GEORGIA INSTITUTE OF TECHNOLOGY
Engineering Experiment Station

PROJECT INITIATION

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Sponsor: Southern Saw Service, Inc.

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Assigned to: Industrial Development Division

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RA-62(12-69)
SOUTHERN SAW SERVICE, INC.

EXPANSION ALTERNATIVES

Project A-1394

1972

Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY
Atlanta, Georgia
SOUTHERN SAW SERVICE, INC.
EXPANSION ALTERNATIVES

Prepared for
Southern Saw Service, Inc.
Atlanta, Georgia

by
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Industrial Development Division
Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY
February 1972
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HISTORY

In early 1972, the Southern Saw Service, Inc., of Atlanta contracted with the Industrial Development Division of the Engineering Experiment Station, Georgia Institute of Technology, to undertake a study of how Southern Saw Service, Inc., might expand and grow in the near and distant future.

A meeting between members of the company and the Experiment Station was set up to discuss the needs and aims of the company. Mr. Eugene A. Anderson, Mr. W. C. Pattillo, Mr. W. H. Williams, and Mr. Robert Haege, of Southern Saw Service, and Mr. Ben James and Mr. R. Lynnard Tessner of the Experiment Station met on January 12, 1972. The meeting brought out that the company has grown for years in a haphazard way and that for further growth to progress in an orderly way, some overall plan was needed. The only limit placed on the study was one of time -- the study was needed by February 21, 1972.

After the meeting, Mr. James and Mr. Tessner were given a tour of the plant by Mr. W. C. Pattillo. Mr. Pattillo explained the general layout and the flow of material through the plant. Mr. Haege assisted by supplying data on cost, growth, and taxes.
INTRODUCTION

Southern Saw Service, Inc., faces an important juncture. Should it expand at its present location or move to a new location? If the present location is chosen, how does the plant grow to handle the expected increase in volume? If another site is chosen, how should it be developed to maximize the benefits a new site can offer?

The last four years have been years of rapid growth in the face of an overall slowdown in the general economy; therefore, the site chosen must not reach saturation for a period of at least 20 years.

Projecting growth is at best a risky undertaking, but the trends of the last four years would seem to indicate that by the end of 1975 annual sales should approach $4.75 million and band saw volume should be at the 2.2 million level. If present trends hold, 1982 should witness sales of $6.05 million and band saw volume of 2.8 million. Projections past 10 years are of very little value except as general guidelines and should not be taken as "fact." With such limitations in mind, at the end of 15 years band saw volume should be 3.2 million and sales $6.93 million. At 20 years band saw volume should be 3.6 million and sales $7.78 million. All projections are in current dollars.

The present site presents a hodgepodge of buildings constructed of a wide variety of materials. The size and variety of the present buildings indicate a very conservative financing program. For all of the apparent discontinuity of the buildings, the resulting materials flow is far better than one would suppose and results in very little wasted space. However, any major additions to the present structures would appear unreasonable because of the age and condition of the original buildings. The present warehouse is the only structure that appears useful for long-range growth.

The present layout and equipment is approximately 100% loaded. Further growth in production capacity at the present site can be procured in one of only two ways. Additional equipment and buildings can be added to the present inventory, or the present facility can be operated at a more
intensive rate, that is two or three shifts a day. Until limits imposed on management by span of control prevent further enlargement of the personnel and equipment inventory, it would seem better to limit the plant to one shift. However, present space limits prevent growth in the equipment inventory and therefore, a limited second shift is presently being used. Present production space is, according to Mr. Haege, approximately 33,000 sq. ft.; warehouse space, 12,800 sq. ft.; and office space, 7,000 sq. ft.
PROCEDURE

The foremost thought when considering possible methods of relocating the plant or expanding at the present location was that production must be disturbed as little as possible.

In order that each plan could be judged on some common base, a general cost of moving each piece of equipment was drawn up and used to evaluate each possible layout. While every effort was made to use realistic figures for each item, any errors in the figures used would result in changing only the relative magnitude of the result without affecting the absolute standing of each plan.

The problem of financing a new plant or an expansion of the existing plant was considered only to the extent of realizing that part of the problem now facing the company came about because of a very conservative philosophy of financing. In order to avoid similar problems in the future, all plans were formulated without regard to financing terms.

In all, six plans for the present site were studied and one general plant elsewhere was considered. The six plans for the present site were developed first as possible methods of solving the problems of expansion and then researched for cost, growth potential, and production interruption.

The one general plan for a site outside the Atlanta city limits is a plan that will fit almost any 10-acre site. In order to have real figures to discuss, the general area of the city of Douglasville, Douglas County, was selected as a site for the new plant location. Two estimates for building the new plant were obtained. Because of time limitation, neither estimate is as detailed as the contractor would like, but the figures given by each should be correct within a few thousand dollars.
ALTERNATIVES
The sixth plan studied for the present site proved to be the plan that offered the best combination of factors when cost, growth potential, and production interruption were considered.

The cost of moving equipment is almost equal for all plans since the same equipment is being moved. The only significant difference arises when some equipment must be moved twice. Plan 6 requires that all equipment in what are now Buildings 6 and 8 (see Fig. 1) and part of the new saw equipment be moved twice. The double move increased the price of Plan 6 approximately $9,000 over the moving cost of the other plans. The increased cost is more than compensated for by the increased efficiency of the resulting plant.

The first step in Plan 6 is to construct Building A (see Fig. 1). The building should be constructed in such a manner that a second story can be added when the need arises. The building should be constructed as a shell and will be used temporarily as a production facility. Building A should be constructed along the lines submitted by the architectural firm presently retained by the firm. The building should be 85' x 80' of whatever material is deemed appropriate. All production equipment in Building 6 and 8 (see Fig. 1) and new saw production through setting will be moved to Building A. In order for materials to flow into the production area, a small bridge linking Building A and Building 2 will be built to allow material to flow through to the plant.

As soon as Building A is in production, the old Building 8, three-fourths of 6, and part of 5 are removed and the new Building B is constructed. Building B is a 110' x 192' free-span building with a minimum head room of 21' 7". The building should be a "standard" building such as those produced by Star, Butler, or Dixie Steel, with bay size of 24' x 110'. When B is completed, all the equipment for saws in Building A and the equipment in 11, 9, and 4 is to be moved to the new Building B. Building 11 is then removed and Building C is constructed. Building C is a 110' x 72' extension of Building B with no internal partitions. By constructing C after Building 11 is removed, the necessity of a temporary building to house the band saw sorting operation is averted. The total increase in cost
of the B and C combination over one continuous building is considerably smaller than the cost of a temporary building. After the completion of Building C, all remaining production equipment in Buildings 2, 3, 5, and A is moved into Buildings 10, B, and C as per Fig. 2.

Since the area available for expansion at the present site is limited and the product produced is light, it was felt that the new plant must be on two levels in order to conserve space. As can be seen in Fig. 2, 14,004 sq. ft. of warehouse and production space is gained with no increase in site area usage.

The general flow of materials for the new plant is shown in Fig. 3. While a straight line materials flow is preferred, the fact that material is shipped into and out of the plant in the same containers forces the use of a "U" type flow. Some liberties were taken with the "U" in order to fit it to the new building.

After the removal of all old buildings except 7 (see Fig. 1), the new plant has the potential for growth in all departments. As the need for space grows, additional buildings can be built. The first logical expansion would be to construct along side Buildings B and C (see Fig. 4) a new building, Building D. The new building would increase the plant size to 90,307 sq. ft. and allow increased area for all departments except the machine shop. The new Building D (see Fig. 5) was laid out for heat treated blades and production of new blades. If product mix at that time demands a different layout, it could be incorporated easily.

Figure 5 shows the main office as being a two-story building. Of course, the second story could be expanded as the need arose or it could be built as a shell and filled in as needed.

When the pressures of production needs require additional space, Building E (see Fig. 4) can be constructed along side Building D. Building E (see Fig. 6) will add an additional 23,658 sq. ft. to the plant for a total of 120,765 sq. ft. Building E was laid out for heat treated blades only, but if product mix does not justify such a layout, any product could be produced in the resulting space.
With each expansion into high-rise buildings the warehouse has been eased out of the old Building 10. The reasoning behind such a move is twofold. One, the increased head room allows more storage space without using increased floor space. Two, moving the warehouse out of 10 leaves more space for the production of knives and plates.

The cost of such a program of expansion can, to some extent, be spread over a very long term. However, to get the program rolling at least Buildings A, B, and C should be constructed at the following estimated cost:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build shell of A @ $13 sq. ft.</td>
<td>$88,400</td>
</tr>
<tr>
<td>Move equipment from 8, 6, and part of new saw to Building A</td>
<td>9,130</td>
</tr>
<tr>
<td>Construct Buildings B and C @ $4.50 sq. ft.</td>
<td>195,968</td>
</tr>
<tr>
<td>Move all production equipment to 10, B, and C</td>
<td>54,221</td>
</tr>
<tr>
<td>Finish shell of A for office @ $9 sq. ft.</td>
<td>61,200</td>
</tr>
<tr>
<td>Move office equipment to new offices</td>
<td>2,000</td>
</tr>
<tr>
<td>Total cost of first expansion</td>
<td>$410,919</td>
</tr>
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</table>

Stage 2 expansion in today's dollars would cost approximately the following:

<table>
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<tr>
<th>Description</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td>Finish Building A @ $18 sq. ft.</td>
<td>$122,400</td>
</tr>
<tr>
<td>Construct Building D @ $4.75 sq. ft.</td>
<td>144,488</td>
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<tr>
<td>Total without equipment cost</td>
<td>$266,888</td>
</tr>
</tbody>
</table>

Stage 3 expansion would cost approximately the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building E @ $4.75 sq. ft.</td>
<td>$112,375</td>
</tr>
<tr>
<td>without equipment</td>
<td></td>
</tr>
</tbody>
</table>

The total cost for the plan would be approximately $800,000 plus the cost of any new equipment needed and the cost of removing all old structures. No figures for removing the old structures were included since they cannot be obtained without an on-site cost estimate by a contractor.
Material Flow Diagram

Main Office 6900 sq ft

Band Saw Reconditioning
Band Saw manufacturing
Band Saw Blades
Hammers
Plate Reconditioning
Plate New

Warehouse 10,000 sq ft + 3700 sq ft on 2nd level

Saw & Set on 2nd level
3500 sq ft

Southern Saw Service Inc 6400 sq ft

5 file cases per level
10 file cases total
6.6 ft - 2-1/2 FC per sq ft
Main Office
8,000 sq ft per level

New Saw
175 sq ft

3 SF banks per level
6 SF banks total
4,500 sq ft per level

Wrap
12,000 sq ft

Imp & Dip
12,000 sq ft

HighFreq
1,520 sq ft

Wrap
12,000 sq ft

Machine shop
8,000 sq ft

Plate & Auto
6,500 sq ft

Office
Shark cut
600 sq ft

New Saw
190 sq ft

5 SF banks per level
10 SF banks total
6,000 sq ft per level

Wrap
12,000 sq ft

Imp & Dip
12,000 sq ft

Lunch Room

Wash
150 sq ft

Rest Room

Rest Room

Front Hall

Tumbler
140 sq ft

Hand Saw
Blades
160 sq ft

Warehouse: 17,000 sq ft + 12,000 sq ft
Sort & Set on 2nd level
3,500 sq ft

Southern Saw Service Inc
100,000 sq ft 2'-20'-0"
PLAN 5

Plan 5 differs from Plan 6 only in the placement of equipment and the size of each expansion. The final size and shape of the plant is the same.

The first three expansions, Buildings A, B, and C (see Fig. 4), are the same for both plans. The difference occurs in the placement of the machine shop and the plate and knife areas. All production is located in Buildings B and C. Subsequent expansions are planned by the half building: either end of building D when needed and, later, either end of Building E as needed.

There are three disadvantages to Plan 5 when compared with Plan 6. First, when building "standard" buildings the cost per square foot goes up quite rapidly as the size of the building goes down. A price differential of more than a half a dollar per square foot is not uncommon. Second, because the machinery used in the production of plates and knives and the machinery used in the tool room are very heavy, the equipment must be on ground level. Third, the warehouse can and should grow vertically as well as horizontally. The combination of these three requirements indicated that it would be best to get warehousing out of Building 10 and plate making and related equipment out of the high-rise part of the plant and into the low head room of Building 10. Further buildings should be built as large as possible in order to yield low cost per square foot.
Plan 4 was an attempt to get increased space for production with a minimum of expenditure of money for moving equipment now, although the long-term cost would be the same.

Plan 4 starts with a two-story Building A. Offices would be on the second floor and the machine shop would be moved to the first floor of A.

Next, all of Buildings 7 and 1 and most of Building 2 (see Fig. 1) are removed and Building F (see Fig. 7) is built. All of the equipment in Buildings 3 and 8 and three-fourths of 6 (see Fig. 1) is moved into Building F. Then Building G, a 150' x 216' free-span building, is constructed over the existing Buildings 5, 9, 11 and 4 and one-fourth of 6. When time and money permit, new flooring could be installed and old buildings removed from within Building G. When additional space is needed, Building H could be added to the plant.

The overall plan seems reasonable until the cost of Building F and the cost of removing old Building 5 (see Fig. 1) are considered. Since Building F is a non "standard" building, it will cost at least $4.00 more per square foot than would a "standard" building such as Building G. The increased expenditure for Building F would amount to $43,488. The standard way of removing an old wooden one-story structure is to bulldozer it down. This would normally take one day plus the hauling off of the debris. To remove Building 5 stick by stick inside Building G would be prohibitively expensive when compared with the standard method. In the process of removing Building 5, production would be interrupted and a considerable amount of dust would be sprinkled on filing machines with very detrimental results.

When compared with the estimated equipment moving cost of Plan 6 ($54,221), Plan 4 seems to be a very poor choice.
PLAN 3

Plan 3 appears to be the second best plan for the present site. However, it suffers from the same problem of Plan 5 -- poor utilization of the "cube" and high cost.

The first building to be constructed is again Building A. The offices are moved into A, and all of Buildings 7 and 1 and most of 2 are removed to allow Building F (see Fig. 8) to be constructed. All the equipment from Building 8 and three-fourths of 6 and all new saw through set are moved to Building F. Buildings 8 and three-fourths of 6 are removed, and Building I (see Fig. 8) is constructed with 3,192 sq. ft. of space on the second level. All equipment in Buildings 2, 3, 4, 5, 9, and 11 is moved to Building I. All of the old structures are removed. When the need arises, the second level is added to Building A, and Building J (see Fig. 8) is constructed with 23,946 sq. ft. of second level.

If Plan 3 and Plan 6 are compared, the following results are observed: After growing to the 64,099 sq. ft. level, Plan 3 would cost $467,520, while Plan 6 would cost only $410,919. After growing to the 120,765 sq. ft. level, Plan 3 would cost $814,317, while Plan 6 would cost $790,182.

Again, the main cost difference can be traced to the use of non "standard" building. The plan also suffers for not being able to use the cube of the building.
Plan 2 is an attempt to utilize a temporary building to smooth the transition from old structures to new structures. However, as might seem obvious at this point, the plan requires the use of non-"standard" buildings, double moving of equipment, and the construction of a temporary building (see Fig. 9). In order to get to the 64,099 sq. ft. level of Plan 6, an additional temporary building of 3,780 sq. ft. would have to be constructed and removed. While the construction and removal might not cost any more than construction Building A (see Fig. 9) so as to support a second level, the subsequent construction of Building K would take up valuable site area.
Plan 1 suffers from even more extensive use of the non "standard" building. The cost of construction Building L (see Fig. 10) would raise the cost of this plan approximately $79,000 above the cost of Plan 6 if both were expanded to the 64,099 sq. ft. level. The basic plan also suffers from a rough transition from old structures to new structures, that is, production would tend to be interrupted extensively.
"NEW SITE"

The question of moving to another location presents a number of interesting ramifications. If the plant were to move to another site outside the high tax area of Atlanta, say Douglasville, then an estimated annual savings of $12,887 in taxes could be realized. The present plant buildings, except for the warehouse, must be removed in order to install larger and more useful buildings, but if the entire site were sold the present buildings would become a small asset instead of being a total liability. The present buildings and land are worth approximately $724,000. The sale of the present site should result, after paying all fees, in a net income of $500,000.

The single largest deterrent to moving the plant to another site is the resulting loss of employees. Approximately 70% of the employees live within easy commuting distance of the present plant; however, the remainder live as far as 30 miles from their work. As a general rule, men will follow a relocated job if it has not moved too far; however, under the same conditions, women tend to change jobs. Valued employees or all employees could be offered assistance with moving costs, but such aid would increase the cost of moving the plant considerably. If each employee were offered assistance of up to $300 to cover moving expenses and if only the most distant employees move, the cost would approach $6,600. If those living near the present plant wished to move also, the cost could go as high as $38,800.

The present site contains buildings totaling 52,800 sq. ft. of space. The office accounts for 7,000 sq. ft.; the warehouse, 12,800 sq. ft.; and production, 33,000 sq. ft. The "new site" building would include 8,000 sq. ft. of office space, 14,000 sq. ft. of warehouse space, and 40,400 sq. ft. of production space, for a total of 62,400 sq. ft.

The proposed building would be 312 ft. x 200 ft. The basic plan was designed for ease of expansion. The office can be expanded by adding a second floor, and all other parts of the plant can be expanded by building on any of the two sides or back. If the building is to be air conditioned, thought should be given to adding a mezzanine for the first expansion, as the increased area could be air conditioned at a low cost.
Two estimates for the cost of constructing a new plant were gathered. They are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimate 1</th>
<th>Estimate 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulated building on 6&quot; slab</td>
<td>$202,000</td>
<td>$190,500</td>
</tr>
<tr>
<td>Office and restrooms</td>
<td>$60,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Electric 1,000 amp panel</td>
<td>$30,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Air conditioning</td>
<td>$9,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Heating</td>
<td>$20,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Sprinklers</td>
<td>$70,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Fire walls</td>
<td>$10,000</td>
<td>$14,500</td>
</tr>
<tr>
<td>Brick front</td>
<td>$10,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>10 acres of land</td>
<td>$40,000</td>
<td>$40,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$471,000</strong></td>
<td><strong>$380,000</strong></td>
</tr>
</tbody>
</table>

Estimates do not include land preparation, office floor covering, or parking lot. The estimated total cost for a new plant is:

1) Building $471,000  
2) Aid to employees $38,800  
3) Moving of equipment  
4) Parking lot $30,000  
5) Contingency $100,000  

Total for new plant $748,243  
Less sale of present site $500,000  

This equipment moving cost was calculated at double the rate used in expansion plans 1 through 6. It does not, however, include transportation costs from the existing plant to the new site.

From the foregoing, it would appear that for the net expenditure of approximately $250,000 a new plant could be built in the city of Douglasville. The estimated reduction in taxes alone could pay off the principal for a twenty-year loan to build such a plant.

When a new plant of 62,400 sq. ft. costing $248,243 is compared with the Plan 6 cost of $410,919 for a 64,099 sq. ft. plant, it would appear that a new plant outside the Atlanta area should be given serious consideration.
The "new site" plant (see Fig. 11) can be expanded to the 120,000 sq. ft. level for approximately $4.50 per sq. ft. for the plant and $10.00 per ft. for the offices. The total cost for a new plant of 120,000 sq. ft., less sale of old site, should be approximately $550,000 (see Fig. 12). Utility cost at the new site should average out to approximately the same as is now being paid.

The only factor that might weigh against a new plant elsewhere would be freight services. The Douglasville area is served by three truck lines on a daily basis and U.P.S. This service should improve considerably when I-20 is completed.
<table>
<thead>
<tr>
<th>Location</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse</td>
<td>11,000 Sq ft</td>
</tr>
<tr>
<td>Plates</td>
<td>6,000 Sq ft</td>
</tr>
<tr>
<td>Knives</td>
<td>5,400 Sq ft</td>
</tr>
<tr>
<td>Heat Treated</td>
<td>17,144 Sq ft</td>
</tr>
<tr>
<td>Band Saw</td>
<td></td>
</tr>
<tr>
<td>Machine Shop</td>
<td>20,100 Sq ft</td>
</tr>
<tr>
<td>Wash</td>
<td>1,000 Sq ft</td>
</tr>
<tr>
<td>Tumble</td>
<td>600</td>
</tr>
<tr>
<td>Sorts</td>
<td>1,800 Sq ft</td>
</tr>
<tr>
<td>New Band Saw</td>
<td>4,260 Sq ft</td>
</tr>
<tr>
<td>New Band Saw</td>
<td>13,436 Sq ft</td>
</tr>
<tr>
<td>Reconditioning</td>
<td>12,204 Sq ft</td>
</tr>
<tr>
<td>Hand Saw Blades</td>
<td>1,800 Sq ft</td>
</tr>
<tr>
<td>Hand Saw Frames</td>
<td>750 Sq ft</td>
</tr>
</tbody>
</table>

Total Area: 122,400 Sq ft

Note: 1" = 30'-0"
RECOMMENDATIONS

The overwhelming difference in the costs of a new plant outside the Atlanta area and the costs of expanding on the present site would indicate a conclusion that a new site should be chosen. However, these impersonal cost figures do not take into consideration the human factors involved in uprooting a group of people from their familiar environment. The management of Southern Saw Company knows far better than the authors of this report what effect a relocation might have on the morale and productivity of their key employees. While it will be difficult to reduce this effect to a dollar cost, it should be carefully considered before a final decision is made.
APPENDIX
## ESTIMATED MOVING COSTS

**Hand Saw Frames**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bender</td>
<td>4 men one hour to lift the machine on to rollers and one hour to put machine down plus moving time, electrician 1/2 hour to disconnect machine and two hours to reconnect.</td>
<td>(2) (50) + 2 1/2 (17) = $142.50 plus hauling</td>
</tr>
<tr>
<td>1 grinder</td>
<td>2 men 3/4 hour to lift machine on to rollers and 3/4 hour to put machine down plus moving time, electrician 1/2 hour to disconnect machine and two hours to reconnect.</td>
<td>(1 1/2) (25) + 2 1/2 (17) = $60.00 plus hauling</td>
</tr>
<tr>
<td>1 buffer</td>
<td>2 men 3/4 hour to lift machine on to rollers and 3/4 hour to put machine down plus moving time, electrician 1/2 hour to disconnect machine and two hours to reconnect.</td>
<td>(1 1/2) (25) + 2 1/2 (17) = $60.00 plus hauling</td>
</tr>
<tr>
<td>1 hydraulic press</td>
<td>4 men 1 hour to lift the machine on to rollers and 1 hour to put machine down plus moving time, electrician 1/2 hour to disconnect machine and two hours to reconnect.</td>
<td>(2) (50) + 2 1/2 (17) = $142.50 plus hauling</td>
</tr>
<tr>
<td>1 bench grinder</td>
<td>2 men one hour to lift the machine on to rollers and put machine down, electrician 1/2 hour to disconnect and 1 1/2 hour to reconnect.</td>
<td>(1) (25) + (2) (17) = $59.00 plus hauling</td>
</tr>
<tr>
<td>4 work benches</td>
<td>2 men require approximately 1 hour per bench.</td>
<td>$25.00 plus hauling per bench</td>
</tr>
<tr>
<td>1 small lath</td>
<td>2 men 1 hour to lift the machine on to rollers and put machine down, electrician 1/2 hour to disconnect and 1 1/2 hour to reconnect.</td>
<td>(1) (25) + (2) (17) = $59.00 plus hauling</td>
</tr>
</tbody>
</table>

$142.50
60.00
60.00
142.50
59.00
100.00
59.00

$622.50 plus hauling figures
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Crew Hours and Electrician Time</th>
<th>Cost per Item (with hauling)</th>
<th>Total Cost (with hauling)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 surface grinder</td>
<td>4 men 1 hour up, 1 1/2 hours down, electrician 1/2 hour to disconnect and 2 hours to reconnect.</td>
<td>2 men 1 hour = $25.00 each. $50.00 total plus hauling.</td>
<td>(50) (2 1/2) + (17) (2 1/2) = $167.50 plus hauling</td>
<td>$167.50 plus hauling</td>
</tr>
<tr>
<td>2 work benches</td>
<td>4 men 1 hour up, 1 3/4 hour down, electrician 1/2 hour to disconnect and 2 hours to reconnect.</td>
<td>2 men 1 hour = $25.00 each. $50.00 total plus hauling.</td>
<td>(2 3/4) (50) + 2 1/2 (17) = $180.00 each plus hauling $1440.00 plus 8 haulings</td>
<td></td>
</tr>
<tr>
<td>8 drill presses</td>
<td>4 men 1 hour up, 1 1/2 hour down, electrician 1/2 hour to disconnect and 2 hours to reconnect.</td>
<td>2 men 1/2 hour up, 1/2 down, electrician 2 1/2 hours total.</td>
<td>$135.00 plus hauling total</td>
<td></td>
</tr>
<tr>
<td>2 single spindle drills</td>
<td>4 men 2 hours up, 2 hours down. Electrician 1 hour disconnect, 2 1/2 hours reconnect.</td>
<td>4 men 2 up 2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>(50) (4) + 3 1/2 (17) = $260.00 plus hauling each $780 plus hauling each</td>
<td></td>
</tr>
<tr>
<td>1 zagar drill</td>
<td>4 men 3 hours plus 3 hours down. Electrician 1/2 hour to disconnect and 2 hours to reconnect.</td>
<td>4 men 3 hours plus 3 hours down. Electrician 1/2 hour up 1 2 down.</td>
<td>(50) (6) + (2 1/2) (17) = $342.50 plus hauling</td>
<td></td>
</tr>
<tr>
<td>16&quot; lath</td>
<td>4 men 2 up 2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>4 men 2 up 2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>(4) (50) + (2 1/2) (17) = $242.50 plus hauling</td>
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<tr>
<td>20&quot; lath</td>
<td>4 men 2 up 2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>4 men 2 up 2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>(50) (6) + (2 1/2) (17) = $342.50 plus hauling</td>
<td></td>
</tr>
<tr>
<td>1 #2 milling machine</td>
<td>4 men 1 1/2 up 1 1/2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>4 men 1 1/2 up 1 1/2 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>(3) (50) + 42.50 = $192.50 plus hauling</td>
<td></td>
</tr>
<tr>
<td>1 16&quot; drill</td>
<td>4 men 1 hour up 1 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>4 men 1 hour up 1 down. Electrician 2 1/2 hours up. 1 down.</td>
<td>(2) (50) + 2 1/2 (17) = $142.50 plus hauling</td>
<td></td>
</tr>
<tr>
<td>1 marking machine</td>
<td>2 men 1 up, 1 down, electrician 2 1/2 hours up. 1 down.</td>
<td>2 men 1 up, 1 down, electrician 2 1/2 hours up. 1 down.</td>
<td>(2) (25) + (2 1/2) (17) = $92.50 plus hauling</td>
<td></td>
</tr>
<tr>
<td>6 cabinets</td>
<td>2 men 1 up, 1 down.</td>
<td>2 men 1/4 up, 1/4 down</td>
<td>(1/2) (25) = $12.50 plus hauling each $75.00 total plus 6 haulings</td>
<td></td>
</tr>
<tr>
<td>5 work benches</td>
<td>2 men 1 hour = (25 plus hauling each)</td>
<td>2 men 1 hour = (25 plus hauling each)</td>
<td>2 men 1 hour = (25 plus hauling each) $125 plus haulings</td>
<td></td>
</tr>
</tbody>
</table>
Plate Reconditioning and Manufacturing

$ 167.50
  50.00
1,440.00
  135.00
  780.00
  342.50
  242.50
  192.50
  142.50
  92.50
  75.00
  125.00

$4,027.50 plus hauling figures
### Knives

<table>
<thead>
<tr>
<th>Description</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 welding furnaces</td>
<td>1 man 1 hour plus plumber disconnect. 1 connect 3 hours</td>
<td><em>(1) (12.50) + (4) (17) = 80.50 each $161.00 total</em></td>
</tr>
<tr>
<td>3 tool grinders</td>
<td>4 men 1 hour up and 1 down. Electrician 2 1/2 hours.</td>
<td><em>(2) (50) + 2 1/2 (17) = 142.50 plus hauling total 427.50 plus 3 haulings</em></td>
</tr>
<tr>
<td>2 # 3 grinders</td>
<td>4 men 1 1/2 up plus 1 1/2 down. Electrician 2 1/2</td>
<td><em>(3) (50) + (17) (2 1/2) = $192.50 $385.00 plus 2 haulings</em></td>
</tr>
<tr>
<td>1 double end grinder</td>
<td>2 men 1/2 up, 1/2 down. Electrician 2 1/2</td>
<td><em>(1) (25) + (2 1/2) (17) = 67.50 plus hauling</em></td>
</tr>
<tr>
<td>1 broach</td>
<td>2 men 3/4 up and down. Elect. 2 1/2</td>
<td><em>(1 1/2) (25) + 42.50 = $80.00 plus hauling</em></td>
</tr>
<tr>
<td>1 20&quot; grinder</td>
<td>4 men 1/2 hr. up and 1/2 hr. down. Elect. 2 1/2</td>
<td>50 ÷ 42.5 = 92.5 plus hauling.</td>
</tr>
<tr>
<td>2 walker surface grinders</td>
<td>4 men 1 hr. up and 1 hr. down. Elect. 2 1/2</td>
<td>142.50 plus hauling $295 + 2 haulings</td>
</tr>
<tr>
<td>1 vibrator finisher</td>
<td>2 men 1 hr. up and 1 hr. down. Elect. 2 1/2 hr.</td>
<td>50 + 42.50 = $92.50 plus hauling.</td>
</tr>
<tr>
<td>3 hollow grinders</td>
<td>4 men 1 1/2 hr. up and 1 1/2 hr. down. Elect. 2 1/2 hr.</td>
<td>150 + 42.50 = $192.50 plus hauling $577.50 plus 2 haulings.</td>
</tr>
<tr>
<td>3 edge hones</td>
<td>4 men 1 hr. up and 1 hr. down, elect. 2 1/2.</td>
<td>$92.50 plus hauling $277.50 plus 3 haulings</td>
</tr>
<tr>
<td>6 work benches</td>
<td>2 men 1 hr. = $25 plus hauling</td>
<td>$150 plus 6 haulings</td>
</tr>
<tr>
<td>1 cabinet</td>
<td>2 men 1 hr. = $25.00 plus hauling</td>
<td></td>
</tr>
</tbody>
</table>
### Knives

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>$161.00</td>
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<tr>
<td>427.50</td>
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</tr>
<tr>
<td>385.00</td>
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</tr>
<tr>
<td>67.50</td>
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</tr>
<tr>
<td>80.00</td>
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<td>295.00</td>
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<td>92.50</td>
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<td>577.50</td>
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<tr>
<td>277.50</td>
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</tr>
<tr>
<td>150.00</td>
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</tr>
<tr>
<td>25.00</td>
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</tr>
</tbody>
</table>

**Total**: $2,631.00 plus haulings
### Hand Saw Blades and Carcass Saws

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>Description</th>
<th>Cost Breakdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 filing machines</td>
<td>Build new frame and drive shaft, 2 men move - 1 hr. up, 1 hr. down. Elect. each machine = $5</td>
<td>$180.00 each plus hauling $7200.00 plus 40 h.</td>
</tr>
<tr>
<td>12 setting machines</td>
<td>Build new frame and drive shaft, 2 men move - 1 hr. up, 1 hr. down. Elect. each machine = $5</td>
<td>$180.00 plus hauling $2160 plus 12 h.</td>
</tr>
<tr>
<td>1 cut off press</td>
<td>2 men 1 1/2 hr. up and 1 1/2 hr. down. Elect. 2 1/2 h. (3) (25) + 42.50 = $117.50 + hauling</td>
<td></td>
</tr>
<tr>
<td>3 grinders</td>
<td>4 men 1 hr. up &amp; 1 hr. down + elect. (2) (25) + (42.50) = $92.50 + h. $277.50 + 3 h.</td>
<td></td>
</tr>
<tr>
<td>1 20 ton punch press</td>
<td>4 men 2 hr. up &amp; 1 1/2 hr. down. (3 1/2) (50) + 42.50 = $217.50 + h.</td>
<td></td>
</tr>
<tr>
<td>1 tubing machine</td>
<td>4 men 1 hr. up and down + elect. 2 1/2 hr. $142.50 + h.</td>
<td></td>
</tr>
<tr>
<td>6 benches</td>
<td>2 men 1 hr. = 25 + h. $150 + 6 h.</td>
<td></td>
</tr>
<tr>
<td>1 cabinet</td>
<td>2 men 1/4 up &amp; 1/4 down $12.50 + h.</td>
<td></td>
</tr>
<tr>
<td>1 pinning machine</td>
<td>4 men 1 1/2 up &amp; down $192.50 + h.</td>
<td></td>
</tr>
</tbody>
</table>

$ 7,200.00
$ 2,160.00
 117.50
 277.50
 217.50
 142.50
 150.00
 12.50
 192.50
$10,470.00
Wash Room

6 washing machines
4 men 1 hr. up & 1 hr. down. Elect. 2 1/2 hr.
plumber 4 hr.

\[(4) (50) + 42.50 + (4) (17) = $310.50 + h.\]
$1863.00 + h.

1 tumbler
4 men 1/2 up & 1/2 down
elect. 2 1/2
$92.50 + h.

2 flats
2 men 1/2 hr. = $12.50
$25.00 total

\[$1863.00 + h.\]
\[92.50\]
\[25.00\]
\[\$1980.50 + h.\]

Shake Out

$500 to move tables, lights, and monorail.

Tumbling

5 bank tumbler
4 men 1/2 hr. up & 1/2 hr. down. Elect. 2 1/2
$92.50 + h.
total $462.50 + h.

1 blade tumbler
4 men 3/4 hr. up & 3/4 down. Elect. 2 1/2.

\[(1 1/2) (50) + (42.50) = $117.50 + h.\]
$462.50
117.50
$580.00 + h.

Sorting racks

Racks & gauges - $550.00
Band Saw Manufacturing & Reconditioning

192 filing machines build new frames for 48 machines at 125 each
2 men 1 hr. up & 1 hr. down 50 each
Elect. 5 each $180.00
$8640.00 + h.

Use old frames for 144 machines 50 each
2 men 1 hr. up & 1 hr. down 50 each
Elect. 5 $105 each
$15, 120 + h.
plumbing for coolant included in frame cost.

20 setting machines use old frames from hand saw
old frames moved 50
2 men 1 hr. up & 1 hr. down 50
Elect. 5 $105
$2100 + h.

4 wrapping machines 4 men 1 1/2 up & 1 1/2 down
Elect. 2 1/2, plumber 2 1/2
(3) (50) + 85.00 = $235.00 + h.
$940.00 + 4 h.

2 set check devices 2 men 1 hr. up & 1 down, plumber 3 hr.
50 x 51 = $101 + h.
$202 ÷ 2 h.

1 dip tank 4 men 2 hr. up, 1 hr. down
plumber 3 hr.
(3) (50) + 3 (17) = $201 + h.

3 inspection stations 2 men 1 up, 1 down
Elect. 1
25 + 17 = $42
$126 + h.

4 tothing presses 2 men 2 up, 4 down, elect. 2 1/2
(6) (25) + 42.50 = $192.50 + h.
$770.00 + h.

8 coil setters 2 men 1 up and 2 down, elect. 2 1/2
75 + 42.5 = $117.50 + h.
$940.00 + 8 h.
Band Saw Manufacturing and Reconditioning

2 auto. cut off 4 men 2 up, 1 down, elect. 2 1/2

$192.50 + h.
$385.00 + 2 h.

hand cut off 2 men 1 up, 1 down

$50 + h.
$100 + 2 h.

3 welders 4 men 2 up & 2 down, elect. 2 1/2

$242.50 + h.
$727.50 + 3 h.

2 flash grinders 4 men 1 1/2 up, 1 1/2 down. Elect. 2 1/2

$192.50 + h.
$385.00 + 2 h.

$ 8,640.00
15,120.00
2,100.00
940.00
202.00
201.00
126.00
770.00
940.00
385.00
100.00
727.50
385.00

$30,636.50 + h.
Machine Shop

1 univ. mill  4 men 1 hr. up, 2 down, elect. 2 1/2
$192.50 + h.

1 bridge port  2 men, 1 1/2 hr. up, 1 1/2 hr. down, elect. 2 1/2
$117.50 + h.

1 16" lath  4 men 2 up and 2 down, elect. 2 1/2
$242.50 + h.

2 14" lath  4 men 1 3/4 up & 1 3/4 down, elect. 2 1/2
(3 1/2) (50) + $42.50 = $217.50
$425.00 + 2 h.

1 #3 drill  2 men 1 hr. up & 1 hr. down, elect. 2 1/2
$92.50 + h.

1 radial drill  4 men 1 1/2 hr. + 1 1/2 hr., elect. 2 1/2
$150.00 + 42.50 = $192.50 + h.

1 #2 surface grinder  2 men 1 1/2 hr. + 1 1/2 hr, elect. 2 1/2 hr.
$117.50 + h.

1 bear bal. machine  2 men 1 1/2 hr. up & 1 1/2 hr. down, elect. 2 1/2
$117.50 + h.

1 #2 tool cutter grinder  2 men, 1 hr. up & 1 hr. down, elect. 2 1/2 hr.
$92.50 + h.

1 sand blaster  2 men 1/2 up & 1/2 down, plumber 3 hr.
$76.00 + h.

2 saws  2 men 1 hr. up + 1 hr. down, elect. 2 1/2
$92.50 + h.
$185.00 + 2 H.

1 gas welder  1 man 1/2 hr. = $12.50

1 elect. welder  2 men 1 hr. + elect. 2 1/2
$67.50 + h.

7 work benches  2 men at 1 hr. = 25 each
$175 + h.
**Machine Shop**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Labor</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 20&quot; sharpener</td>
<td>4 men 1 up, 2 down, elect. 2 1/2.</td>
<td>$192.50 + h.</td>
<td></td>
</tr>
<tr>
<td>1 cut off saw</td>
<td>2 men 1/2 hr. + 1/2 hr., elect. 2 1/2.</td>
<td>$67.50 + h.</td>
<td></td>
</tr>
<tr>
<td>storage racks</td>
<td>2 men, 2 up, 2 down</td>
<td>$100 + h.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$192.50</td>
<td></td>
<td></td>
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<tr>
<td>117.50</td>
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<tr>
<td>242.50</td>
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<tr>
<td>425.00</td>
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<td>67.50</td>
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<tr>
<td>175.00</td>
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<tr>
<td>67.50</td>
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<td></td>
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<tr>
<td>100.00</td>
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<td></td>
</tr>
<tr>
<td><strong>$2,466.00</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Electrician Cost = $17 hour

4 man moving crew = $50 hour

2 man moving crew = $25 hour

truck hauling = $30 day plus 20¢ mile

plumber & helper = $17 hour

Total cost of moving equipment to new plant. Cost does not include moving of office equipment.

\[
\begin{align*}
\text{Total Cost} &= 622.50 + 3785.00 + 2631.00 + 10470.00 + 1980.50 + 580.00 + 550.00 + 30636.50 + 2466.00 + 500.00 \\
&= 54221.50 + h.
\end{align*}
\]

\[
\text{average speed} = \frac{3.5 \text{ miles/hr.} + .80}{5} = 2960 \text{ ft./hr.}
\]
Plan 3

1) Build new office Building A @ $22 sq. ft. $149,600
2) Move offices into new A 2,000
3) Remove old #7 & 1, part of #2
4) Build Building F at $11 sq. ft. 119,592
5) Move new saw, all #8 & 3/4 #6 into F 9,130
6) Remove old #8, 3/4 of 6, & new saw part of old #5
7) Build Building I @ $4.50 sq. ft. with 3,192 sq. ft. on second level 145,044
8) Move all of 2, 3, 5, 4, 9, & 11 to new I 42,154
9) Remove all of 2, 3, 5, 4, 9, & 11
10) Add second story to Build A @ $18 sq. ft. 122,400
11) Build Building J with 25,920 sq. ft. on first level and 23,946 on 2nd level @ $4.50 sq. ft. 224,397 $814,317
New Site Tax

Reduction in land value book

old site $195,000
new site 40,000
reduction in value $155,000

Buildings present book less dep.

old building $464,000
new building 230,000
$234,000

Reduction in taxable value

$234,000

$155,000

$389,000

Present worth approximately

$1,200,000

Less 389,000

$811,000

at 40% valuation .40

$324,400

If in city, tax 57.75/1000 x 324,400 = $18,734.10

present tax $31,621.80
new tax 18,734.10

reduction in tax load $12,887.70
Move of Plant to New Site

For general discussion, assume that it costs double to move everything as each item must be put on a truck and taken off which amounts to moving the item twice.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand Saw Frames</td>
<td>$622.50</td>
</tr>
<tr>
<td>Plate Rec. &amp; Main</td>
<td>$3,785.00</td>
</tr>
<tr>
<td>Knives</td>
<td>$2,631.00</td>
</tr>
<tr>
<td>Hand Saw Blades</td>
<td>$10,470.00</td>
</tr>
<tr>
<td>Wash Room</td>
<td>$1,980.50</td>
</tr>
<tr>
<td>Shake Out</td>
<td>$500.00</td>
</tr>
<tr>
<td>Tumbling</td>
<td>$580.00</td>
</tr>
<tr>
<td>Sorting</td>
<td>$550.00</td>
</tr>
<tr>
<td>Band Saw Rec. &amp; Main.</td>
<td>$30,636.50</td>
</tr>
<tr>
<td>Machine Shop</td>
<td>$2,466.00</td>
</tr>
</tbody>
</table>

$54,221.50

2

$108,443.00
UTILITY MONTHLY BILLS

Water

Douglasville $102.20
Douglas County 129.10

Sewer - Indeterminate

Electric - $1,216.65

Gas - $8,635 CCF per month - $751.24
$4,500 CCF per month - $391.00

This does not include sales tax.
ESTIMATES FOR SAW COMPANY BUILDING

- Insulated Building (Warehouse and Manufacturing Area) 6" slab throughout $202,000
- Offices and Restrooms 80,000
- Electric 1,000 amp. Panel 30,000
- Air Conditioning 9,000
- Heating 20,000
- Sprinklers 70,000
- Fire Walls 10,000
- Brick Front 10,000
- 20' Ceiling, 15% Additional Cost

Lease for $53,000 a year plus taxes and insurance.

0. Land Cost, 10 Acres 40,000
Estimated Property Taxes For Land And Building
(Does Not Include Personal Or Inventory Taxes)

Building Valuation - $230,000

Actual Tax Base (40% of Valuation) - $92,000

Estimated Taxes Owed on Building

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>In County (43.75 per 1,000)</td>
<td>$4,025</td>
<td></td>
</tr>
<tr>
<td>In City (14 per 1,000)</td>
<td>1,288</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$5,313</td>
<td></td>
</tr>
</tbody>
</table>

Land Valuation - $40,000

Estimated Taxes Owed on Land

<p>| | | |</p>
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>In County (43.75 per 1,000)</td>
<td>$700</td>
<td></td>
</tr>
<tr>
<td>In City (14 per 1,000)</td>
<td>224</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$924</td>
<td></td>
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</tbody>
</table>

Actual Tax Base (40% of Valuation) - $16,000

Total Estimated Property Taxes on Land And Building

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Douglas County ($4,025 + $700 =)</td>
<td>$4,725</td>
<td></td>
</tr>
<tr>
<td>Douglasville ($1,288 + $224 =)</td>
<td>1,512</td>
<td></td>
</tr>
<tr>
<td>Combined Total</td>
<td>$6,237</td>
<td></td>
</tr>
</tbody>
</table>
Mr. H. Wayne Hodges  
Georgia Institute of Technology  
Industrial Development Division  
1132 W. Peachtree Street  
Atlanta, Georgia 30309

Dear Wayne:

Enclosed is a copy of Douglas County EMC's general service schedule GS1 rate upon which the estimated operating cost was derived. Based upon the average figures of 221 KW demand and an average of 88,000 KWH per month on our general service rate, the monthly operating cost would be $1,216.65 subject to the appropriate Georgia State sales tax.

If you need any additional information for your proposal, please let me know. We stand ready to work with this prospect in any way possible.

Sincerely,

/  
Tim Clower, Manager  
Member and Community Services Department

TC/jp

Enclosure
DOUGLAS COUNTY ELECTRIC MEMBERSHIP CORPORATION

GENERAL SERVICE

SCHEDULE GS-1

AVAILABILITY:

Throughout the Cooperative's service area from existing lines of adequate capacity.

APPLICABILITY:

To all electric service of one standard secondary voltage required on Customer's premises, delivered at one point and metered at or compensated to that voltage. No service rendered hereunder may be resold, nor transmitted to other premises, either directly or indirectly, without the express consent of the Cooperative, and then only upon the condition that the energy resold is not sub-metered.

TYPE OF SERVICE:

Single or three-phase, 60 hertz, at a standard secondary voltage.

MONTHLY RATE - ENERGY CHARGE INCLUDING DEMAND CHARGE:

<table>
<thead>
<tr>
<th>Tier</th>
<th>KWH Range</th>
<th>Charge Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>25 KWH or less</td>
<td>@ 8.0¢ per KWH</td>
</tr>
<tr>
<td>Next</td>
<td>75 KWH</td>
<td>@ 5.0¢ per KWH</td>
</tr>
<tr>
<td>Next</td>
<td>1,400 KWH</td>
<td>@ 3.7¢ per KWH</td>
</tr>
<tr>
<td>Next</td>
<td>8,500 KWH</td>
<td>@ 2.9¢ per KWH</td>
</tr>
<tr>
<td>Next</td>
<td>190,000 KWH</td>
<td>@ 1.9¢ per KWH</td>
</tr>
<tr>
<td>Over</td>
<td>200,000 KWH</td>
<td>@ 1.7¢ per KWH</td>
</tr>
</tbody>
</table>

All consumption in excess of 200 KWH per KW of Demand, which is also in excess of 1,000 KWH

@ 0.6¢ per KWH

All consumption in excess of 400 KWH per KW of Demand, which is also in excess of 2,000 KWH

@ 0.45¢ per KWH

Minimum Monthly Bill:

A. $2.00 per meter plus $2.00 per KW of Demand in excess of 5 KW.
B. Athletic Field Lighting: $10.00 per meter for lighted athletic fields provided service is limited to the field lighting equipment itself and such incidental load as may be required to operate coincidentally with field lighting equipment.

DETERMINATION OF DEMAND:

The Demand shall be based on the highest 15-minute KW measurements during the current month and the preceding eleven (11) months. For the billing months of June through October, the KW demand shall be the greatest of (1) the current actual demand or (2) ninety-five percent (95%) of the highest demand occurring in any previous applicable winter month (November through May). For the billing months of November through May, the KW demand shall be the greater of (1) ninety-five percent (95%) of the highest summer month (June through October) or (2) sixty percent (60%) of the highest winter month (including the current month). In no case shall the Demand be less than the contract minimum nor less than 5 KW.

Where Demand is expected to exceed 100 KW, the Cooperative may install metering equipment to measure Reactive Demand. The Reactive Demand is the highest 15-minute KVAR measured during the month. The Cooperative shall bill to the customer the excess KVAR, that portion of KVAR which is in excess of one half the measured KW in the current month, at $0.15 per KVAR.

UNMETERED NON-SEASONAL SERVICE:

Where the installation of metering equipment is impractical or uneconomic, monthly KWH may be estimated and billed at the above Monthly Rate provided that such unmetered service is limited to those installations using less than 1,000 KWH monthly and with anticipated maximum 15-minute KW less than 5 KW. Billing under this option shall be designated "GS-1-U".

SEASONAL SERVICE:

A permanent customer with a recurring seasonal pattern of service requirements may elect billing at a surcharge of twenty five percent (25%) of the above Monthly Rate with the Demand as the measured 15-minute KW during the month provided that no KWH may be billed at less than 1.7¢ per KWH to a customer making such election and that such election shall continue in effect for the remainder of the term of the contract. Billing under this option shall be designated as "GS-1-S".

TERM OF CONTRACT:

Not less than one year up to and including 500 KW maximum anticipated 30-minute KW, nor less than five years over 500 KW maximum anticipated 30-minute KW.