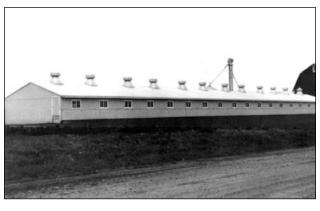
# **HOG BARNS AND STABLES**



**GOOD CLASS D HOG HOUSE** 



GOOD CLASS DPOLE FARROWING BARN



**AVERAGE/GOOD CLASS S HOG HOUSE** 



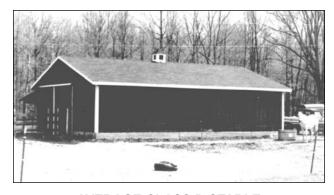
**AVERAGE CLASS S FARROWING BARN** 



**GOOD CLASS D STABLE** 



**GOOD CLASS D STABLE** 



**AVERAGE CLASS D STABLE** 



**LOW-COST CLASS S STABLE** 

**OCCUPANCY DESCRIPTION:** These barns provide for the breeding and nursery cycles of a swine production operation. Walls are insulated using plywood, wood or metal siding as the exterior cover. Some electrical and water to the pens is usually provided. Most have some type of flushing system. Higher-quality (average to good) buildings are suitable for environmental control confinement housing.

**INCLUDED IN COSTS:** Architects' fees and contractors' overhead and profit.

**NOT INCLUDED IN COSTS:** Pens, crates, incubators, other special equipment or heat.

### **HOG HOUSE - NURSERY**

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING & PLUMBING
С	Good	\$34.75	Brick or block, good ventilation and fenestration	Insulated, slab floor, subdivided, office, nursery	Good lighting and plumbing, lab
	Average	31.20	Brick or block, insulated, ventilated	Insulated ceiling, slab floor, sub- divided, small office, nursery	Adequate lighting and water service
D	Good	32.15	Wood siding or stucco, good ventilation and fenestration	Insulated, slab floor, subdivided,office, nursery	Good lighting and plumbing, lab
	Average	28.10	Wood siding or stucco, insulated, ventilated	Insulated ceiling, slab floor, sub- divided, small office, nursery	Adequate lighting, water service
DPOLE	Good	29.25	Pole frame, metal siding, fully insulated, ventilated	Insulated, interior sheathing, slab floor, subdivided, office, nursery	Good lighting and plumbing, lab
DPOLE	Average	25.75	Pole frame, metal siding, insulated, ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided, small office	Adequate lighting and water service, nursery
S	Good	30.85	Steel panels and frame, fully insulated, ventilated	Insulated, interior sheathing, slab floor, subdivided, office, nursery	Good lighting and plumbing, lab
3	Average	27.05	Steel panels and frame, insulated, ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided, small office	Adequate lighting and water service, nursery

## **HOG BARN - BREEDING/GESTATION**

	Good	\$27.60	Brick or block, good ventilation and fenestration	Insulated, slab floor, subdivided	Good lighting and water service
С	Average	22.00	Block or structural tile, adequate fenestration, ventilated	Insulated ceiling, slab, somedivision of space	Adequate lighting, water service
	Low cost	19.02	Block or structural tile, side curtains or vents	Unfinished, slab floor, somedivision of space	Minimum lighting and water service
	Good	24.35	Wood siding or stucco, good ventilation and fenestration	Insulated, slab floor, subdivided	Good lighting and water service
D	Average	18.50	Stucco or wood siding, insulated, ventilated	Insulated ceiling, plywood interior, slab floor, some subdivision	Adequate lighting, water service
	Low cost	15.85	Boards or plywood, on box frame, some insulation, curtains or vents	Some wainscot, slab floor, some division of space	Minimum lighting and water service
	Cheap	12.25	Low-cost boards, natural ventilation	Slab floor, some subdivision	Minimum services
	Good	22.40	Pole frame, metal siding, fully insulated, ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided	Good lighting and water service
DPOLE	Average	17.20	Pole frame, metal siding, insulated, ventilated	Insulated ceiling, plywood interior, slab floor, some subdivision	Adequate lighting, water service
	Low cost	14.85	Pole frame, metal siding, some insulation, side curtains or vents	Some wainscot, slab floor, some division of space	Minimum lighting and water service
	Cheap	11.60	Metal on pole, natural ventilation	Slab floor, some subdivision	Minimum services
	Good	23.50	Steel panels and frame, fully insulated, ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided	Good lighting and water service
S	Average	17.90	Steel siding and frame, insulated, ventilated	Insulated ceiling, plywood interior, slab, some division of space	Adequate lighting and water service
	Low cost	15.30	Steel siding and frame, some insulation, side curtains or vents	Some wainscot, slab floor, some division of space	Minimum lighting and water service
	Cheap	11.90	Metal on steel, natural ventilation	Slab floor, some subdivision	Minimum services

For slotted floors, add the following per square foot of pit area:

Flush pit: \$6.25 to \$10.75 Shallow pit: \$8.50 to \$14.25 Deep pit: \$13.75 to \$20.25

**REFINEMENTS:** On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

### 1 ADJUSTMENTS

Confinement pens, solid rod, 27" – 46" high, \$5.25 – \$11.50 per linear foot add for galvanized panels, 34" – 42" high, \$1.65 – \$2.00 per linear foot

PVC, 20" - 38" high, \$4.00 - \$8.50 per linear foot

Gestation stall, \$70 - \$85 each

Nursery feeders, 1 bu. - 4.5 bu., round, \$235 - \$375 each; rectangular, one sided, \$135 - \$350 each

rectangular, two sided, 3.5 bu. - 9.25 bu., \$225 - \$450 each

Nipple watering systems, \$55 - \$110 per pen

Electric pen water, \$65 – \$115 each; Automatic drinker kit with float, \$85 each

High-pressure wash system, 2 GPM - 4 GPM, cold water, \$750 - \$1,100 plus \$2.75 per linear foot

hot water system, add \$1,000 - \$1,800 per unit

Heating pads, nursery, 2' x 3' - 3' x 6', \$75 - \$190 each plus \$300 - \$400 for controller

### 2 HEATING AND COOLING

These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees.

\$2.90
1.25
3.20
.95
5.85
6.05
1.60
1.80
5.05
1.45
6.30
.95

## 3 HEIGHT REFINEMENTS

#### STORY HEIGHT MULTIPLIERS

Multiply base cost by following multiplier for any variation in average story height.

Average Wall Height	Square Foot Multiplier
7	.943
8	.963
9	.981
10	1.000
11	1.019
12	1.038
13	1.058
14	1.077
16	1.115
18	1.154
20	1.192
22	1.231

Average						AVER	AGE F	PERIM	ETER						Average
Floor Area, Sq. Ft./Story	60	80	100	150	200	250	300	350	400	500	600	800	1000	1200	Floor Area Sq. Ft./Stor
250	1.39	1.59	1.79	2.29											250
300	1.29	1.46	1.62	2.04											300
400		1.29	1.42	1.73	2.04										400
600			1.21	1.42	1.62	1.83	2.04								600
1,000			1.04	1.17	1.29	1.42	1.54	1.66	1.79						1,000
2,000				.98	1.04	1.10	1.17	1.23	1.29	1.42	1.54	1.79			2,000
3,000					.96	1.0	1.04	1.08	1.12	1.21	1.29	1.46	1.62		3,000
4,000						.95	.98	1.01	1.04	1.10	1.17	1.29	1.42	1.54	4,000
5,000							.94	.97	.99	1.04	1.09	1.19	1.29	1.39	5,000
6,000							.92	.94	.96	1.00	1.04	1.12	1.21	1.29	6,000
8,000								.90	.92	.95	.98	1.04	1.10	1.17	8,000
10,000									.89	.92	.94	.99	1.04	1.09	10,000
14,000									.86	.88	.90	.93	.97	1.01	14,000

# 5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

OCCUPANCY DESCRIPTION: These barns provide for farrowing and finishing cycles of swine production. Walls are insulated using plywood, wood or metal siding as the exterior cover. Some electrical and water to the pens is usually provided. Most have some type of flushing system. Higher quality (average to good) buildings are suitable for environmental control confinement housing.

**INCLUDED IN COSTS:** Architects' fees and contractors' overhead and profit.

**NOT INCLUDED IN COSTS:** Pens, crates, incubators, other special equipment or heat.

### **HOG BARNS - FARROWING**

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING & PLUMBING
	Good	\$30.95	Brick or block, good ventilation and fenestration	Insulated, slab floor, subdivided	Good lighting and water service
С	Average	25.25	Brick or block, adequate fenestration, ventilated	Insulated ceiling, slab floor, subdivided	Adequate lighting and water service
	Low cost	20.55	Block, side curtains or vents	Some insulation, slab, subdivided	Minimum services
	Good	27.95	Wood siding or stucco, good ventilation and fenestration	Insulated, slab floor, subdivided	Good lighting and water service
D	Average	21.85	Wood siding or stucco, adequate fenestration, ventilated	Insulated, slab floor, subdivided	Adequate lighting, water service
	Low cost	17.05	Wood, side curtains or vents	Some insulation, slab, subdivided	Minimum services
	Good	25.60	Pole frame, metal siding, fully insulated and ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided	Good lighting and water service
DPOLE	Average	20.20	Pole frame, metal siding, insulated, ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided	Adequate lighting and water service
	Low cost	15.90	Metal, side curtains or vents	Some insulation, slab, subdivided	Minimum services
	Cheap	14.10	Metal on pole, natural ventilation	Slab floor, subdivided	Minimum services
	Good	26.90	Steel panels and frame, fully insulated and ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided	Good lighting and water service
S	Average	21.10	Steel panels and frame, insulated, ventilated	Insulated ceiling, interior sheathing, slab floor, subdivided	Adequate lighting and water service
	Low cost	16.50	Steel, side curtains or vents	Some insulation, slab, subdivided	Minimum services
	Cheap	14.60	Metal on steel, natural ventilation	Slab floor, subdivided	Minimum services

## **HOG BARNS - FINISHING**

	Average	\$19.60	Block or structural tile, adequate	Insulated ceiling, slab,	Adequate lighting,
			fenestration, fully ventilated	somedivision of space	water service
C	Low cost	17.50	Block or structural tile, little fenestra-	Unfinished, partial floor,	Adequate lighting and
			tion, ventilated, side curtains or vents	somedivision of space	water service
	Cheap	11.25	Cheap block, natural ventilation	Unfinished, dirt floor, no curtains	Minimum services
	Average	16.25	Stucco or wood siding, insulated, fully	0.13	Adequate lighting,
			ventilated	slab floor, some subdivision	water service
D	Low cost	14.00	Boards or plywood on box frame,	Some wainscot, some slab floor,	Adequate lighting and
			some insulation, side curtains/vents	some division of space	water service
	Cheap	8.65	Low-cost boards, natural ventilation	Unfinished, dirt floor, no curtains	Minimum services
	Average	15.10	Pole frame, metal siding, insulated,	Insulated ceiling, plywood interior,	Adequate lighting,
			fully ventilated	slab floor, some subdivision	water service
DPOLE	Low cost	13.20	Pole frame, metal siding, some	Some wainscot, partial floor,	Adequate lighting and
			insulation, side curtains or vents	some division of space	water service
	Cheap	7.75	Metal on pole, natural ventilation	Unfinished, dirt floor, no curtains	Minimum services
	Average	15.60	Steel siding and frame, insulated,	Insulated ceiling, plywood interior,	Adequate lighting and
			fully ventilated	slab, some division of space	water service
S	Low cost	13.60	Steel siding and frame, some	Some wainscot, slab floor,	Adequate lighting and
			insulation, side curtains or vents	some division of space	water service
	Cheap	8.50	Metal on steel, natural ventilation	Unfinished, dirt floor, no curtains	Minimum services

For slotted floors, add the following per square foot of pit area:

Flush pit: \$6.25 to \$10.75 Shallow pit: \$8.50 to \$14.25 Deep pit: \$13.75 to \$20.25

**REFINEMENTS:** On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

#### 1 ADJUSTMENTS

Confinement pens, solid rod, 27" – 46" high, \$5.25 – \$11.50 per linear foot add for galvanized panels, 34" – 42" high, \$1.65 – \$2.00 per linear foot

PVC, 20" - 38" high, \$4.00 - \$8.50 per linear foot

Farrowing crate, finger, \$200 - \$315; riser, \$120 - \$225; complete package, \$575 - \$675 each

Partitions, 42" high, frame, \$7.25 plus \$5.50 for polylaminated finish; masonry, \$14.75 per linear foot

Growing/finishing feeders, 4.5 bu. – 12.5 bu., round, \$425 – \$550 each; rectangular, one sided, \$330 – \$700 each

rectangular, two sided, 4.5 bu. - 20.5 bu., \$375 - \$1,200 each

Electric pen water, \$65 – \$115 each; Automatic drinker kit with float, \$85 each

automatic waterer, \$120 - \$190; water fountain, \$215 - \$335 each, add for heater, \$175 - \$275

High-pressure wash system, 2 GPM – 4 GPM, cold water, \$750 – \$1,100 plus \$2.75 per linear foot

hot water system, add \$1,000 - \$1,800 per unit

Heating pads, farrowing, 1' x 3' - 2' x 5', \$50 - \$120 each plus \$300 - \$400 for controller

# 2 HEATING AND COOLING

These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees.

and architects fees.	
Electric cable or baseboard	\$2.90
Electric wall heaters (inc. FWA)	1.25
Forced air, ducted	3.20
heaters or furnace, vented	.95
Hot water, baseboard/convector	5.85
radiant floor or ceiling	6.05
Space heaters, with fan	1.60
radiant	1.80
Steam	5.05
Wall or floor furnace	1.45
Package heating and cooling	6.30
Air to air exchanger	2.30
earth tube	4.65
Ventilation, heavy capacity fans	.95
light duty, finishing	.40

## 3 HEIGHT REFINEMENTS

#### STORY HEIGHT MULTIPLIERS

Multiply base cost by following multiplier for any variation in average story height.

Average Wall Height	Square Foot Multiplier
7	.943
8	.963
9	.981
10	1.000
11	1.019
12	1.038
13	1.058
14	1.077
16	1.115
18	1.154
20	1.192
22	1.231
24	1.269
28	1.346

4

Average						AVER	AGE F	PERIM	ETER						Average
Floor Area, Sq. Ft./Story	60	80	100	150	200	250	300	350	400	500	600	800	1000	1200	Floor Area, Sq. Ft./Story
250	1.39	1.59	1.79	2.29											250
300	1.29	1.46	1.62	2.04											300
400		1.29	1.42	1.73	2.04										400
600			1.21	1.42	1.62	1.83	2.04								600
1,000			1.04	1.17	1.29	1.42	1.54	1.66	1.79						1,000
2,000				.98	1.04	1.10	1.17	1.23	1.29	1.42	1.54	1.79			2,000
3,000					.96	1.00	1.04	1.08	1.12	1.21	1.29	1.46	1.62		3,000
4,000						.95	.98	1.01	1.04	1.10	1.17	1.29	1.42	1.54	4,000
5,000							.94	.97	.99	1.04	1.09	1.19	1.29	1.39	5,000
6,000							.92	.94	.96	1.00	1.04	1.12	1.21	1.29	6,000
8,000								.90	.92	.95	.98	1.04	1.10	1.17	8,000
10,000									.89	.92	.94	.99	1.04	1.09	10,000
14,000									.86	.88	.90	.93	.97	1.01	14,000

## 5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

### **HOG SHEDS**

**OCCUPANCY DESCRIPTION:** These open and modified open-front sheds provide for raising and fattening swine. Walls are insulated using sidings as the exterior cover, with backwall vent doors and front hinged vent doors on the modified sheds. Some electrical and water to the pens is usually provided.

**INCLUDED IN COSTS:** Architects' fees and contractors' overhead and profit.

**NOT INCLUDED IN COSTS:** Heating and any special equipment.

### **MODIFIED HOG SHEDS**

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING & PLUMBING
	Average	\$19.35	Block or concrete, insulated vent doors	Insulated ceiling, slab, subdivided	Adequate electrical, water, feed, not automated
С	Low cost	17.20	Block or concrete, insulated, vent doors	Insulated ceiling, natural vent., slab floor, some division of space	Minimum lighting and water service
D	Average	15.85	Wood siding or stucco, insulated vent doors	Insulated ceiling, interior sheathing, slab floor, subdivided	Adequate electrical, water, feed, not automated
ט	Low cost	13.80	Wood siding and frame, insulated, vent doors	Insulated ceiling, natural vent., slab floor, some division of space	Minimum lighting and water service
D	Average	14.55	Pole frame, metal siding, insulated vent doors	Insulated ceiling, interior sheathing, slab floor, subdivided	Adequate electrical, water, feed, not automated
DPOLE	Low cost	13.00	Pole frame, metal siding, insulated, vent doors	Insulated ceiling, natural vent., slab floor, some division of space	Minimum lighting and water service
C	Average	15.35	Steel siding and frame, insulated vent doors	Insulated ceiling, plywood interior, slab floor, subdivided	Adequate electrical, water, feed, not automated
S	Low cost	13.45	Steel panels and frame, insulated, vent doors	Insulated ceiling, natural vent., slab floor, some division of space	Minimum lighting and water service

#### **HOG SHEDS**

			1100 0	,,,	
	Average	\$12.60	Stucco or wood siding, open front, upper doors	Some ceiling insulation, slab floor, subdivided	Adequate electrical, water, feed, not automated
D	Low cost	10.85	Vertical boards or plywood, open front, back vents	Some wainscot, slab floor, some division of space	Water service
	Cheap	8.05	Plywood, open front, vents	Minimum facility, some flooring	Hose bibs
	Average	11.40	Pole frame, metal siding, open front, upper doors	Some ceiling insulation, slab floor, subdivided	Adequate electrical, water, feed, not automated
DPOLE	Low cost	9.80	Pole frame, metal siding, open front, back vents	Some wainscot, slab floor, some division of space	Water service
	Cheap	7.15	Metal, open front, vents	Minimum facility, some flooring	Hose bibs
<b>D</b>	Average	7.55	Wood post, knee wall, pipe hoop, fabric cover, end walls, curtains	Concrete slab floor, subdivided	Adequate electrical, water, feed, not automated
DHOOP ARCH	Low cost	6.15	Wood post, knee wall, pipe hoop frame, fabric cover, end gates	Some wainscot, partial floor, some division of space	Minimum water service, feed, not automated
	Cheap	5.55	Wood, pipe hoop, fabric cover	Minimum facility, some flooring	Hose bibs
	Average	12.15	Steel siding and frame, open front, upper doors	Some ceiling insulation, slab floor, subdivided	Adequate electrical, water, feed, not automated
S	Low cost	10.45	Steel panels and frame, open front, back vents	Some wainscot, slab floor, some division of space	Water service
	Cheap	7.80	Steel, open front, vents	Minimum facility, some flooring	Hose bibs
SSLANT	Low cost	9.75	Steel panels and slant frame, open front, back vents	Some wainscot, slab floor, some division of space	Water service
WALL	Cheap	7.30	Light steel, open front, vents	Minimum facility, some flooring	Hose bibs

For slotted floors add the following per square foot of pit area:

Flush pit: \$6.25 to \$10.75 Shallow pit: \$8.50 to \$14.25 Deep pit: \$13.75 to \$20.25



LOW-COST CLASS D LIVESTOCK SHELTER

### LIVESTOCK SHELTERS

Individual shelters, hutches or small coops, for the segregation of breeding or young stock (with open front, stucco or wood siding, and composition roof), cost \$825 to \$1,475. Add \$300 for concrete floor, \$525 for front wall and fenestration. Add for water and electrical.

### **HOG SHEDS**

**REFINEMENTS:** On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

#### 1 ADJUSTMENTS

Confinement pens, solid rod, 27" – 46" high, \$5.25 – \$11.50 per linear foot add for galvanized panels, 34" – 42" high, \$1.65 – \$2.00 per linear foot

PVC, 20" - 38" high, \$4.00 - \$8.50 per linear foot

Partitions, 42" high, frame, \$7.25 plus \$5.50 for polylaminated finish; masonry, \$14.75 per linear foot

 $Growing/finishing\ feeders,\ 4.5\ bu.-12.5\ bu.,\ round,\ \$425-\$550\ each;\ rectangular,\ one\ sided,\ \$330-\$700\ each$ 

rectangular, two sided, 4.5 bu. - 20.5 bu., \$375 - \$1,200 each

Bulk feeders, 25 bu. - 85 bu., round, \$1,050 - \$1,300; rectangular, \$650 - \$1,675

Mechanical feeder, overhead, \$95 - \$125; trough auger, \$68 - \$95; chain feeder, \$62 - \$116 per linear foot

Electric pen water, \$65 – \$115 each; Automatic drinker kit with float, \$85 each

automatic waterer, \$120 - \$190; water fountain, \$215 - \$335 each, add for heater, \$175 - \$275

 $Watering\ tanks,\ 300\ gal.\ -1,100\ gal.,\ \$160-\$350\ each;\ Water\ troughs,\ steel,\ \$17-\$25;\ Concrete,\ \$25-\$37\ per\ linear\ footday tanks,\ steel,\ steel,\$ 

Concrete exercise apron, \$1.35 per square foot of paved area

## 2 HEATING AND COOLING

These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees.

Electric cable or baseboard	\$2.90
Electric wall heaters (inc. FWA)	1.25
Forced air, ducted	3.20
heaters or furnace, vented	.95
Hot water, radiant floor or ceiling	6.05
Solar heat, active air	2.20
Space heaters, with fan	1.60
radiant	1.80
Steam	5.05
Wall or floor furnace	1.45
Package heating and cooling	6.30
Ventilation, heavy capacity fans	.95
light duty, finishing	.40

# 3 HEIGHT REFINEMENTS

#### STORY HEIGHT MULTIPLIERS

Multiply base cost by following multiplier for any variation in average story height.

Average Wall Height	<b>Square Foot Multiplier</b>
7	.943
8	.963
9	.981
10	1.000
11	1.019
12	1.038
13	1.058
14	1.077
16	1.115
18	1.154
20	1.192
22	1.231
24	1.269

Average	AVERAGE PERIMETER														Average
Floor Area, Sq. Ft./Story	60	80	100	150	200	250	300	350	400	500	600	800	1000	1200	Floor Area, Sq. Ft./Story
250	1.39	1.59	1.79	2.29											250
300	1.29	1.46	1.62	2.04											300
400		1.29	1.42	1.73	2.04										400
600			1.21	1.42	1.62	1.83	2.04								600
1,000			1.04	1.17	1.29	1.42	1.54	1.66	1.79						1,000
2,000				.98	1.04	1.10	1.17	1.23	1.29	1.42	1.54	1.79			2,000
3,000					.96	1.00	1.04	1.08	1.12	1.21	1.29	1.46	1.62		3,000
4,000						.95	.98	1.01	1.04	1.10	1.17	1.29	1.42	1.54	4,000
5,000						.92	.94	.97	.99	1.04	1.09	1.19	1.29	1.39	5,000
6,000						.90	.92	.94	.96	1.00	1.04	1.12	1.21	1.29	6,000
8,000						.87	.88	.90	.92	.95	.98	1.04	1.10	1.17	8,000
10,000							.86	.88	.89	.92	.94	.99	1.04	1.09	10,000

# 5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.