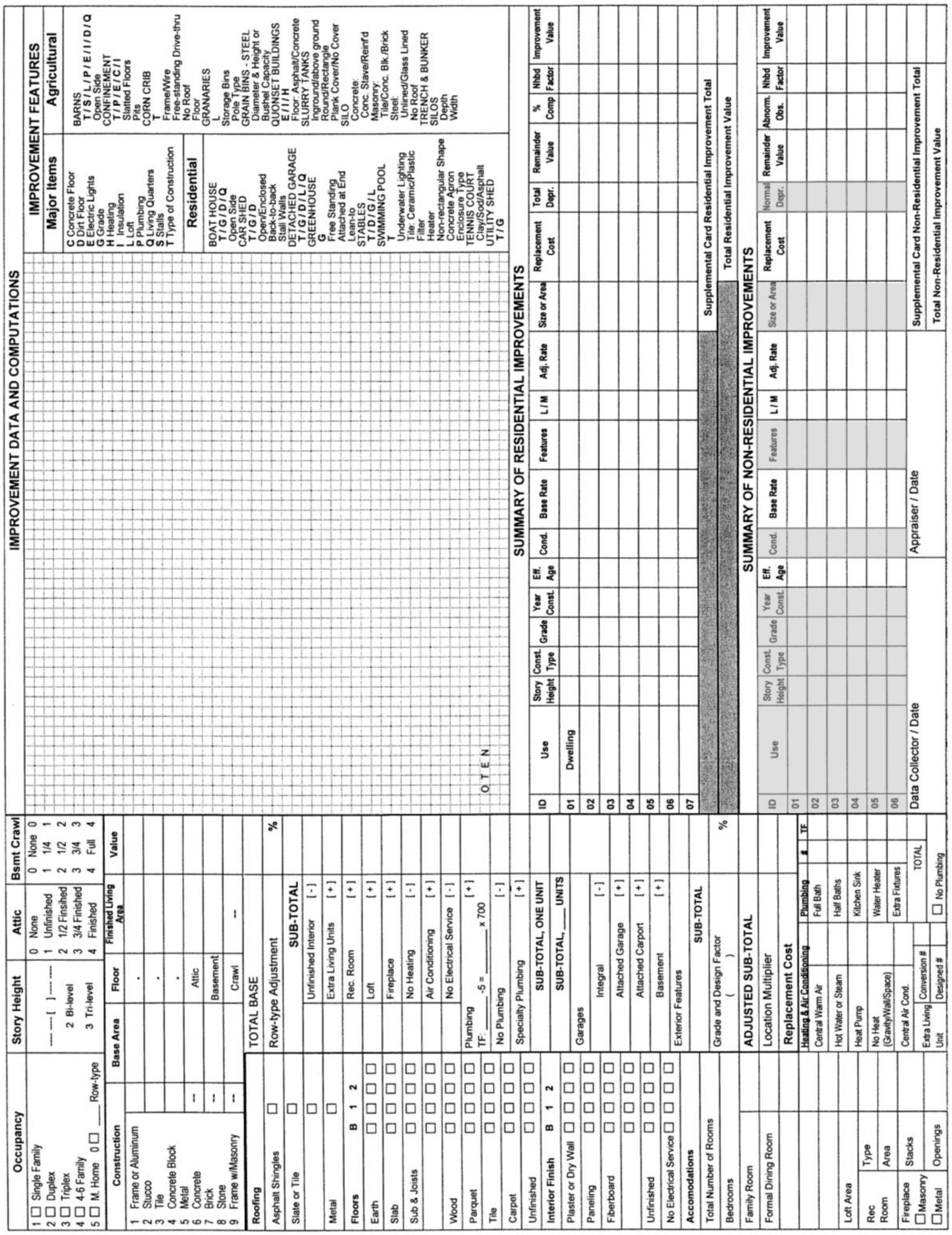


Figure 5-2. Columns Completed in Task 1

To record information about the structure, perform these steps:

Step 1 In the “ID” column, select an identification number for the structure. Record the information about the structure in the row corresponding to this identification number. Also, use this number to identify the location of the individual structure relative to the dwelling or other structures in the sketch area.

Note: It is ***not*** necessary to sketch the structure to scale or to show the dimensions of the structure in the sketch area.

Step 2 In the “Use” column, enter the predominant use of the structure

Step 3 In the “Story Height” column, enter the height of the structure in feet, measured from the top of the floor to the eaves.

Step 4 In the “Const. Type” column, enter the type of exterior wall construction used for the structure. The exterior wall construction options are

- Frame or aluminum (Fr)
- Stucco (Stco)
- Tile (Tile)
- Concrete block (CB)
- Metal (Mtl)
- Concrete (Conc)
- Brick (Br)
- Stone (Stn).

Step 5 In the “Grade” column, enter the grade for the structure. Inforrmation about determining the grade for a structure is provided in Appendix A.

Step 6 In the “Year Const.” column, indicate when the structure was originally constructed. Follow these guidelines:

- If you are sure of the date, enter just the date, for example “1990”.
- If you (the assessing official) must estimate the date, enter the date followed by a question mark, for example “1985?”.
- If the owner estimates the date, enter the date followed by “+/–”, for example “1985+/–”.
- Enter “Old” to indicate construction prior to:
  - — 1938 if the structure is depreciated from the 40 year life expectancy table
  - — 1953 if the structure is depreciated from the 30 year life expectancy table
  - — 1969 if the structure is depreciated from the 20 year life expectancy table
  - — 1974 if the structure is depreciated from the in-ground swimming pool depreciation table

— 1989 if the structure is depreciated from the above-ground swimming pool depreciation table.

Step 7 *Swimming pools only*. *If the pool shows excessive physical deterioration for its age and you have subtracted six (6) years from its construction year, you must enter the new year in the "Eff. Age"* column. This is explained in the section ***Using the Swimming Pools Depreciation Tables*** in Appendix B.

If the effective age of the pool is the same as the actual age, leave this column blank.

Step 8 In the "Cond." column, enter the code indicating the assigned condition of the structure. Table 5-1 describes the codes for this column.

Table 5-1. Condition Ratings for Yard Improvements

Classification	Indicated Depreciation
Excellent	The structure is in like-new physical condition and has been well maintained. It has been modernized and updated and suffers from no inutilities.
Good	The structure has been maintained in better physical condition than the majority of structures of its age and suffers from no deferred maintenance. It offers more amenities and has better utility than the majority of the structures of its design.
Average	The structure has been maintained like and is in the typical physical condition of the majority of structures of its age. It offers the same utility as the majority of the structures of its design.
Fair	The structure suffers from minor deferred maintenance and demonstrates less physical maintenance than the majority of structures of its age. It suffers from minor inutilities in that it lacks an amenity that the majority of structures of its design offer.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its design offer. However, it is still being put to some use in the farming operation.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is near the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer. Poor location for the type of structure.

Note: Instructions for determining the condition rating for a structure are provided in Appendix B.

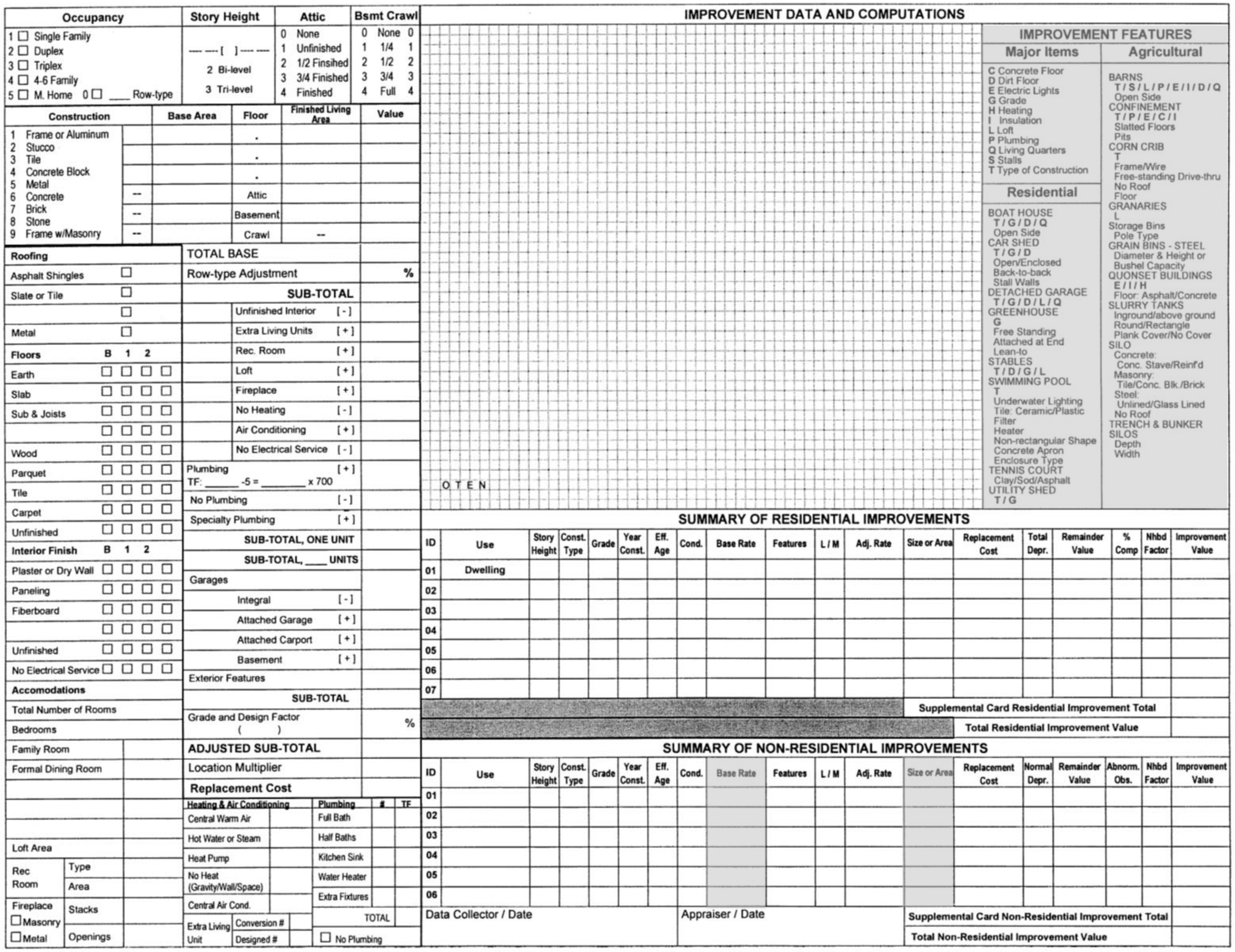
Step 9 In the “Features” column, enter the abbreviations for any features that alter the base rate for the structure. For a list of features for each type of structure, refer to the section “Improvement Features” on the property record card, shown in Figure 5-3.

Step 10 In the “L/M” column, enter the location multiplier for your county, which can be found in Table C-1 in Appendix C.

Step 11 In the “Size or Area” column, enter the size or area of the structure. “Size” refers to the dimensions of the structure, such as length and width, or diameter and height. “Area” refers to the square foot ground area of the structure.

To determine whether to enter the size (and if size is used, exactly which dimensions) or the area of the structure, refer to the cost schedule for the structure type. Measure the dimensions and use the same units of measurement as the appropriate cost schedule uses.

Step 12 In the “Normal Depr.” column, enter the total depreciation from the appropriate depreciation table. Information about evaluating depreciation is provided in Appendix B.



Occupancy
1 ☐ Single Family
2 ☐ Duplex
3 ☐ Triplex
4 ☐ 4-6 Family
5 ☐ M. Home 0 ☐ ___ Row-type

Story Height
---- ---- [ ] ---- ----
2 Bi-level
3 Tri-level

Attic
0 None
1 Unfinished
2 1/2 Finsihed
3 3/4 Finished
4 Finished

Bsmt Crawl
0 None 0
1 1/4 1
2 1/2 2
3 3/4 3
4 Full 4

Construction | Base Area | Floor | Finished Living Area | Value
1 Frame or Aluminum
2 Stucco
3 Tile
4 Concrete Block
5 Metal
6 Concrete
7 Brick
8 Stone
9 Frame w/Masonry
Attic
Basement
Crawl

Roofing
Asphalt Shingles ☐
Slate or Tile ☐
☐
Metal ☐
Floors B 1 2
Earth ☐ ☐ ☐ ☐
Slab ☐ ☐ ☐ ☐
Sub & Joists ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐
Wood ☐ ☐ ☐ ☐
Parquet ☐ ☐ ☐ ☐
Tile ☐ ☐ ☐ ☐
Carpet ☐ ☐ ☐ ☐
Unfinished ☐ ☐ ☐ ☐
Interior Finish B 1 2
Plaster or Dry Wall ☐ ☐ ☐ ☐
Paneling ☐ ☐ ☐ ☐
Fiberboard ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐
Unfinished ☐ ☐ ☐ ☐
No Electrical Service ☐ ☐ ☐ ☐
Accomodations
Total Number of Rooms
Bedrooms
Family Room
Formal Dining Room
Loft Area
Rec Room Type
Area
Fireplace ☐ Masonry ☐ Metal Stacks
Openings

TOTAL BASE
Row-type Adjustment %
SUB-TOTAL
Unfinished Interior [-]
Extra Living Units [+]
Rec. Room [+]
Loft [+]
Fireplace [+]
No Heating [-]
Air Conditioning [+]
No Electrical Service [-]
Plumbing [+]
TF: ______ -5 = ________ x 700
No Plumbing [-]
Specialty Plumbing [+]
SUB-TOTAL, ONE UNIT
SUB-TOTAL, ___ UNITS
Garages
Integral [-]
Attached Garage [+]
Attached Carport [+]
Basement [+]
Exterior Features
SUB-TOTAL
Grade and Design Factor ( ) %
ADJUSTED SUB-TOTAL
Location Multiplier
Replacement Cost

Heating & Air Conditioning
Central Warm Air
Hot Water or Steam
Heat Pump
No Heat (Gravity/Wall/Space)
Central Air Cond.
Extra Living Unit Conversion #
Designed #

Plumbing | # | TF
Full Bath
Half Baths
Kitchen Sink
Water Heater
Extra Fixtures
TOTAL
☐ No Plumbing

IMPROVEMENT DATA AND COMPUTATIONS
O T E N

IMPROVEMENT FEATURES
Major Items
C Concrete Floor
D Dirt Floor
E Electric Lights
G Grade
H Heating
I Insulation
L Loft
P Plumbing
Q Living Quarters
S Stalls
T Type of Construction

Residential
BOAT HOUSE
T / G / D / Q
Open Side
CAR SHED
T / G / D
Open/Enclosed
Back-to-back
Stall Walls
DETACHED GARAGE
T / G / D / L / Q
GREENHOUSE
G
Free Standing
Attached at End
Lean-to
STABLES
T / D / G / L
SWIMMING POOL
T
Underwater Lighting
Tile: Ceramic/Plastic
Filter
Heater
Non-rectangular Shape
Concrete Apron
Enclosure Type
TENNIS COURT
Clay/Sod/Asphalt
UTILITY SHED
T / G

Agricultural
BARNS
T / S / L / P / E / I / D / Q
Open Side
CONFINEMENT
T / P / E / C / I
Slatted Floors
Pits
CORN CRIB
T
Frame/Wire
Free-standing Drive-thru
No Roof
Floor
GRANARIES
L
Storage Bins
Pole Type
GRAIN BINS - STEEL
Diameter & Height or Bushel Capacity
QUONSET BUILDINGS
E / I / H
Floor: Asphalt/Concrete
SLURRY TANKS
Inground/above ground
Round/Rectangle
Plank Cover/No Cover
SILO
Concrete:
Conc. Stave/Reinf'd
Masonry:
Tile/Conc. Blk./Brick
Steel:
Unlined/Glass Lined
No Roof
TRENCH & BUNKER
SILOS
Depth
Width

SUMMARY OF RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L / M	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Nhbd Factor	Improvement Value
01	Dwelling																	
02																		
03																		
04																		
05																		
06																		
07																		

Supplemental Card Residential Improvement Total
Total Residential Improvement Value

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L / M	Adj. Rate	Size or Area	Replacement Cost	Normal Depr.	Remainder Value	Abnorm. Obs.	Nhbd Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		

Data Collector / Date
Appraiser / Date
Supplemental Card Non-Residential Improvement Total
Total Non-Residential Improvement Value

Figure 5-3. Improvement Features

Task 2—Determining the Base Rate

You determine the base rate of the structure using the cost schedule for the appropriate type of structure. The cost schedules for residential and agricultural yard structures are provided in Appendix C.

The cost schedules provide either whole dollar or square foot unit values. The schedules are based on a "C" grade unless otherwise specified. Each schedule includes base rates for the typical range of size or configuration for the type of structure.

The rates given, unless otherwise specified, apply to detached, free standing structures. **For attached structures, not identified as such in the pricing schedules, apply the following multipliers to the price derived from the pricing schedules:**

(1) If one (1) end or the shortest length is attached, multiply by ninety-hundredths (.90).

(2) If one (1) side or the longest length is attached, multiply by eighty-hundredths (.80).

The shading in Figure 5-4 indicates the columns of the "Summary of Non-Residential Improvements" table that you complete when determining the base rate for a structure.

Occupancy	Story Height	Attic	Bsmt Crawl
1 ☐ Single Family 2 ☐ Duplex 3 ☐ Triplex 4 ☐ 4-6 Family 5 ☐ M. Home 0 ☐ ____ Row-type	---- ---- [ ] ---- ---- 2 Bi-level 3 Tri-level	0 None 1 Unfinished 2 1/2 Finsihed 3 3/4 Finished 4 Finished	0 None 0 1 1/4 1 2 1/2 2 3 3/4 3 4 Full 4

Construction		Base Area	Floor	Finished Living Area	Value
1 Frame or Aluminum 2 Stucco 3 Tile 4 Concrete Block 5 Metal 6 Concrete 7 Brick 8 Stone 9 Frame w/Masonry			.		
			.		
			.		
	--		Attic		
	--		Basement		
	--		Crawl	--	

Roofing					TOTAL BASE		
Asphalt Shingles	☐				Row-type Adjustment		%
Slate or Tile	☐				SUB-TOTAL		
	☐				Unfinished Interior	[-]	
Metal	☐				Extra Living Units	[+]	
Floors	B	1	2		Rec. Room	[+]	
Earth	☐	☐	☐	☐	Loft	[+]	
Slab	☐	☐	☐	☐	Fireplace	[+]	
Sub & Joists	☐	☐	☐	☐	No Heating	[-]	
	☐	☐	☐	☐	Air Conditioning	[+]	
Wood	☐	☐	☐	☐	No Electrical Service	[-]	
Parquet	☐	☐	☐	☐	Plumbing TF: ______ -5 = ________ x 700	[+]	
Tile	☐	☐	☐	☐	No Plumbing	[-]	
Carpet	☐	☐	☐	☐	Specialty Plumbing	[+]	
Unfinished	☐	☐	☐	☐	SUB-TOTAL, ONE UNIT		
Interior Finish	B	1	2		SUB-TOTAL, ____ UNITS		
Plaster or Dry Wall	☐	☐	☐	☐	Garages		
Paneling	☐	☐	☐	☐	Integral	[-]	
Fiberboard	☐	☐	☐	☐	Attached Garage	[+]	
	☐	☐	☐	☐	Attached Carport	[+]	
Unfinished	☐	☐	☐	☐	Basement	[+]	
No Electrical Service	☐	☐	☐	☐	Exterior Features		
Accomodations					SUB-TOTAL		
Total Number of Rooms					Grade and Design Factor ( )		%
Bedrooms							
Family Room					ADJUSTED SUB-TOTAL		
Formal Dining Room					Location Multiplier		
					Replacement Cost		

			Heating & Air Conditioning		Plumbing	#	TF
			Central Warm Air		Full Bath		
			Hot Water or Steam		Half Baths		
Loft Area			Heat Pump		Kitchen Sink		
Rec Room	Type		No Heat (Gravity/Wall/Space)		Water Heater		
	Area				Extra Fixtures		
Fireplace ☐ Masonry	Stacks		Central Air Cond.		TOTAL		
☐ Metal	Openings		Extra Living Unit	Conversion # Designed #	☐ No Plumbing		

IMPROVEMENT DATA AND COMPUTATIONS

O T E N

IMPROVEMENT FEATURES

Major Items

C Concrete Floor
D Dirt Floor
E Electric Lights
G Grade
H Heating
I Insulation
L Loft
P Plumbing
Q Living Quarters
S Stalls
T Type of Construction

Residential

BOAT HOUSE
T / G / D / Q
Open Side
CAR SHED
T / G / D
Open/Enclosed
Back-to-back
Stall Walls
DETACHED GARAGE
T / G / D / L / Q
GREENHOUSE
G
Free Standing
Attached at End
Lean-to
STABLES
T / D / G / L
SWIMMING POOL
T
Underwater Lighting
Tile: Ceramic/Plastic
Filter
Heater
Non-rectangular Shape
Concrete Apron
Enclosure Type
TENNIS COURT
Clay/Sod/Asphalt
UTILITY SHED
T / G

Agricultural

BARNS
T / S / L / P / E / I / D / Q
Open Side
CONFINEMENT
T / P / E / C / I
Slatted Floors
Pits
CORN CRIB
T
Frame/Wire
Free-standing Drive-thru
No Roof
Floor
GRANARIES
L
Storage Bins
Pole Type
GRAIN BINS - STEEL
Diameter & Height or
Bushel Capacity
QUONSET BUILDINGS
E / I / H
Floor: Asphalt/Concrete
SLURRY TANKS
Inground/above ground
Round/Rectangle
Plank Cover/No Cover
SILO
Concrete:
Conc. Stave/Reinf'd
Masonry:
Tile/Conc. Blk./Brick
Steel:
Unlined/Glass Lined
No Roof
TRENCH & BUNKER
SILOS
Depth
Width

SUMMARY OF RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L / M	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Nhbd Factor	Improvement Value
01	Dwelling																	
02																		
03																		
04																		
05																		
06																		
07																		

Supplemental Card Residential Improvement Total

Total Residential Improvement Value

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L / M	Adj. Rate	Size or Area	Replacement Cost	Normal Depr.	Remainder Value	Abnorm. Obs.	Nhbd Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		

Data Collector / Date

Appraiser / Date

Supplemental Card Non-Residential Improvement Total

Total Non-Residential Improvement Value

Figure 5-4. Columns Completed in Task 2

Using Area (Square Footage)

To determine the base rate for a structure that uses a schedule based on ***area (square footage)***, perform these steps:

Step 1 Based on the type of structure, locate the appropriate cost schedule.

Step 2 In the “Area” column of the cost schedule, locate the row corresponding to the square footage of the structure (entered in the “Size and Area” column in the “Summary of Non-Residential Improvements” section).

If the structure is any type other than a general purpose pole barn, use the area in the cost schedule that is closest to the actual square footage of the structure. There is no need to interpolate between these rates.

If the structure is a general purpose pole barn, perform the interpolation procedure described in the cost schedule and shown in Example 2, below. The interpolation procedure calculates a value for a pole barn that has measurements different than those listed in the schedule. The first number in the size column represents the width of the structure and the second number represents the length. A size deviation in a building should be compared against the width column of the schedule first.

The procedure below applies when selecting the next smallest and next largest structure from the cost schedule:

- *If the width of the subject building exactly matches the width in the size column*, the interpolation of the rates is between the lengths only. For example, a subject building measuring 50′ x 150′ uses the 50′ x 140′ building and the 50′ x 160′ building in the interpolation process.
- *If the width of the subject does not exactly match the width in the size column and the lengths do match*, the interpolation of the rates is between the widths only. For example, a subject building measuring 48′ x 100′ uses the 40′ x 100′ building and the 50′ x 100′ building in the interpolation process.
- *If the width and length of the subject building does not exactly match the sizes listed in the cost schedule*, the interpolation of the rates begins with the width first, then the length. A subject building measuring 75′ x 150′ uses the 60′ x 140′ building and the 80′ x 160′ building in the interpolation process. The first comparison in this example is the width since 75′ is above 60′ and below 80′. The second qualifier is the 140′ length and the 160′ length which is the range when analyzing the 150′ length.

If the area of the structure is larger than the largest area or smaller than the smallest area provided in the cost schedule, extrapolate to calculate the amount to add to, or subtract from, the base rate. When extrapolating, perform the following calculations:

a. *For an area larger than the square footage listed on the schedule,* calculate the difference between the rate of the largest square footage and the rate of the next highest square footage. Subtract this difference from the rate of the largest square footage to arrive at the appropriate rate for the subject building.

b. *For an area smaller than the square footage listed on the schedule*, calculate the difference between the rate of the smallest square footage and the rate of the next smallest square footage. Add this difference to the rate of the smallest square footage to arrive at the appropriate rate for the subject building.

Step 3 Find the intersection of the selected row (area in square feet) and the appropriate column. In the "Base Rate" column in the "Summary of Non-Residential Improvements" section, enter the number that you find (or interpolate or extrapolate).

Note: The column headings vary in the cost schedules. Often there are separate columns for different types of construction.

Example 1: The following example illustrates the procedure of determining the base square foot rate for a detached frame garage which measures 20' x 24'.

a. Calculate the area to be 480 square feet (20 x 24 = 480 square feet)

b. In the detached garage schedule, find the area closest to 480 square feet.

c. In the row for 500 square feet, follow across to the right to the column labeled frame.

d. Record the base rate from the cost tables in Appendix C in the base rate column of the "Summary of Non-Residential Improvements" section.

Example 2:

The following detailed example illustrates the interpolation procedure using a 14′ high general purpose pole building with the dimensions of 75′ by 150′.

a. Select the model width(s) and length(s) closest to the subject building (60′ x 140′ and 80′ x 160′).

b. Select (or calculate) the square foot rate applicable for each of the two areas immediately smaller and larger than the subject building.

Any height adjustment to the subject building above 14′ or below 14′ must be attributed to the smallest size and largest size when calculating the rate in Step b.

c. Calculate the difference in the whole dollar value applicable to each of the areas selected in Step b.

d. Divide the result from Step c by the difference in the areas used in Step b.

e. Apply the rate from Step d to the difference in the area of the subject building and the smaller area of the two used in Step b.

f. Add the result from Step e to the whole dollar value calculated for the smaller area in Step c and round to the nearest $10 to arrive at the value of the 75′ x 150′ building.

Using Whole Dollar Amounts

To determine the base rate for a structure that uses a schedule based on ***whole dollar amounts***, perform these steps:

Step 1 Based on the type of structure, locate the appropriate cost schedule.

Step 2 In the “Size” column of the cost schedule, locate the row corresponding to the size of the structure, which you entered in the “Size and Area” column in the “Summary of Non-Residential Improvements” section. Use the area in the cost schedule that is closest to the actual size of the structure.

Note: *If the size of the structure is larger than the largest size or smaller than the smallest size provided in the cost schedule*, extrapolate to calculate the amount to add to, or subtract from, the base rate. When extrapolating, go to the column that best represents the size of the subject building and perform the following calculations:

a. For sizes smaller than those listed in the cost schedule, calculate the difference between the two smallest sizes listed in the schedule and subtract the difference from the smallest size in the schedule.

b. For sizes larger than those listed in the cost schedules, calculate the difference between the two largest sizes listed in the schedule and add the difference to the largest size in the schedule.

Step 3 Find the intersection of the selected row and the appropriate column. In the “Base Rate” column in the “Summary of Non-Residential Improvements” section, enter the number that you find (or extrapolate).

Example 1: The following example illustrates the procedure of determining the whole dollar base rate for an 18′ diameter above ground pool:

a. In the diameter column, find the diameter closest to 18′.

b. In the 18′ diameter row, locate the base rate.

c. Record the rate from Step b in the base rate column of the “Summary of Non-Residential Improvements” section.

Example 2: The following example illustrates the extrapolation procedure for finding the base rate for a steel grain bin that measures 30′ x 55′ 0”.

a. Find the size and base rate for the closest 30′ steel bin. This is 30′ x 47′8″ .

b. Find the size and base rate for the next closest 30′ steel bin. This is 30′ x 40′4″.

c. Find the difference between the rates found in Step a and Step b

d Add the difference calculated in Step c to the largest 30′ bin rate in Step a

e. The result is the base rate for a 30′ x 55′0″ steel bin. Record this base rate in the base rate cell in the "Summary of Non-Residential Improvements" section.

Task 3—Determining the Adjusted Base Rate and Replacement Cost

The adjusted base rate for the structure is the base rate, adjusted to take into account any relevant features identified for the structure, an adjustment for location (by applying the location cost multiplier), and the grade factor percentage. *If the structure uses a cost schedule based on area (square footage),* the replacement cost for the structure is the structure's area multiplied by the adjusted base rate (per square foot). If the structure uses a cost schedule based on whole dollar amounts, the replacement cost is the same as the adjusted base rate.

The shading in Figure 5-5 indicates the columns of the "Summary of Non-Residential Improvements" section that you complete when determining the adjusted base rate and replacement cost of the structure.

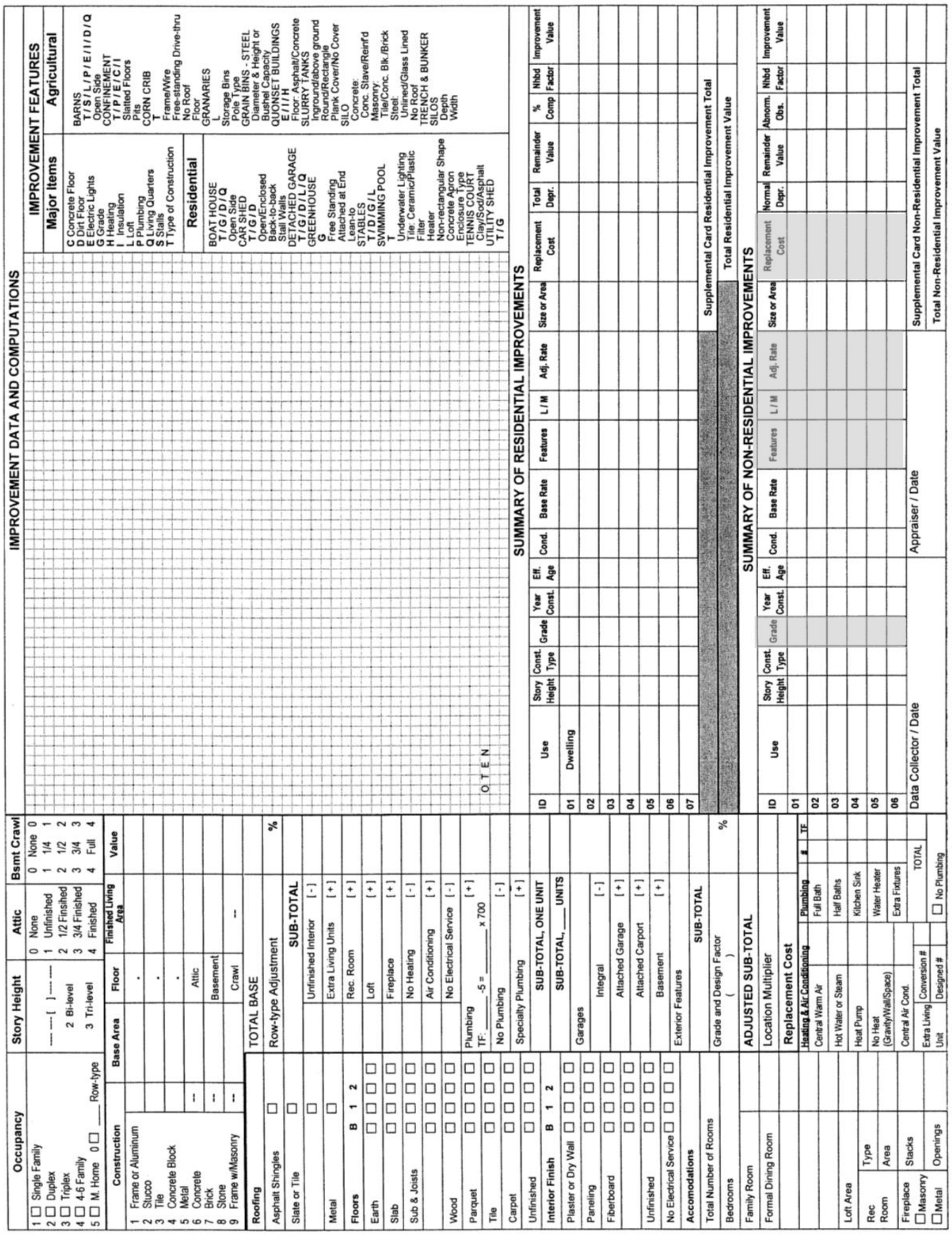


Figure 5-5. Columns Completed in Task 3

To determine the adjusted base rate and replacement cost for the structure, perform these steps:

Step 1 Compare the features that you entered in the “Features” column in the “Summary of Non-Residential Improvements” section with the features in the cost schedule for the structure. If the cost schedule indicates that the base rate should be adjusted because of one or more of the features, adjust the base rate accordingly.

Step 2 Determine and enter the location cost multiplier established for your county in the “L/M” cell. The table containing the location cost multipliers can be found in Appendix C.

Step 3 Divide the grade factor percentage corresponding to the grade entered in the “Grade” column in the “Summary of Non-Residential Improvements” section by 100 to arrive at a multiplier. Instructions for determining the grade factor percentage for a structure are provided in the section ***Assigning Grades to Residential and Agricultural Yard Structures*** in Appendix A.

Step 4 Calculate the adjusted base rate by multiplying the base rate (adjusted for any features) by the multiplier obtained in Step 2 and then by the multiplier in step 3:

Adjusted base rate	=	Base rate adjusted for features	x	Multiplier obtained in Step 2	x	Multiplier obtained in Step 3

Enter the adjusted base rate in the “Adj. Rate” column.

Step 5 *If the structure uses a schedule based on area (square footage)*, calculate the replacement cost by multiplying the adjusted base rate (entered in the “Adj. Rate” column) by the structure’s square footage (entered in the “Size or Area” column):

Replacement cost	=	Adjusted base rate	x	Area (square footage)

Round the replacement cost to the nearest $10 and enter it in the “Replacement Cost” column.

If the structure uses a schedule based on whole dollar amounts, round the adjusted base rate (entered in the “Adj. Rate” column) to the nearest $10 and enter it in the “Replacement Cost” column.

Example: The procedures for calculating the adjusted base rate and the replacement cost of a 20′ x 24′ detached frame garage with a quality rating of D is as follows:

a. Find the base rate for a 480 square foot detached frame garage of average quality in the cost tables in Appendix C.

b. The adjusted rate for the garage is the product of the base rate times the location cost multiplier (i.e. 1.00), times the D grade multiplier of .80.

Base rate X 1.00 X D grade multiplier of .80

c. Record the rate in the adjusted base rate cell in the “Summary of Non-Residential Improvements” section.

d. The replacement cost is the product of the adjusted base rate times the area of the detached garage rounded to the nearest $10. Assuming a replacement cost of $8,077 would round to $8,080 rounded to the nearest $10.

e. Record the replacement cost in the “Summary of Non-Residential Improvements” section.

Task 4—Calculating the Remainder Value

The structure’s remainder value is its replacement cost adjusted for normal depreciation. The shading in Figure 5-6 indicates the columns of the “Summary of Non-Residential Improvements” table that you complete when calculating the remainder value of the structure.

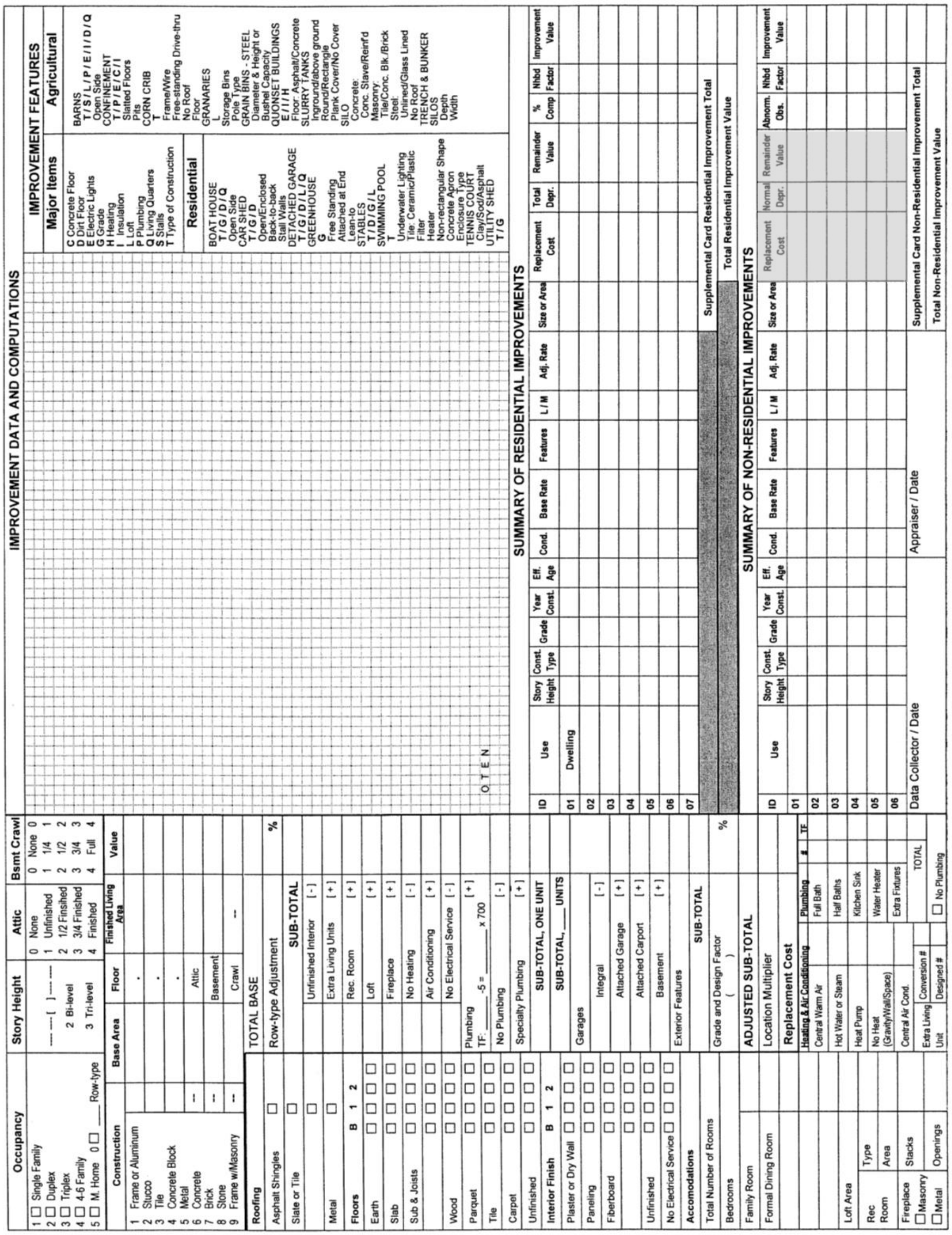


Figure 5-6. Columns Completed in Task 4

To calculate the remainder value, perform these steps:

Step 1 Subtract the percentage determined for total depreciation (entered in the “Normal Depr.” column) from 100%.

Step 2 Divide the result obtained in Step 1 by 100 to arrive at a multiplier.

Step 3 Calculate the remainder value by multiplying the replacement cost of the structure (entered in the “Replacement Cost” column) by the multiplier obtained in Step 2.

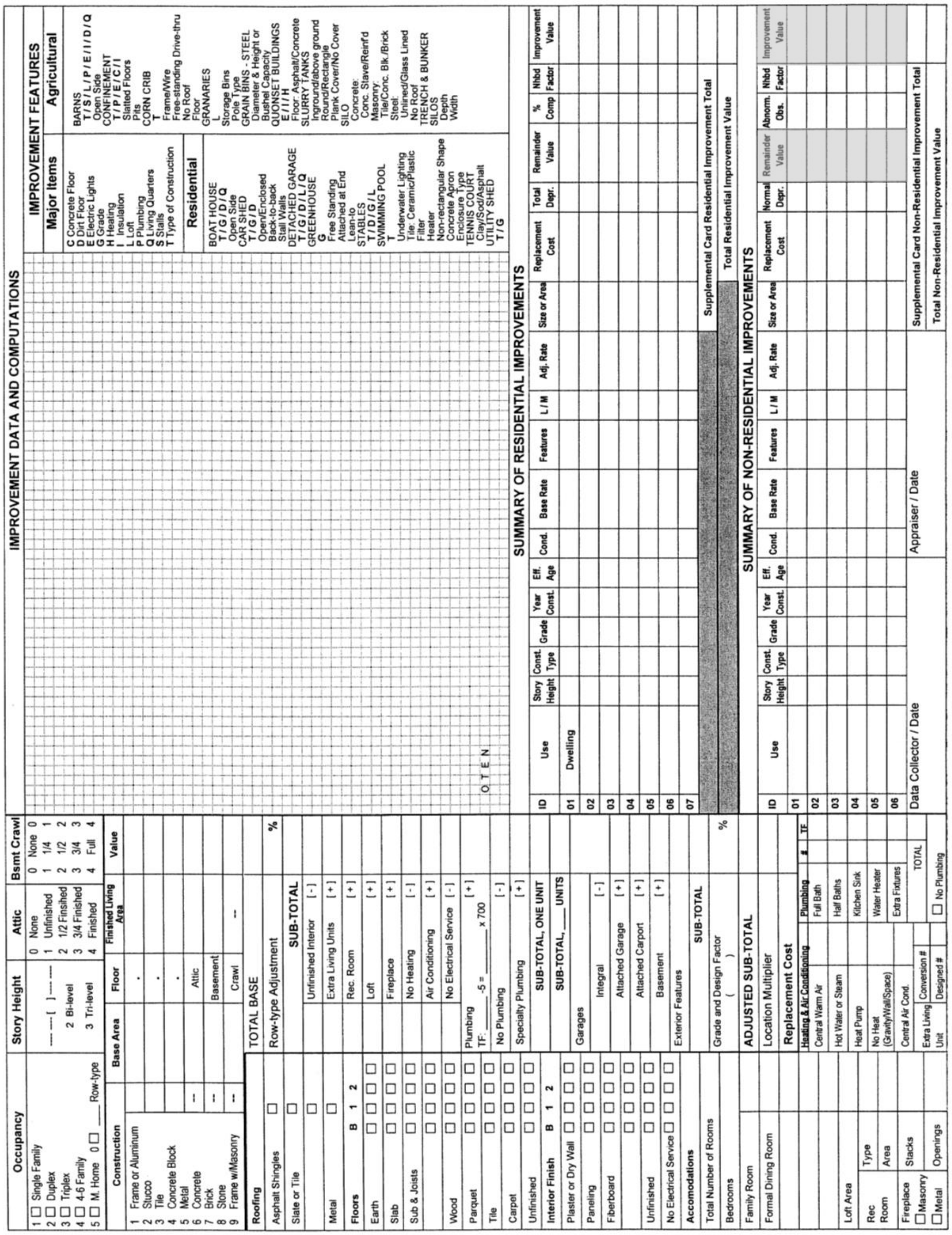
Remainder cost = Replacement cost x Multiplier obtained in Step 2

Enter the remainder value in the “Remainder Value” column rounded to the nearest $10.

Example: The replacement cost of a structure is $5,500. The normal depreciation percentage for the structure is 30%. The remainder value is: 100% – 30% = 70% ÷ 100 = .70 x $5,500 = $3,850.

Task 5—Calculating the Improvement Value

The structure’s improvement value is its remainder value. adjusted for abnormal obsolescence and neighborhood factor rounded to the nearest $100. The shading in Figure 5-7 indicates the columns of the “Summary of Non-Residential Improvements” table that you complete when calculating the improvement value of the structure.



Occupancy: 1 Single Family; 2 Duplex; 3 Triplex; 4 4-6 Family; 5 M. Home 0 ___ Row-type
Story Height: ---- ---- [ ] ---- ----; 2 Bi-level; 3 Tri-level
Attic: 0 None; 1 Unfinished; 2 1/2 Finished; 3 3/4 Finished; 4 Finished
Bsmt Crawl: 0 None 0; 1 1/4 1; 2 1/2 2; 3 3/4 3; 4 Full 4
Construction: 1 Frame or Aluminum; 2 Stucco; 3 Tile; 4 Concrete Block; 5 Metal; 6 Concrete; 7 Brick; 8 Stone; 9 Frame w/Masonry
Base Area | Floor | Finished Living Area | Value
Attic; Basement; Crawl
Roofing: Asphalt Shingles; Slate or Tile; Metal
Floors B 1 2: Earth; Slab; Sub & Joists; Wood; Parquet; Tile; Carpet; Unfinished
Interior Finish B 1 2: Plaster or Dry Wall; Paneling; Fiberboard; Unfinished; No Electrical Service
Accomodations: Total Number of Rooms; Bedrooms; Family Room; Formal Dining Room; Loft Area; Rec Room Type Area; Fireplace Masonry Metal Stacks Openings
TOTAL BASE; Row-type Adjustment %; SUB-TOTAL
Unfinished Interior [-]; Extra Living Units [+]; Rec. Room [+]; Loft [+]; Fireplace [+]; No Heating [-]; Air Conditioning [+]; No Electrical Service [-]
Plumbing [+] TF: ____ -5 = ____ x 700; No Plumbing [-]; Specialty Plumbing [+]
SUB-TOTAL, ONE UNIT; SUB-TOTAL, ___ UNITS
Garages: Integral [-]; Attached Garage [+]; Attached Carport [+]; Basement [+]
Exterior Features; SUB-TOTAL; Grade and Design Factor ( ) %; ADJUSTED SUB-TOTAL; Location Multiplier; Replacement Cost
Heating & Air Conditioning: Central Warm Air; Hot Water or Steam; Heat Pump; No Heat (Gravity/Wall/Space); Central Air Cond.
Plumbing # TF: Full Bath; Half Baths; Kitchen Sink; Water Heater; Extra Fixtures; TOTAL; No Plumbing
Extra Living Unit: Conversion #; Designed #

IMPROVEMENT DATA AND COMPUTATIONS
O T E N

IMPROVEMENT FEATURES
Major Items: C Concrete Floor; D Dirt Floor; E Electric Lights; G Grade; H Heating; I Insulation; L Loft; P Plumbing; Q Living Quarters; S Stalls; T Type of Construction
Residential: BOAT HOUSE T/G/D/Q Open Side; CAR SHED T/G/D Open/Enclosed Back-to-back Stall Walls; DETACHED GARAGE T/G/D/L/Q; GREENHOUSE G Free Standing Attached at End Lean-to; STABLES T/D/G/L; SWIMMING POOL T Underwater Lighting Tile: Ceramic/Plastic Filter Heater Non-rectangular Shape Concrete Apron Enclosure Type; TENNIS COURT Clay/Sod/Asphalt; UTILITY SHED T/G
Agricultural: BARNS T/S/L/P/E/I/D/Q Open Side; CONFINEMENT T/P/E/C/I Slatted Floors Pits; CORN CRIB T Frame/Wire Free-standing Drive-thru No Roof Floor; GRANARIES L Storage Bins Pole Type; GRAIN BINS - STEEL Diameter & Height or Bushel Capacity; QUONSET BUILDINGS E/I/H Floor: Asphalt/Concrete; SLURRY TANKS Inground/above ground Round/Rectangle Plank Cover/No Cover; SILO Concrete: Conc. Stave/Reinf'd Masonry: Tile/Conc. Blk./Brick Steel: Unlined/Glass Lined No Roof; TRENCH & BUNKER; SILOS Depth Width

SUMMARY OF RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L/M	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Nhbd Factor	Improvement Value
01	Dwelling																	
02																		
03																		
04																		
05																		
06																		
07																		

Supplemental Card Residential Improvement Total
Total Residential Improvement Value

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L/M	Adj. Rate	Size or Area	Replacement Cost	Normal Depr.	Remainder Value	Abnorm. Obs.	Nhbd Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		

Data Collector / Date
Appraiser / Date
Supplemental Card Non-Residential Improvement Total
Total Non-Residential Improvement Value

Figure 5-7. Columns Completed in Task 5

To calculate the improvement value of the structure, perform these steps:

Step 1 *If abnormal obsolescence depreciation applies to the structure*, divide the dollar amount of abnormal obsolescence by the “Remainder Value” to get an abnormal obsolescence depreciation percentage. Enter this percentage in the “Abnorm Obs” Column of the property record card.

Note: This column can also be utilized to make adjustments for improvements less than 100% complete. Be sure to indicate what you have done in the memorandum section.

Step 3 Calculate the neighborhood factor and enter the result in the “Nhbd Factor” cell. Information on neighborhood factors can be found in Appendix B.

Step 4 The improvement value is the remainder value of the dwelling, adjusted for % complete, abnormal obsolescence and neighborhood factor (if necessary), rounded to the nearest $100. Enter this amount in the “Improvement Value” column on the property record card.

Example: The remainder value of a structure is $3,850. Assuming the structure is 100% complete, suffers no abnormal obsolescence and the neighborhood factor is 1.00, the improvement value is $3,900.

Task 6—Calculating the Total Non-Residential Improvement Value

Calculate the improvement value for each structure by performing Task 1 through Task 5 for each structure. If you run out of rows in the “Summary of Non-Residential Improvements” section of the property record card, use an additional card (or cards).

To calculate the total non-residential improvement value for the property, perform these steps:

Step 1 *If you used* ***only one*** *property record card to complete the “Summary of Non-Residential Improvements” for the property*, sum the entries in the “Improvement Value” column and enter the total in the “Total Non-Residential Improvement Value” cell.

If you used ***more than one*** *property record card to complete the “Summary of Non-Residential Improvements” for the property*, on each card except Card 001, sum the entries in the “Improvement Value” column and enter the total in the “Total Non-Residential Improvement Value” cell.

Step 2 Sum the entries in the “Total Non-Residential Improvement Value” cell of all of the property record cards except Card 001. Enter the total in the “Supplemental Card Non-Residential Improvement Total” cell on Card 001.

Step 3 On Card 001, sum the entries in the “Improvement Value” column, including the entry in the “Supplemental Card Non-Residential Improvement Total” cell and enter the total in the “Total Non-Residential Improvement Value” cell.

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