2016 Level II Tutorials

Cost Approach
Level II Prep Class

- Material will cover:
  - Book 2 Real Property Assessment Guidelines
  - Chapter 6 – Commercial and Industrial Units
  - Chapter 7 – Commercial and Industrial Yard Structures
  - Chapter 8 – Special Use Commercial Properties
  - Chapter 9 – Utility Properties
Level II Prep Class

- Material will cover (cont):
  - Appendix D – General Commercial Models
  - Appendix E – Commercial and Industrial Grade
  - Appendix F – Commercial and Industrial Depreciation
  - Appendix G – Commercial and Industrial Cost Schedules
Guidelines Chapter 6

Commercial and Industrial Units
Methods Used to Complete the Property Record Card: (all found on page 4)

- Sketching a structure
- Measuring and calculating areas
- Using the general commercial models
- Using schedules
- Understanding base rates for floor levels
Guidelines Chapter 6

• Determining a structure’s finish type
• Determining a structure’s use type
• Determining a structure’s wall type
• Using a structure’s floor height
• Understanding the perimeter-to-area ratio for a structure
• Determining a structure’s construction type
Guidelines Chapter 6

- Understanding vertical and horizontal costs
- Determining the number of property record cards to use for a parcel
Guidelines Chapter 6

• **Sketching a structure:** (page 5)
  • If more than one structure is listed on the same card, number each one for identification purposes.
  • Draw the structure to approximate scale.
  • Draw the structure with the side facing the street towards the bottom of the sketch grid.
Guidelines Chapter 6

• Write the dimensions inside the sketch area as close to the corresponding lines as possible.
• Record the story height of the structure.
• Identify all party walls (walls held in common ownership between two structures).
• Identify all additions by name and exterior wall construction.
Measuring and Calculating Areas: (page 6)

Measure sufficient outside dimensions of the structure to compute the gross square footage of the ground area.

Enter all the measurements carefully on the sketch grid.
Guidelines Chapter 6

- Using the General Commercial Models (page 7)
  - Conceptual tools used to assist in estimating the replacement cost new of a given structure.
  - Assumes that there are certain elements of construction for a given use type.
• Used to determine if adjustments are applicable between the subject structure being valued and the model selected for use.
Guidelines Chapter 6

- **Using the Schedules** (page 8)
  - Schedule A – Base Rates
    - Provides base square foot unit rates by floor for various use and finish types.
    - Rates are for a range of perimeter-to-area ratios for a specific type of construction.
Guidelines Chapter 6

- **Schedule A.1** – General Commercial Mercantile (GCM) (page 10)
- Includes use types generally associated with mercantile districts.
  - Banks, medical offices, apartments, shopping centers, etc.
  - Structures with four or more stories.
  - Use types characteristic of commercial-type construction.
Guidelines Chapter 6

• **Schedule A.2** – General Commercial Industrial (GCI) (page 10)

• Includes use types generally associated with industrial-related operations.
  • Mill manufacturing, industrial offices, light and heavy manufacturing, warehouses, etc.
Guidelines Chapter 6

- **Schedule A.3** – General Commercial Residential (GCR) (page 10)
- Includes use types generally associated with commercially-operated residential accommodations.
  - Structures that have up to three stories.
  - Apartments, motel units, nursing homes, etc.
  - If 4 or more stories, use GCM schedule.
  - If structure is fire resistant, cannot use GCR to price.
Guidelines Chapter 6

• **Schedule A.4** – General Commercial Kit (GCK) (page 10)

• Is used to value light pre-engineered and pre-designed wood pole and metal framed structures with exterior walls of light metal or wood that are used for commercial and industrial purposes only.
• **Schedule B – Base Price Adjustment (page 11)**
  • Provides adjustments to total base unit rate obtained from Schedule A for story height variations.
  • Required to account for added construction costs of supports and material handling for multiple story construction.
Guidelines Chapter 6

• **Schedule C** – GC Base Price Components and Adjustments (page 11)
  • Three sub-schedules (all on page 11)
    • Base Price Components and Adjustments
    • Unit Cost Adjustments
    • Unit Finish Adjustments
Guidelines Chapter 6

• **Base Price Components and Adjustments**
  • Indicates the cost of the interior and mechanical components included in the base rate unless otherwise noted.
  • All component prices are expressed as square foot rates except for column headed “Walls per LF” under the “Interior Finish” heading.
  • Includes guidelines to help in adjusting base rate for lighting.
Guidelines Chapter 6

• **Unit Cost Adjustments**
  • Table of unit costs for the most typical interior components.

• **Unit Finish Adjustments**
  • Tables of composite adjustments rather than individual component adjustments.
  • Applies to apartments, motels and hotels.
Guidelines Chapter 6

- **Schedule D** – Plumbing (page 11)
- Whole dollar values to be added per plumbing fixture unless otherwise noted.
Guidelines Chapter 6

- **Schedule E – Special Features** (page 12)
  - Either whole dollar or square foot unit values used to calculate the whole dollar replacement cost of special features not included in the Schedule A base rates.
  - Mezzanines, elevators, cold storage facilities, money vaults, record storage vaults, grade walls for truck wells and ramps.
Guidelines Chapter 6

- **Schedule F – Quality Grade and Design Factor (page 12)**
  - Provides the grade factor percentages corresponding to the grade classifications for commercial and industrial structures.
  - Prices reflect a “C” grade.
Guidelines Chapter 6

- **Base rates for floor levels** (page 12)
  - Includes the cost of the exterior walls, exterior wall openings, and interior components (interior finish, partitioning, built-ins, and mechanical features typical for that particular model).
Guidelines Chapter 6

- Also includes the following structural components:
- Basement-level:
  - Excavation and back-fill, the cost of which exceeds the cost of the inclusions for the first floor.
  - Structural floor construction of the first floor (subfloor and framing).
  - Stairways and access ways.
Guidelines Chapter 6

- First-level:
  - Site preparation and normal foundation construction for a structure at grade level.
  - Concrete ground floor slab, including base and cement finish.
  - Roof construction (roofing, insulation, decking and framing).
  - Wall copings and parapets.
  - Utility service.
Guidelines Chapter 6

- Upper-level:
  - Structural floor construction (subfloor and framing for each respective floor.
  - Stairways and access ways.
• **Determining a Structure’s Finish type** (page 13)

• In Schedule A, finish type is a descriptive classification indicating the extent to which the interior finish is included in the base rate.
• Determining a Structure’s Use Type (page 14)
• Descriptive classification indicating the commercial and industrial use model that best describes the structure.
Guidelines Chapter 6

- **Determining a Structure’s Wall Type** (page 14)
  - Descriptive classification indicating the exterior wall construction material used for most of the use types.
  - Most all use types use Type 1 or Type 2.
  - Type 3 is used with GCI use types.
  - Type 4 is only for parking garages.
Guidelines Chapter 6

• **Determining a Structure’s Wall Height** (page 14)
  • Model specific and represents floor-to-floor or floor-to-roof heights.
  • Defined as the vertical distance from the top of the interior floor to either the top of the next upper interior floor or to the eave of the roof.
Guidelines Chapter 6

- Understanding Vertical and Horizontal Costs (page 15)
  - Vertical Cost components:
    - Structural components that are vertical in nature.
    - Valued according to linear feet of surface.
    - Examples are: studding, wall sheathing, brick or wood siding, wall insulation, interior finish, or exterior walls.
Guidelines Chapter 6

• Horizontal Cost components:
  • Structural components that are horizontal in nature.
  • Linked directly to the square feet of floor area.
  • Examples are: floor slabs, structural floors, floor covering, ceiling covering, roof structure, roof covering, and insulation.
• **Understanding the Perimeter-to-Area Ratio of a Structure** (page 15) & (2 examples on pages 16 – 17)

• Divide the perimeter (add the dimensions on the four sides together) by the area (multiply the length times the width) and multiply the result by 100 to determine the ratio to be used.
• Perimeter-to-Area Ratio
  • Used to convert the vertical cost of a structure into a dollar amount per square foot.

• If there is more than one floor, the PAR should be calculated for each floor.
Guidelines Chapter 6

• If the PAR is greater than 10: (page 40)
  1. Subtract 10 from the calculated PAR.
  2. Multiply the adjustment price in the “+1” column in the same row by the result of the subtraction.
  3. Add the result of the multiplication to the base rate in the “10” column in the schedule.
• Determining a Structure’s Construction Type: (page 17 & 18)
  • Base rates for GCM and GCI are based on framing that is fire resistant construction.
  • Base rates for GCR are based on wood joist construction and must be adjusted for fire resistant construction.
Guidelines Chapter 6

- How many property record cards to use?
- Determined on a parcel by parcel basis.
- Depends on either the number of structures that require a sketch area or the number of structures and yard improvements that are recorded in the “Summary of Improvements” section.
Determining average wall height: (page 39)

If a structure has two or more sections with varying exterior wall heights you must arrive at an average wall height.

1. Determine the percentage of the structure containing each wall height.
2. Multiply each percentage by its corresponding wall height.
3. Determine the average wall height for the structure by adding the results of 1 and 2 and rounding to the nearest whole number.

• Keep in mind that once you arrive at an average wall height, that is the wall height you use to compute the value of the property.
Problem 1

- A commercial building contains a total of 5,200 square feet. Of this total, 3,900 square feet of the area has a wall height of 16 feet. The remaining 1,300 square feet of the area has a wall height of 14 feet. What is the average wall height for this structure?
Problem 1 Answer

1. 3,900 divided by 5,200 = 75%
   1,300 divided by 5,200 = 25%

2. 16’ x .75 = 12’
   14’ x .25 = 3.5’

12’+ 3.5’ = 15.5’ rounded to 16 ft.
Problem 2

- A commercial building measures 200 feet by 500 feet. What is the PAR of this structure?
Problem 2 Answer

- 200 + 200 + 500 + 500 = 1,400 (perimeter)
- 200 x 500 = 100,000

- 1,400 divided by 100,000 = .014
- 0.014 x 100 = 1.4 or a PAR of 1
• If a structure has more than one use type: (page 40 & 41)
  1. Determine the PAR for the structure.
  2. Determine the use type for each finish type in the structure.
  3. Using Schedule A, determine the base rate for each use type.
4. Determine the percentage of floor space occupied by each use type by dividing the area for each use type by the total area x 100.

5. Multiply the base rate for each use type by the percentage of that use for each floor.

6. Add the results of Step 5 for each use type together to get an adjusted base rate.
Problem 3

• A structure has 2,500 square feet of area of which 1,500 square feet is general office and 1,000 square feet is utility storage area. The walls of the structure are Type 1. The building measures 100 feet by 25 feet.

• Figure the adjusted base rate for this structure using the GCM schedule.
Problem 3 Answer

Step 1 – Figure the PAR

- $100 + 100 + 25 + 25 = 250$
- $100 \times 25 = 2,500$
- $250$ divided by $2,500 = 0.10 \times 100 = 10$
Problem 3 Answer

Step 2 – Percentage of each use

• 1,500 divided by 2,500 = 60% (General Office)
• 1,000 divided by 2,500 = 40% (Utility Storage)
Problem 3 Answer

Step 3 – Go to appropriate Schedule in Appendix G and select the correct base rates

- General office - $111.85
- Utility storage - $ 66.46
Problem 3 Answer

Step 4: Figure adjusted rates for each use

- $111.85 \times 0.60 = $67.11$
- $66.46 \times 0.40 = $26.58$
Problem 3 Answer

Figure new adjusted base rate by adding the individual rates together

$67.11 + $26.58 = $93.69
Problem 4

A fire resistant building with exterior walls of brick measures 100’ x 180’. Twenty-five percent of the building is used as industrial office space, and the remainder of the building is used as light warehousing. The office space has a wall height of 12 feet and the warehouse space has a wall height of 18 feet.

What is the average wall height?
What is the adjusted base rate?
Problem 4 Answer

- Area: \(100 \times 180 = 18,000\) sq. ft
- Perimeter: \(100+100+180+180 = 560\) linear feet
- \(560/18,000 = .03 \times 100 = \text{PAR 3}\)
- \(12' \times 25\% = 3'\)
- \(18' \times 75\% = 13.50'\)
Problem 4 Answer

• $3' + 13.50' = 16.5'$ rounded to $17'$ so the average wall height is 17 feet.

• Since the office walls are 12 feet, we need to make a positive 5 foot adjustment on it.
• Since the warehouse walls are 18 feet, we need to make a negative 1 foot adjustment on it.
Problem 4 Answer

• Office: base rate is $67.39, adjustment is 5’ x $1.32 for a total of $73.99

• Warehouse: base rate is $42.39, minus adjustment of 1’ x $.80 for a total of $41.59
$73.99 \times 25\% = $18.50

$41.59 \times 75\% = $31.19

$18.50 + $31.19 = \text{adjusted rate of}$ $49.69\text{ for the building.}$
Problem 4 Answer

- When you are using an average wall height, you must take into consideration the original wall heights of each part of the building and make wall height adjustments as necessary to the base rate.
Guidelines Chapter 6

• If the framing material is not consistent throughout the structure (page 41)
  1. Determine the percentage of floor area that is not constructed of all fire resistant framing material.
  2. Determine the adjustment necessary as if the entire building were constructed of non-fire resistant material.
  3. Multiply the percentage from 1 by the adjustment from 2.
Problem 5

- A structure has 3,000 square feet of area, of which 1,800 square feet is fire resistant. The remainder of the building is constructed with fireproof steel. The PAR is 8. The exterior walls are Type 1. The building is used as a bank. What is the amount of adjustment, per square foot, necessary to account for the fireproof steel framing?
Problem 5 Answer

- $1,200 \text{ square feet} / 3,000 \text{ square feet} = 40\%$

- Fireproof steel frame adjustment: $\$8.96 \times 40\% = \$3.58$
Schedule C – Unit Finish Adjustments (page 48)

- Applied to the following use types:
  - Apartments
  - Motels and Hotels
  - Strip retail centers
  - Neighborhood shopping centers
  - Regional shopping centers
• The square foot cost of partitioning, built-ins, plumbing fixtures, and central air conditioning is directly related to the average size of the living unit.
• Average unit size = Total square footage divided by number of rentable units
The square foot cost of built-ins, partitioning, and plumbing fixtures is directly related to the average size and arrangements of guest rooms.

- Strip
- Back-to-Back
- Center Hall
Strip Retail Table (page 50) & Appendix G (page 20)

• Applicable when using the general retail model for strip centers, neighborhood shopping center model or the regional shopping center model.
• Models do not include an amount for division walls (common wall between units).
Calculating the Replacement Cost (pages 50 - 51)

• Follow the pricing ladder down to the Sprinkler Cell—the values you are adding are all per square foot.
• Enter this total square foot price in the S.F. Area cell.
• Multiply this total square foot price by the area and round to the nearest $10.00 and enter it on the Sub-total line.
• Calculating the Replacement Cost (cont.)
  • Add for plumbing from Schedule D – Appendix G.
  • Add for any special features from Schedule E in Appendix G.
  • Add for any exterior features from Schedule G in Appendix G.
  • Total these amounts on the Total Base line.
  • Multiply the Total Base line by the Location Multiplier for the County location (Appendix G (page 45)).
Calculating the Replacement Cost (cont.)

• Multiply this total by the Quality and Grade Factor.
• You now have the Replacement Cost New of the structure.
• When you have a feature such as a canopy or a loading dock that is built as a part of the initial construction of the building, it is not figured separately as an improvement, but is figured as an exterior feature and a total is included on the “Exterior Features” line of the pricing ladder.
Special Features – Schedule E of Appendix G:

- This schedule provides whole dollar or square foot unit values used to calculate the whole dollar replacement cost of special features not included in the Schedule A base rates.

- To apply this schedule, identify the special feature and select the most representative rate based on the description of the special feature. All replacement costs are rounded to the nearest $10.
Some examples of items in Schedule E are:

- Banking features (pages 22)
- Elevators (pages 23 and 24)
- Health/Recreational Club Facilities (page 23)
- Boilers (page 25)
- Cold Storage Facilities (page 25)
- Dock Facilities (page 26)
- Canopies (Page 26)
Guidelines Chapter 6

• To complete the property record card you must now determine the correct depreciation for the structure and apply it.
• Next apply and subtract any obsolescence.
• You now have the True Tax Value of the structure which is rounded to the nearest $100.
Guidelines Chapter 7

Commercial and Industrial Yard Structures
• Pricing cost schedules for commercial and industrial yard structures are in Appendix G and depreciation tables are in Appendix F.
Examples of Commercial and Industrial Yard Structures include the following (page 2):

- Fencing
- Greenhouses
- Golf Courses
- Grain Elevators and supporting structures
- Paving
The valuation of Commercial and Industrial yard structures involves the application of various models that represent typical types of construction. Each model assumes that there are certain elements of construction that can be defined as specifications. These specifications create the use of the average or “C” quality and grade factor.
The steps for completing the Property Record Card for Commercial and Industrial Yard Structures are as follows:

Task 1—Record information about the item (page 6)
Task 2—Determine the base rate for the item (page 12)
Task 3—Determine the adjusted base rate (page 21)
Task 4—Calculate the remainder value (page 24)
Task 5—Calculate the True Tax Value (page 27)
Task 6—Calculate the total for the total property (page 29)
Task 1—Record information about the item (page 6)

- In this task you provide descriptive information about the characteristics of the yard structure.
Task 2—Determine the base rate for the item

- Two distinct types of structures that use the square foot base rate cost schedules:
  - **Type 1** – Flat square foot rate dependent on construction material (page 14).
  - **Type 2** – Variable square foot rate dependent on size of structure and type of construction materials (page 14).
• Four distinct types of structures that use whole dollar amount cost schedules: (page 15)
  • Type 1 – Amount is dependent on the storage capacity of the yard structure
  • Oil storage tanks, fuel oil tanks, etc.
Guidelines Chapter 7

• **Type 2** – Amount is dependent on the diameter and height of the yard structure
  • Dry storage bins, brick, and concrete stacks, etc.

• **Type 3** – Amount is dependent on the capacity and height of the yard structure
  • Elevated steel tanks, towers
Guidelines Chapter 7

• **Type 4** – Amount is dependent on specific attributes other than those named in the other types
  • Incinerators, do-it-yourself car wash buildings, shuffleboard courts, etc.
Guidelines Chapter 7

- **Linear Feet (page 19)**
- The cost schedules that use linear feet are:
  - Fencing
  - Guardrails
  - Retaining walls
  - Masonry walls
  - Railroad siding
  - Bulkhead piling
There are cost schedules that use other methods of determining the base rate. Grain elevators, for example, use bushels.

Golf courses are no longer assessed under the Cost Approach. Golf courses are priced using the income approach to value.
Task 3—Determine the adjusted base rate (page 21), also see step 4 on page 23

• The adjusted base rate for the yard structure is the base rate adjusted to take into account any relevant features identified for the structure, an adjustment for location, and the grade factor percentage.

• If the structure uses a cost schedule based on whole dollar amounts, the replacement cost is the same as the adjusted base rate, rounded to the nearest $10.
If the structure uses a schedule based on a unit of measurement other than a whole dollar amount, the replacement cost will be the adjusted base rate multiplied by the unit of measurement (area, linear feet, bushels, etc.).

Base Rate

**Base rate = Base rate from Schedule G multiplied by the applicable grade factor adjustment.**
Task 4—Calculate the remainder value (page 24)

• The remainder value is the replacement cost of the yard structure adjusted for normal depreciation. (Rounded to nearest $10.)
Task 5—Calculate the True Tax Value (page 27)

- The yard structure’s True Tax Value is its remainder value adjusted for obsolescence depreciation, if necessary. (round to nearest $100)

Task 6—Calculate the total for the total property (page 29)

- Calculate the True Tax Value for each structure by performing Task 1 through Task 5 for each yard structure. (round to nearest $100)
Special Use Commercial Properties
Guidelines Chapter 8

• Special Use Commercial Properties (page 2)
  • Fast food restaurants
  • Gasoline service stations, with and without service bays
  • Self-service cashier booths
  • Public restroom buildings
  • Detached canopies
• Pricing schedules for special use commercial properties consist of square foot unit values based on C quality grade construction.

• Basic layout for fast food restaurant may include the following:
  • Small office
  • Two restrooms
  • Areas for employee dressing, storage, food preparation, serving, and dining
Basic layout for gasoline service station may include the following:

- Sales and office area
- Utility area
- Two restrooms
- One or more service bays
Guidelines Chapter 8

• Fast food restaurant (page 3)
  • Pre-designed
  • Normally built with different variations of the same plans with periodic updates of design
• Solariums are included in the square footage calculation of the structure and are **not** valued as an exterior feature.
• Fast food restaurant:
• Concerning air conditioning: The value of air conditioning is not an add on for the fast food restaurants. It is taken into account in the grade of the structure. Please see pages 63 & 64 of Appendix E. Look at the row titled Climate Control System. For grades A, B, and C, air conditioning is reflected in the grade. For grades D and E it is not. Most likely the D and E grades will either have no air or window units of some type.
Guidelines Chapter 8

- Gasoline service stations:
  - Assessor must determine whether converted stations with mini-grocery stores more resemble the service station without bay model or the convenience market model.
Guidelines Chapter 8

• Self-Service Cashier Booths: (page 5)
  • May or may not include restroom facilities
  • Divided into three quality ratings

• Public Restroom buildings: (page 5)
  • Rated by the area in square feet

• Detached Canopies: (pages 6-7)
  • Rated on quality and square footage
Guidelines Chapter 8

- **Pricing Special Use Properties**
  - Replacement Cost New = Total base value \( \times \) grade multiplier \( \times \) location multiplier.
  - Remainder Cost = (Replacement Cost New \( \times \) Depreciation Multiplier with resulting amount subtracted from Replacement Cost New.)
  - Both the Replacement Cost New & Remainder Cost are rounded to the nearest $10.
• True tax value is the remainder value rounded to the nearest $100.

• Don’t forget to include items such as paving or other items not included in the construction features in the “Summary of Improvements” on the PRC.
Utility Properties
This chapter describes the process used for valuing utility properties. It also provides information about distinguishing locally assessed real property from locally assessed personal property and distributable property.

Additionally, it provides guidelines for identifying local real property for the following types of companies.
Guidelines Chapter 9

- Bus companies
- Light, heat, or power companies
- Pipeline companies
- Railroad companies
- Sewage companies
- Telephone, telegraph, or cable companies
- Water distribution companies
Guidelines Chapter 9

- All companies engaged in public utility business in Indiana were required to file Form 1 (Tax return for Fixed Personal Property of Public Utilities) with the local assessing official for each taxing unit where fixed personal property is located. If the public utility company owned, held, possessed, or controlled any leased or other not-owned locally assessed personal property, a Form N-1 was to be filed with the local assessing official of each taxing unit where the leased personal property is located.
Guidelines Chapter 9

- The legislature in 2009 changed that. Effective with the March 1, 2010 assessment date, all companies engaged in public utility business in Indiana will no longer file Form 1 with the local assessing official. The property previously reported on the Form 1 will now be reported with the company’s filing with the Department on its Utility Ad Valorem Tax Return (Annual Report-Form UD-45).
Guidelines Chapter 9

- The use of a specific item or unit of property determines its classification as either locally assessed real property, locally assessed personal property, or distributable property. (Pages 4 through 8 provide detail)
The DLGF is responsible for the assessment of the distributable property. This is sometimes referred to as state assessed distributable property.

The DLGF now is also responsible for the locally assessed personal property.

The only property assessed locally by the county assessing official is the real property.
General Commercial Models
This appendix contains Models for:
- General Commercial Mercantile (GCM)
- General Commercial Industrial (GCI)
- General Commercial Residential (GCR)
• GCR models are only applicable to wood or metal stud framed load bearing construction, regardless of story height.

• Masonry construction requires the application of either GCM or GCI models.
Guidelines Appendix E

Commercial and Industrial Grade
Appendix E

- For each of the types of commercial and industrial improvements, a model has been defined to summarize the elements of construction quality that are typical of the majority of that type of improvement.
- Model has been assigned a “C” grade
- The characteristics of these typical models can be thought of as construction specifications for an improvement that was built with average quality materials and workmanship.
Appendix E

- The quality grade factor percentages are located in Table E-2 on page 7.
- Table E-3 (page 8) provides a list of the typical construction materials and design elements found in each full construction quality grade. It is designed to aid the local assessing official in determining the appropriate quality grade to assign to commercial and industrial structures.
Appendix F

Commercial and Industrial Depreciation
Appendix F

• Understanding the Concept of Depreciation
  • Accrued depreciation is a loss in value to the cost new of the improvements from any and all causes.
  • There are three major categories, or causes, of depreciation: (page 4)
    1. Physical Deterioration
    2. Functional Obsolescence
    3. External Obsolescence
Appendix F

- **Physical Deterioration** – loss in value caused by the building materials wearing out over time.
- May be caused by wear and tear, use or abuse, action of the elements, and/or insect infestation.
Appendix F

• **Functional Obsolescence** – loss in value caused by inutility within the improvement.
• May be caused by defects in design, style, size, poor room layout, a deficiency, the need for modernization, a super adequacy, and/or by changes in the tastes of potential buyers.
Appendix F

- **External Obsolescence** – caused by an influence outside the property’s boundaries that has a negative influence on its value.
- Noise, air, water or light pollution; heavy traffic; inharmonious land uses; and/or crime.
Appendix F

- When applying any form of obsolescence, the assessor should reevaluate the obsolescence on an annual basis.
Appendix F

• Determining the Actual Age of a Structure:
  • Actual age of a structure should be determined from the records of the owner. If not available, public records, such as building permits, may be used.
  • If structure has had additions built on, a “weighted” age must be calculated.
Appendix F

• Determining the “weighted” age of a structure (example on page 5)
• Method used is one of weighting the actual age of the original structure and each of its additions by the square footage contained in each part.
Appendix F

Determining the Normal Depreciation Percentage:

There are seven steps in this process:

1. Determine the actual age of the structure: Use the construction date of the structure and subtract it from the current assessment date (2016).
2. Assign the structure a condition rating (Table F-1).
3. Convert the actual age to an effective age using the condition rating and actual age (Table F-2, page 21).
4. Determine the typical life expectancy of the structure. (Tables F-3a, b, c, d, and e on pages 22 through 27)
5. Go to Table F-4 (page 28) and locate the life expectancy (from Step 4) across the top of the table.

6. Locate the effective age (from Step 3) in the left hand column.

7. Where Steps 5 and 6 intersect, this provides you with the normal depreciation percentage.
Appendix F

• **Determining Abnormal Functional Obsolescence:**
  • Any abnormal or excessive functional and external obsolescence that affect a structure must be considered separately since they have not been accounted for in the normal depreciation table.
Appendix F

- Abnormal Functional Obsolescence
- Most common forms
  - Deficiency requiring an addition – something lacking in the improvement that potential owners of the property desire. (page 8)
  - Need for modernization – improvement has the item desired by the potential owners but it is outdated or inefficient. (page 9)
Appendix F

- **Super adequacy** – an item that is bigger, better, or larger than potential owners demand. (page 9)
- **Excess operating costs** – the inutility within the structure causes the owner to have to pay more to operate the property than he/she would if the inutility did not exist. (page 10)
Appendix F

• **Determining Abnormal External Obsolescence**
  - **Temporary** – caused by factors in the market such as an oversupply of the type of space it provides. (page 12)
  - **Permanent** – caused by the subject property’s location to an encroaching land use. (page 12)
Appendix F

- Two methods of measuring external obsolescence, both requiring the use of market data. (page 13)
  - Paired Sales Analysis Method
  - Capitalization of Income Method
Appendix F

In determining condition classifications, identify the classification that best fits the structure being assessed – not all of the descriptions must be met. (see Table F-1, page 20)
Level II Prep Class

• The rest of the session will be spent working problems from the problem packet.
• You will receive an answer packet at the end of the prep class that will contain the answers to all of the problems we have worked during these sessions.
• Please turn to Problem 6 in your packet, the parking lot.
Problem 6

- A parking lot of 20,000 square feet is paved with 2 inches of asphalt over an 8-inch base. It is located in Dearborn County and is in average condition with a quality grade of C-1.
- It has 200 linear feet of metal guardrail on one side, which is also in average condition, with a quality grade of C. Both were installed in 1990.
- What is the total true tax improvement value?
Problem 6 Answer

• Since the square footage of the lot is 20,000, our base rate is $2.29, and then we add $0.36 for the 3” of base, so we start with a rate of $2.65. However, the lot is a C-1 grade, so we need to account for that.

• $2.65 \times 0.95 = $2.52 for our base rate

• Now we need to account for the location multiplier, 0.91, so $2.52 \times 0.91 = $2.29 (our adjusted rate)
We take $2.29 \times 20,000 = $45,800 for the replacement cost.

Next is the depreciation. The lot is 26 years old and in average condition, so the depreciation percentage is 80%.

$45,800 \times 0.80 = $36,640 and $45,800 - $36,640 = $9,160.

Or $45,800 \times 0.20 = $9,160
Taking the remainder value to the nearest $100, our asphalt has a true tax value of $9,200.

The guardrail has a base rate of $21.80, and since it is a C grade, we do not have to make any grade adjustment.

We do need to make the adjustment for the location, however. Taking the 0.91 x $21.80, gives you an adjusted rate of $19.84.

Then just take the 200 linear feet x $19.84 = $3,970.
Problem 6 Answer

- Looking up the depreciation for the guard rail, it is also 80%, so $3,970 \times 0.80$ and subtracting (or 0.20 and not subtracting, whichever is easier for you) gives us a remainder value for the guard rail of $790$, rounded to $800$ for the true tax value.

- Adding our paving to the guardrail amount, we should have a total true tax improvement value of $10,000$. 
## Level II Cost Approach

### Class Problem # 6

Dearborn County  
**LCM - 91%**

**IMPROVEMENT DATA AND COMPUTATIONS**

### Description

- **Walls**
  - Bas - up
  - Metal
- **Roofing**
  - Slate / Tile
- **Frame or Metal**
  - Single
- **C.B. or Tile**
  - Insulation

### Special Features

- **Value Story**
  - Const. Year
  - Eff
  - Obsol

### Summary of Improvements

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circ. 54”</td>
<td>C.1</td>
</tr>
<tr>
<td>Semi-Circ. 54”</td>
<td>C.1</td>
</tr>
<tr>
<td>Industrial Gang Sinks</td>
<td>04</td>
</tr>
<tr>
<td>G. 15” &amp; man</td>
<td>05</td>
</tr>
<tr>
<td>C. 9” &amp; man</td>
<td>06</td>
</tr>
<tr>
<td>Shower Column</td>
<td>07</td>
</tr>
<tr>
<td>Circular 5 per</td>
<td>08</td>
</tr>
<tr>
<td>Semi-Circ. 3 per</td>
<td>09</td>
</tr>
<tr>
<td>Corner, 2 per</td>
<td>10</td>
</tr>
<tr>
<td>Shower Multi-Stall</td>
<td>11</td>
</tr>
<tr>
<td>Circular 5 per</td>
<td>12</td>
</tr>
<tr>
<td>Semi-Circ. 3 per</td>
<td>13</td>
</tr>
<tr>
<td>Corner, 2 per</td>
<td>14</td>
</tr>
<tr>
<td>Gang Shower Heads</td>
<td>15</td>
</tr>
<tr>
<td>Drinking Fountains</td>
<td>16</td>
</tr>
<tr>
<td>Refrigerated Water Coolers</td>
<td>17</td>
</tr>
</tbody>
</table>

### Other Fixtures

- **Wash Fountain G/F ES SS Description Value**

### SUMMARY OF IMPROVEMENTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guard Rail</td>
<td>21.80</td>
</tr>
<tr>
<td>Paving</td>
<td>20,000 sq. ft.</td>
</tr>
</tbody>
</table>

### Replacement Cost

- **Basement**
- **1st**
- **2nd**
- **3rd**
- **4th**

### Location Multiplier

- **S. F. Price**
- **Area**
- **Sub-total**
- **Plumbing**

### Exterior Features

- **Special Features**
- **General**
- **Interiors**
- **Exterior**

### Average unit size

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Rate</td>
<td>$2.29</td>
</tr>
<tr>
<td>Adj. Rate</td>
<td>$2.65</td>
</tr>
</tbody>
</table>

### Total True Tax Improvement Value

- **$45,800**
- **$3,970**
- **$2.52**
- **$2.29**

### Data Collector / Date

- **Appraiser / Date**

### Total True Tax Improvement Value

- **$10,000**
Class Problem #7

You are assessing a building located at 239 Main Street in Fulton County. It is owned by Vic and Rose Jones. It is a two story brick building that was built in 1929. The first floor is occupied by Vic and Rose's Café. The second floor is divided into apartments. The brick basement is used for storage. The building is in average condition and is graded a C.

The building sits on a lot that is 66' by 99' and was assessed using a front foot value of $4,544.

Each floor has 4,320 square feet. There are 4 apartments on the second floor. The building is 60' by 72'. There is a small parking lot of 1,200 square feet at the rear of the building. It is asphalt paving with a 2" over a 5" base. The paving was laid down in 1990 and is in fair condition and graded a C-1.

The building is of wood joist construction throughout and has a full basement of 4,320 square feet. The exterior walls are 10 feet high and are brick. The interior and mechanical features of the basement are consistent with the utility storage model.

The first floor has a wall height of 12 feet, and the interior and mechanical features are consistent with the GCR Dining/Lounge model. There are 15 plumbing fixtures on this floor. The first floor has central air conditioning and heating and is sprinkled.

The second floor has a wall height of 12 feet. The apartments each feature one full bath and one complete kitchen. Each apartment has thru the wall type air conditioners.

What is the true tax improvement value of this property?
## Improvement Data and Computations

### Level II Cost Approach

**Class Problem #7 Answer (Back of Property Record Card)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular 4'</td>
<td>CA</td>
</tr>
<tr>
<td>Circular 5'</td>
<td>CA</td>
</tr>
<tr>
<td>Industrial Gang Sinks</td>
<td>04</td>
</tr>
<tr>
<td>4' long, 4 in.</td>
<td>05</td>
</tr>
<tr>
<td>5' long, 4 in.</td>
<td>06</td>
</tr>
<tr>
<td>100 ft. Column</td>
<td>07</td>
</tr>
<tr>
<td>5' per</td>
<td>08</td>
</tr>
<tr>
<td>Semi-circular, 3 per</td>
<td>09</td>
</tr>
<tr>
<td>Corner, 2 per</td>
<td>10</td>
</tr>
<tr>
<td>Shower-Multi-Stall</td>
<td>11</td>
</tr>
<tr>
<td>Circular, 5 per</td>
<td>12</td>
</tr>
<tr>
<td>Semi-circular, 3 per</td>
<td>13</td>
</tr>
<tr>
<td>Corner, 2 per</td>
<td>14</td>
</tr>
<tr>
<td>Gang Shower Heads</td>
<td>15</td>
</tr>
<tr>
<td>Water Coolers</td>
<td>16</td>
</tr>
<tr>
<td>Drinking Fountains</td>
<td>17</td>
</tr>
<tr>
<td>Emergency Shower/eye Wash</td>
<td>18</td>
</tr>
<tr>
<td>Drying Room, W/C</td>
<td>19</td>
</tr>
</tbody>
</table>

### Special Features

- Wash Fountains
- Group Wash Fountains
- Helmet Fountains
- Gas Tanks
- Trucks
- HVAC Systems
- Smoke Alarms
- Automatic Sprinklers
- Fire Extinguishers
- Fireproof doors
- Radiant Floor Heating
- Fire Sprinkler Systems
- Building Security Systems
- Emergency Lighting
- Elevators

### Summary of Improvements

<table>
<thead>
<tr>
<th>Summary</th>
<th>Cost</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash Fountains</td>
<td>$3,000</td>
<td>80%</td>
</tr>
<tr>
<td>Industrial Gang Sinks</td>
<td>$2,000</td>
<td>100%</td>
</tr>
<tr>
<td>Paving</td>
<td>$2,510</td>
<td>88%</td>
</tr>
<tr>
<td>Water Coolers</td>
<td>$500</td>
<td>100%</td>
</tr>
<tr>
<td>Drinking Fountains</td>
<td>$500</td>
<td>100%</td>
</tr>
<tr>
<td>Emergency Shower/eye Wash</td>
<td>$500</td>
<td>100%</td>
</tr>
<tr>
<td>Total True Tax Improvement Value</td>
<td>$133,400</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Other Fixtures

- **Semi-circular, 3 per**
- **Corner, 2 per**
- **Gang Shower Heads**
- **Water Coolers**
- **Drinking Fountains**
- **Emergency Shower/eye Wash**

### Summary of Improvements

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash Fountains</td>
<td>$3,000</td>
</tr>
<tr>
<td>Industrial Gang Sinks</td>
<td>$2,000</td>
</tr>
<tr>
<td>Paving</td>
<td>$2,510</td>
</tr>
<tr>
<td>Water Coolers</td>
<td>$500</td>
</tr>
<tr>
<td>Drinking Fountains</td>
<td>$500</td>
</tr>
<tr>
<td>Emergency Shower/eye Wash</td>
<td>$500</td>
</tr>
<tr>
<td>Total True Tax Improvement Value</td>
<td>$133,400</td>
</tr>
</tbody>
</table>

### Summary of Improvements

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash Fountains</td>
<td>$3,000</td>
</tr>
<tr>
<td>Industrial Gang Sinks</td>
<td>$2,000</td>
</tr>
<tr>
<td>Paving</td>
<td>$2,510</td>
</tr>
<tr>
<td>Water Coolers</td>
<td>$500</td>
</tr>
<tr>
<td>Drinking Fountains</td>
<td>$500</td>
</tr>
<tr>
<td>Emergency Shower/eye Wash</td>
<td>$500</td>
</tr>
<tr>
<td>Total True Tax Improvement Value</td>
<td>$133,400</td>
</tr>
</tbody>
</table>
**Class Problem #8**

This is a fast food restaurant built on a slab in Daviess County in 2001. It contains 1,902 square feet and has a perimeter of 202 linear feet. It also has a commercial heating/air conditioning package that heats and cools the entire 1,902 square feet. It is graded a C and is in average condition.

There is 18,000 square feet of asphalt paving on a 2" over a 8" base. It was put down at the same time as the construction date of the building. It is graded a C +1 and is in average condition.

The restaurant is located on a one acre tract of land that is primary commercial land. The base rate for primary commercial land in this area is $525,000 per acre.

What is the total improvement value of this property?
**Level II Cost Approach**

**Class Problem # 8 Answer (Back of PRC )**

**IMPROVEMENT DATA AND COMPUTATIONS**

<table>
<thead>
<tr>
<th>Wash Fountain</th>
<th>Type</th>
<th>SS</th>
<th>Description</th>
<th>Value</th>
<th>ID</th>
<th>Use</th>
<th>Story</th>
<th>Const Type</th>
<th>Grade</th>
<th>Year</th>
<th>Cond.</th>
<th>Base Rate</th>
<th>Features L/M</th>
<th>Adj. Rate</th>
<th>Size or Area</th>
<th>Replacement Cost</th>
<th>True Tax Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular 60&quot;</td>
<td>Gite</td>
<td>SS</td>
<td>Description</td>
<td>Value</td>
<td></td>
<td>01</td>
<td>Fast Food</td>
<td>3</td>
<td>Br</td>
<td>C</td>
<td>2001 Av</td>
<td>$2.86</td>
<td>$3.00</td>
<td></td>
<td></td>
<td>50%</td>
<td>$2,860</td>
</tr>
<tr>
<td>Circular 34&quot;</td>
<td>Gite</td>
<td>SS</td>
<td>Description</td>
<td>Value</td>
<td></td>
<td>04</td>
<td>Paving</td>
<td>3&quot; X 3&quot;</td>
<td>Asph</td>
<td>C+ 1</td>
<td>2001 Av</td>
<td>$2.86</td>
<td>$3.00</td>
<td></td>
<td></td>
<td>80%</td>
<td>$2,670</td>
</tr>
</tbody>
</table>

**SUMMARY OF IMPROVEMENTS**

<table>
<thead>
<tr>
<th>Wash Fountain</th>
<th>Type</th>
<th>SS</th>
<th>Description</th>
<th>Value</th>
<th>ID</th>
<th>Use</th>
<th>Story</th>
<th>Const Type</th>
<th>Grade</th>
<th>Year</th>
<th>Cond.</th>
<th>Base Rate</th>
<th>Features L/M</th>
<th>Adj. Rate</th>
<th>Size or Area</th>
<th>Replacement Cost</th>
<th>True Tax Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular 60&quot;</td>
<td>Gite</td>
<td>SS</td>
<td>Description</td>
<td>Value</td>
<td></td>
<td>01</td>
<td>Fast Food</td>
<td>3</td>
<td>Br</td>
<td>C</td>
<td>2001 Av</td>
<td>$2.86</td>
<td>$3.00</td>
<td></td>
<td></td>
<td>50%</td>
<td>$2,860</td>
</tr>
<tr>
<td>Circular 34&quot;</td>
<td>Gite</td>
<td>SS</td>
<td>Description</td>
<td>Value</td>
<td></td>
<td>04</td>
<td>Paving</td>
<td>3&quot; X 3&quot;</td>
<td>Asph</td>
<td>C+ 1</td>
<td>2001 Av</td>
<td>$2.86</td>
<td>$3.00</td>
<td></td>
<td></td>
<td>80%</td>
<td>$2,670</td>
</tr>
</tbody>
</table>

**Walls**
- Brick
- Stone
- Concrete
- Paving
- S. E. Of The

**Roofing**
- Roll-up
- Slate
- Tile
- Built-up

**Frame or Metal**
- Paving
- S. E. Of The

**Pricing Key**
- Fast Food
- Frame or Metal
- Shingle
- Concrete
- Slate / Tile

**Effective Perimeter**

**S. F. Price**

**Location Multiplier**

**Total True Tax Improvemnt Value**

**$107,000**
Practice Problem #1

The Walgreen company owns and operates a drug store which was constructed in Lake County. The building has 15,400 square feet with a perimeter of 450 feet. The drug store was built in 2001. The building is fire resistant construction and is wall type #1. The interior finish meets the criteria of the GCM General Retail model. There are a total of five commercial plumbing fixtures in the building. The building is totally sprinkled and has an average quality attached commercial canopy of 900 square feet. It has been determined the building is in average condition and is classified as a C+1 quality grade.

There is a 28,000 square feet asphalt paved parking area surrounding the building. It was constructed when the building was built and the asphalt is 2" on 5" base. The asphalt paving is C quality grade and is in average condition.

What is the total true tax value of the improvements?
### Practice Problem #1 (Walgreen's Drug Store)

#### Level II Cost Approach

<table>
<thead>
<tr>
<th>Walls</th>
<th>Roofing</th>
<th>IMPROVEMENT DATA AND COMPUTATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick</td>
<td>Metal</td>
<td><em>Pricing Key</em></td>
</tr>
<tr>
<td>Stone</td>
<td>Slate / Tile</td>
<td>GCM Gen Retail</td>
</tr>
<tr>
<td>Concrete</td>
<td>Shingle</td>
<td><em>S. F. Area</em></td>
</tr>
<tr>
<td>Frame or Metal</td>
<td>Shingle</td>
<td>15,400</td>
</tr>
<tr>
<td>C/F or Tile</td>
<td>Insulation</td>
<td><em>Effective Perimeter</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>540</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>C. A. R.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Number of Units</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Average unit size</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walls</td>
<td>Roofing</td>
<td><em>Floor</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Basement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1st</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2nd</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3rd</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4th</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Framing</strong></td>
<td><strong>B</strong></td>
<td><strong>Value Story Const. Year</strong></td>
</tr>
<tr>
<td><strong>Wood Joist</strong></td>
<td><strong>Rate</strong></td>
<td><strong>Eff Obsol</strong></td>
</tr>
<tr>
<td>Fire Resistant</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Fire Proof/Steel</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Reinf Concrete</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Flooring</td>
<td><strong>B</strong></td>
<td><strong>Value Story Const. Year</strong></td>
</tr>
<tr>
<td>Concrete</td>
<td><strong>Rate</strong></td>
<td><strong>Eff Obsol</strong></td>
</tr>
<tr>
<td>Wood</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Tile or Carpet</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Finish Type</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Unfinished</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Semi-Finished</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Finished Open</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Finished Divided</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td><strong>B</strong></td>
<td><strong>Value Story Const. Year</strong></td>
</tr>
<tr>
<td>Store</td>
<td><strong>Rate</strong></td>
<td><strong>Eff Obsol</strong></td>
</tr>
<tr>
<td>Office</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Apartment</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Gymn or Aband</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Heating &amp; Air Conditioning</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>No Heating</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Central Warm/Air</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Hot Water or Steam</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Air Conditioning</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Central Air</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Package or Unit Air</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Sprinkler</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Full Bath</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Half Bath</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Life Expectancy</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td>Extra Fixtures</td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>Rate</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### OTHER FEATURES

<table>
<thead>
<tr>
<th>Wash Fountain</th>
<th>ID</th>
<th>Use</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Circular 36</em></td>
<td>01</td>
<td>GCM Gen Retail</td>
<td>1 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Circular 54</em></td>
<td>02</td>
<td>GCM Gen Retail</td>
<td>2 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Semi-Circular 36</em></td>
<td>03</td>
<td>GCM Gen Retail</td>
<td>3 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Semi-Circular 54</em></td>
<td>04</td>
<td>GCM Gen Retail</td>
<td>4 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Industrial Gang Sinks</em></td>
<td>05</td>
<td>GCM Gen Retail</td>
<td>5 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>4 long, 4 main</em></td>
<td>06</td>
<td>GCM Gen Retail</td>
<td>6 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>8 long, 8 main</em></td>
<td>07</td>
<td>GCM Gen Retail</td>
<td>7 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Circular, 3 per</em></td>
<td>08</td>
<td>GCM Gen Retail</td>
<td>8 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Semi-Circular, 3 per</em></td>
<td>09</td>
<td>GCM Gen Retail</td>
<td>9 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Corner, 2 per</em></td>
<td>10</td>
<td>GCM Gen Retail</td>
<td>10 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Shower Multi-Stall</em></td>
<td>11</td>
<td>GCM Gen Retail</td>
<td>11 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Circular, 3 per</em></td>
<td>12</td>
<td>GCM Gen Retail</td>
<td>12 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Semi-Circular, 3 per</em></td>
<td>13</td>
<td>GCM Gen Retail</td>
<td>13 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Corner, 2 per</em></td>
<td>14</td>
<td>GCM Gen Retail</td>
<td>14 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td><em>Gang Shower Heads</em></td>
<td>15</td>
<td>GCM Gen Retail</td>
<td>15 Fr C+1 2001 Av</td>
<td></td>
</tr>
<tr>
<td>Data Collector</td>
<td>16</td>
<td>GCM Gen Retail</td>
<td>16 Fr C+1 2001 Av</td>
<td></td>
</tr>
</tbody>
</table>

#### SUMMARY OF IMPROVEMENTS

<table>
<thead>
<tr>
<th>ID</th>
<th>Use</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>GCM Gen Retail</td>
<td>1 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>02</td>
<td>GCM Gen Retail</td>
<td>2 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>03</td>
<td>GCM Gen Retail</td>
<td>3 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>04</td>
<td>GCM Gen Retail</td>
<td>4 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>05</td>
<td>GCM Gen Retail</td>
<td>5 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>06</td>
<td>GCM Gen Retail</td>
<td>6 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>07</td>
<td>GCM Gen Retail</td>
<td>7 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>08</td>
<td>GCM Gen Retail</td>
<td>8 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>09</td>
<td>GCM Gen Retail</td>
<td>9 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>10</td>
<td>GCM Gen Retail</td>
<td>10 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>11</td>
<td>GCM Gen Retail</td>
<td>11 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>12</td>
<td>GCM Gen Retail</td>
<td>12 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>13</td>
<td>GCM Gen Retail</td>
<td>13 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>14</td>
<td>GCM Gen Retail</td>
<td>14 Fr C+1</td>
<td>2001 Av</td>
</tr>
<tr>
<td>15</td>
<td>GCM Gen Retail</td>
<td>15 Fr C+1</td>
<td>2001 Av</td>
</tr>
</tbody>
</table>

**Walls & Roofing:**
- Brick
- Metal
- Slate / Tile
- Shingle
- C/F or Tile
- Insulation

**Framing:**
- Wood Joist
- Fire Resistant
- Fire Proof/Steel
- Reinf Concrete
- Framing
- Concrete
- Wood
- Tile or Carpet
- Finish Type
- Unfinished
- Semi-Finished
- Finished Open
- Finished Divided
- Use
- Store
- Office
- Apartment
- Gymn or Aband

**Heating & Air Conditioning:**
- No Heating
- Central Warm Air
- Hot Water or Steam
- Air Conditioning

**Water Fixtures:**
- Canopy - $25.94 x 900 = $23,350

**Sprinkler:**
- Interior Finish

**Full Bath:**
- Effective age 14

**Half Bath:**
- Effective age 15

**Life Expectancy:**
- 45 years

**Total True Tax Improvement Value:**
- $882,400
Level II Cost Approach

This concludes the cost approach tutorial and is a reminder that should you have questions you can email these questions to the DLGF.

Please send emails to Level2@dlgf.in.gov