
GIANTS RIDGE ECONOMIC IMPACT ANALYSIS

ECONOMIC AND FISCAL IMPACT ANALYSIS

GIANTS RIDGE RECREATION AREA BIWABIK, MINNESOTA

**PREPARED FOR:
IRON RANGE RESOURCES AND
REHABILITATION BOARD**



Economic & Market Research / Land & Development Planning
Landscape Architecture / Community Planning & Design
Golf Feasibility Analysis

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APRIL 25, 2016

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I. Executive Summary

Having examined the demand for golf, skier visits, lodging and new residential construction in the Giants Ridge Recreation Area, THK Associates, Inc. has estimated the total Economic Impacts that will be generated from activities at the Giants Ridge Facility over the next 20 years.

It is important to note that there have been numerous previous studies on Giants Ridge and its impacts over the years. Some of these reports were based on a larger six county area that related to all IRRRB activities. This economic impact estimate is based on the two county area of St. Louis and Itasca County only.

The following narrative and tables illustrate direct and indirect impacts from the Legend Golf Course, the Quarry Golf Course, the Giants Ridge Ski Hill, the South Chalet, the Pavilion, the new Events Center, the Lodge, the Villas, The Green Gate, the Woodlands/Residence Club, Voyagers Retreat and overall jobs and wages at Giants Ridge incurred by IRRRB.

The Legend Golf Course

It was shown in the golf course market analysis that there is a potential for 28,790 golf rounds at Giants Ridge in 2016 which will grow to 30,732 rounds by 2025. THK has assumed that these rounds will be equally divided among the Legend and the Quarry. The average revenue for greens fees and carts at the Legend is approximately \$57.00 which has been inflated at 2.5% annually. These revenues are subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge). On site food and beverage is approximately \$51.50 per round, acknowledging some of these revenues may come from non-golfers. These revenues are subject to an 8.375% sales tax rate (6.875% State, .5% County, 1.0% Giants Ridge). Merchandise sales are \$8.50 per round and subject to a 9.375% sales tax rate. Wages to maintain the golf course and related operation are reported at approximately \$854,716 annually. THK researched national, regional and local sources to estimate additional expenditures by visitors in the area. The only relevant and credible source identified was a publication entitled Evaluation of the Tourism Market and Development Potential of the Itasca Area, prepared by the University of Minnesota. The publication estimates that recreational visitors to the St. Louis/Itasca County area, in addition to the on-site expenditures, will spend an additional \$22.50 per day in local restaurants, retail shops, etc. THK would suggest a direct survey of skier and golfer visitors during 2016 as a test of these findings. These expenditures are subject to a 7.375% sales tax rate (6.875% State, .5% County). The Legend Golf course is not subject to property taxes.

In summary, total taxes related to the Legend Golf Course are \$174,368 in 2016 which will grow to \$305,691 by 2035. Total revenues are estimated at \$2,008,097 in 2016 and \$3,520,468 by 2035. Wages are \$854,716 in 2016 increasing to \$1,366,392 by 2035. Total impacts related to the Legend Golf course are \$3,037,181 in 2016 and could increase to \$5,192,550 by 2035.

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The Quarry Golf Course

The same assumptions for the Legend Golf Course have been applied to the Quarry Golf Course with the exception of a greens and cart fee at \$52.15 per round, on-site food and beverage at \$30.00 per round and merchandise sales at \$6.50 per round.

In summary, total taxes related to the Quarry Golf Course are \$139,204 in 2016 which will grow to \$305,691 by 2035. Total revenues are estimated at \$1,600,000 in 2016 and \$2,805,018 by 2035. Wages are \$854,716 in 2016 increasing to \$1,232,943 by 2035. Total impacts related to the Quarry Golf Course are \$2,510,443 in 2016 and increasing to \$4,282,004 by 2035.

Ski Hill

The Ski Hill has seen a drop in visits primarily due to snowfall, competition and the recent recession. Assuming average snowfall and positive economic conditions in the Twin cities and other areas that provide skier visits to Giants Ridge, it is projected that skier visits will grow from 37,255 in 2016 to 55,703 in 2035, assuming a new high speed lift is available in 2017 (as instructed by IRRRB/Giants Ridge Staff). The average revenue per skier for lift tickets and passes is \$31.16 per visit. Ski Hill revenue, exclusive of food and beverage and rental, is estimated to be \$1,160,866 in 2016 and increase to \$2,774,776 by 2035. These revenues are subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge). The average skier visit will generate \$22.50 in off-site expenditures in restaurants, grocery stores and retail sales. The off-site sales are estimated to be \$838,238 in 2016 and increase to \$2,003,609 by 2035. These revenues are subject to a 7.375% sales tax rate (6.875% State, .5% County).

In summary, total taxes related to the Ski Hill are \$170,651 in 2016 which will grow to \$407,901 by 2035. Total revenues are estimated at \$1,999,103 in 2016 and \$4,778,384 by 2035. Wages are addressed in overall Giants Ridge wages and jobs. The Ski Hill is not subject to property taxes. Total impacts related to the Ski Hill are \$2,169,754 in 2016 and estimated to increase to \$5,186,286 by 2035.

Event Center

The new Event Center will open in June of 2016. This facility will replace the food service element in the South Chalet; rental services for skiing, bicycling, boats, and other rental services; provide eating and warming areas for skiers, and create rental space for meetings/events/weddings and similar functions. IRRRB has prepared budgets and financial estimates for the performance of this center. Based on the IRRRB budget, THK has made the following assumptions: There will be approximately 10,800 non-ski visitors a year using the Event Center and partaking in Canopy Tours, bicycling, fishing, boating and related activities. Each visitor will spend approximately \$40 on these activities. These activities are subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge). Winter equipment rentals will average \$7.75 per visitor and are subject to a 9.375% sales tax. Food and beverage, including for weddings, are estimated at \$599,806 or \$16.10 per skier visit as the base of demand. These revenues are subject to an 8.375% sales tax rate (6.875% State, .5% County, 1.0% Giants Ridge).

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In summary, total taxes collected due to the Event Center will be \$117,801 in 2016 which will grow to \$188,323 by 2035. Total revenues are estimated at \$1,320,532 in 2016 and \$2,111,068 by 2035. Wages are addressed in overall Giants Ridge wages and jobs. The Event Center is not subject to property taxes. Total impacts related to the Event Center are \$1,438,328 in 2016 and could increase to \$2,299,384 by 2035.

The South Chalet

The South Chalet is being renovated into a smaller facility that will provide lockers for season pass holders, room for the ski patrol and a Nordic Center. All food services will be shifted to the Event Center once complete. There will be moderate locker and facility rental revenues estimated at \$10,000 annually, subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge).

In summary, total taxes related to the South Chalet are \$938 in 2016 which will grow to \$1,499 by 2035. Total revenues are estimated at \$10,000 in 2016 and \$15,987 by 2035. Wages are addressed in overall Giants Ridge wages and jobs.

The Pavilion

The Pavilion is an inflatable structure used for weddings, events and athletic functions. The facility has rental income from weddings and events estimated at \$50,000 subject to a 9.375% sales tax (6.875% State, .5% County, 2.0% Giants Ridge).

In summary, total taxes related to the Pavilion are \$1,406 in 2016 which will grow to \$2,248 by 2035. Total revenues are estimated at \$15,000 in 2016 and \$23,980 by 2035. Wages are addressed in overall Giants Ridge wages and jobs.

The Lodge, Villas and Green Gate

The Lodge, the Villas and Green Gate represent on-site lodging at Giants Ridge. Among the three properties there are a total of 122 rooms or units.

The Lodge has an Estimated Market Value of \$9,860,500 and pays property taxes of \$220,979. The Villas have an Estimated Market Value of \$7,999,800 and pay property taxes of \$128,451. Green Gate has an Estimated Market Value of \$167,600 and pays property taxes of \$2,500.

For the 122 units the estimated annual average occupancy is 45% (based on the conditions at Giants Ridge and the other 1,034 hotel/lodging units in the area blended to avoid specific information on any one property). It is reported that the Lodge has seen an increase in occupancy in recent years due to new management. With the increased impacts of the Event Center, occupancy is projected to increase by .5% annually to 54.5% by 2035. The average realized daily rate is \$135 per room. In 2016 room revenues on-site are estimated at \$2,705,198 and are subject to a 12.375% sales tax (6.875 State, .5% County, 2.0% Giants Ridge, and 3.0% Biwabik/Iron Range). Sales taxes from on-site room rentals are estimated at \$334,768 in 2016. By 2035 room revenues are projected to be \$5,237,649 and sales taxes will be \$648,159.

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In addition to on-site food and beverage at the Lodge and the Event Center, visitors will spend \$22.50 per day in area restaurants and retail establishments. With an average of 1.8 persons per room there will be 36,069 visitors in 2016 spending \$811,599 in area establishments. By 2035 there will be \$1,571,295 in off-site area expenditures. These revenues are subject to a sales tax rate of 7.375% (6.875 State, .5% County). Sales taxes will be \$59,852 in 2016 and \$115,883 by 2035.

Combined, the three properties have an estimated 39 employees, including the restaurant at the Lodge. Total wages are estimated to be \$1,450,000 today and will increase to \$2,318,043 by 2035.

In summary, total taxes related to the three on-site lodging facilities are \$394,621 in 2016 which will grow to \$764,042 by 2035. Total revenues are estimated at \$2,705,198 in 2016 and \$5,237,649 by 2035. Wages are estimated at \$1,450,000 today and \$2,318,043 by 2035. Total impacts related to the Lodge, Villas and Green Gate are \$4,549,818 in 2016 and could increase to \$8,319,734 by 2035.

On-site food and beverage at the Lodge is estimated to be \$745,100 in 2016 and this will increase to \$1,780,986 by 2035. On-site food and beverage is subject to an 8.735% sales tax (6.875% State, .5% County, 1.0% Giants Ridge). Sales taxes will be \$65,084 in 2016 and \$155,569 by 2035.

Off-Site Lodging

In addition to the Lodge, the Villas and Green Gate there are approximately 1,034 hotel/lodging rooms in the vicinity of Giants Ridge.

On average for the 1,034 rooms (based on the conditions at Giants Ridge and the other 1,034 hotel/lodging units in the area blended to avoid specific information on any one property) the estimated annual occupancy is 45%. With the increased impacts of the Event Center, occupancy is projected to increase .5% annually to 54.5% by 2035. Based on interviews with property managers, approximately 20% of the off-site business is related to Giants Ridge activities. The average realized daily rate is \$135 per room. In 2016 room revenues off-site are estimated at \$4,585,532 and are subject to a 10.375% sales tax (6.875% State, .5% County and 3.0% Iron Range). Sales taxes from off-site room rentals are estimated at \$475,749 in 2016. By 2035 room revenues are projected to be \$8,878,245 and sales taxes will be \$921,118.

Off-site visitors will spend \$22.50 per day in area restaurants and retail establishments. With an average of 1.8 persons per room there will be 61,140 visitors in 2016 spending \$1,375,659 in area establishments. By 2035 there will be \$2,663,473 in off-site area expenditures. These revenues are subject to a sales tax rate of 7.375% (6.875% State, .5% County). Sales taxes will be \$101,455 in 2016, growing to \$196,431 by 2035.

Combined, the portion of the 1,034 rooms that are occupied by activities generated at Giants Ridge are managed or serviced by an estimated 64 employees. Total wages are estimated to be \$2,383,535 today and will increase to \$3,810,439 by 2035.

EXECUTIVE SUMMARY

In summary, total taxes related to the portion of the 1,034 off-site hotel/lodging rooms are \$577,204 in 2016 which will grow to \$1,117,549 by 2035. Total revenues are estimated at \$5,961,191 in 2016 and \$11,541,718 by 2035. Wages are estimated at \$2,383,535 today and \$3,810,439 by 2035. Total impacts related to the Lodge, Villas and Green Gate are \$8,921,930 in 2016 and could increase to \$16,469,707.

The Woodlands/Residence Club

The Woodlands and Residence Club have a combined 46 lots. The 19 lots in the Woodlands have been sold and five homes have been built. One person owns five lots. Realistically only 14 homes can be built in the Woodlands. The Residence Club contains 27 lots and one home has been built as a fractional unit. The IRRRB will be taking possession of the remaining 26 lots in 2016. The Woodlands and Residence Club have a current Estimate Market Value of \$3,732,045 and pay taxes of \$72,227. The average home has an Estimated Market Value of \$276,114. Beginning in 2017 THK estimates that the Woodlands and Residence Club could add 2.5 home per year until 41 homes are built by 2030. By 2035 the Estimated Market Value will be \$21,415,583. In 2035 property taxes will be \$414,748.

The National Association of Home Builders estimates that for every new home built there is an estimated 3.5 full time jobs created with average wages of \$22.00 per hour. The construction of 2.5 homes per year in the Woodlands/Residence Club will result in nine full time jobs. Resulting construction wages will total \$422,136 in 2017.

Virtually all of the homes in The Woodlands/Residence Club will be seasonal homes. Occupancy is estimated at 25% annually with 2.0 persons per unit. The average person will spend \$22.50 per day on-site and \$22.50 per day off-site. The on-site expenditures are subject to an 8.375% sales tax (6.875% State, .5% County, 1.0% Giants Ridge) and the off-site expenditures are subject to a 7.375% sales tax (6.875% State, .5% County).

In summary, total taxes related to the Woodlands/Residence Club are \$76,158 in 2016 which will grow to \$457,138 by 2035. Total revenues are estimated at \$49,275 in 2016 and \$538,286 by 2035. Wages will be \$0 in 2016 and \$581,919 in 2030 when the Woodlands/Residence Club is built-out.

Voyagers Retreat

Voyagers Retreat has a total of 240 lots. To date approximately 49 homes have been built. Voyagers Retreat has a current Estimated Market Value of \$29,569,000 and pays taxes of \$571,121. The average home has an Estimated Market Value of \$254,617. Beginning in 2017 THK estimates that the Voyagers Retreat could add 5.5 homes per year. By 2035 the Estimated Market Value will be \$472,630,308. In 2035 property taxes will be \$9,128,784.

The National Association of Home Builders estimates that for very new home built there is an estimated 3.5 full time jobs created with average wages of \$22.00 per hour. The construction of 5.5 homes per year in Voyagers Retreat will result in 19.25 full time jobs. Construction wages will total \$902,902 in 2017.

EXECUTIVE SUMMARY

Virtually all of the homes in Voyagers Retreat will be seasonal homes. Occupancy is estimated at 25% annually with 2.0 persons per unit. The average person will spend \$22.50 per day on-site and \$22.50 per day off-site. The on-site expenditures are subject to an 8.375% sales tax (6.875% State, .5% County, 1.0% Giants Ridge) and the off-site expenditures are subject to a 7.375% sales tax (6.875% State, .5% County).

In summary, total taxes related to Voyagers Retreat are \$602,164 in 2016 which will grow to \$9,286,455 by 2035. Total revenues are estimated at \$394,200 in 2016 and \$2,002,159 by 2035. Wages will be \$0 in 2016 and \$1,048,219 in 2035.

Giants Ridge Employment and Wages

Currently the number of jobs and wages required for operating the private lodging facilities, in addition to wages and jobs associated with the golf courses, private facilities, and residential properties are approximately 35 full-time jobs with wages of \$2,115,000. These jobs operate the South Chalet, Pavilion and overall management of the Giants Ridge facilities. Other than a 2.5% inflation rate, these jobs have been projected to remain stable over the next twenty years. Wages will increase to \$3,381,145 by 2035.

Total Direct Impacts

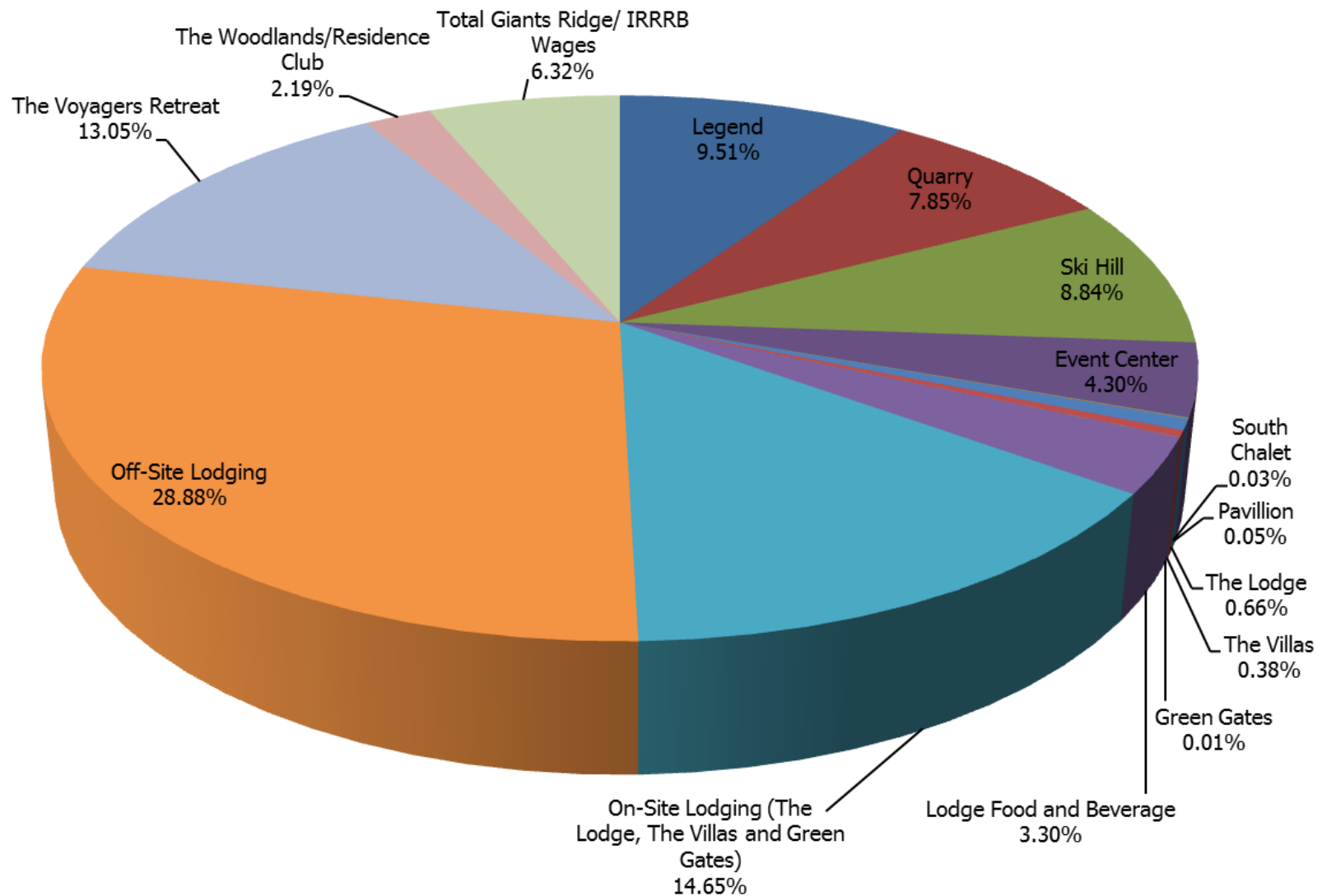
Direct Economic Impacts from Giants Ridge on the local economy are estimated to be \$27,053,744 today and \$61,366,027 by 2035.

Direct Impact Multiplier

There are a number of sources and models to estimate a multiplier effect of direct impacts generated from economic activity. A well know model is IMPLAN, based upon a complex input-output model. REMI (Regional Economic Multiplier Impacts) is a model developed by the U.S. Department of Commerce. The U.S. Bureau of Economic Analysis also prepares estimates of Economic Multipliers called the RIMS II. The IMPLAN Model projects Indirect and Induced Impacts that range from 1.65 to 1.70 times the Direct Impact. The REMI and U.S. Department of Commerce Models estimate a multiplier of approximately 1.6 of Direct Impacts. A 1.6 Multiplier Impact has been applied.

With a multiplier of 1.6, Economic Impacts from Giants Ridge on the local (Two County area) is estimated to be \$43,053,744 today and estimated to increase to \$98,185,643 by 2035. THK estimates that over the next twenty years the Economic Impacts of Giants Ridge could be as much as \$1.37 billion dollars.

Summary of Economic Impacts by Source, 2016-2035



EXECUTIVE SUMMARY

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
FULL TIME GIANTS RIDGE/IRRRB EMPLOYEES	35	46	46	46	46
TOTAL GIANTS RIDGE/IRRRB WAGES*	\$2,115,000	\$2,334,564	\$2,641,345	\$2,988,440	\$3,381,145
Total Revenues	\$16,807,676	\$20,349,681	\$24,326,947	\$29,010,265	\$34,355,695
Total Wages	\$7,574,491	\$7,453,178	\$8,432,587	\$9,540,698	\$10,136,036
Total Taxes	\$2,671,577	\$3,470,180	\$5,316,808	\$8,545,345	\$13,493,151
TOTAL DIRECT IMPACTS	\$27,053,744	\$33,607,604	\$40,717,687	\$50,084,748	\$61,366,027
 MULTIPLIER	 1.6	 1.6	 1.6	 1.6	 1.6
TOTAL IMPACTS	\$43,285,991	\$53,772,167	\$65,148,299	\$80,135,597	\$98,185,643
 20 YEAR CUMULATIVE IMPACTS	 \$1,368,682,898				

Source: IRRRB, St. Louis County Assessor, Operators and THK Associates, Inc.

Cost to Serve

While the Giants Ridge recreation area and its activities generate tremendous economic activity in the area, the local municipalities and St. Louis county incur costs to provide police, fire public works, road maintenance and recreation services. Based on the location of the different service providers THK Associates, Inc. has estimated the portion of the economic impacts that are realized in each community.

Overall, of the economic activity of \$43,065,885 annually (2016) generated in St. Louis and Itasca Counties, it is estimated that 90% of the economic benefits are realized in the St. Louis County environs. The largest benefactor of the economic impacts is Biwabik which realizes significant property and other taxes. Other communities and the county also benefit, but to a lesser degree.

Biwabik – Of all of the economic activity generate on-site by the Legend, Quarry, Ski Hill, Chalet, Pavilion, Event Center, the Lodge, Green Gate, the Villas, the Residence club, the Woodlands and Voyagers Retreat, THK Associates, Inc. estimates that approximately 60% of that activity takes place either on-site or in Biwabik. The remaining 40% is distributed among Aurora, Eveleth, Gilbert, Hoyt Lakes, Virginia and St. Louis County. Only 10% of off-site economic impacts are realized by Biwabik as there are no other lodging facilities in Biwabik and only 45% of the IRRRB employees live in the immediate area of Biwabik. Overall, THK has estimated that 40% of the total economic impacts generated by Giants Ridge are realized in Biwabik. Today the economic impacts realized by Giants Ridge in Biwabik are estimated at \$15.5 million. This is prior to improvements to the Ski Hill (high speed lift) and additional development.

Aurora – While Aurora is located very near Giants Ridge there are minimal lodging facilities and only a few restaurants that cater to Giants Ridge visitors. Only 10% of the economic impacts generated by Giants Ridge are estimated to be realized by Aurora. The current annual economic impacts to Aurora from Giants Ridge are estimated at \$3,875,930.

Eveleth – Eveleth is similar to Aurora in terms of economic impacts realized by Giants Ridge. Located further away than Aurora, but one of the most convenient stops off of Highway 53, we have also estimated that 10% of the economic impacts are realized by Eveleth, or \$3,875,930 annually.

Gilbert – Gilbert is somewhat closer to Giants Ridge than Eveleth and Virginia. Gilbert has minimal lodging facilities, but there are a number of restaurants. Gilbert is estimated to realize 7.5% of the economic impacts generated by Giants Ridge or \$2,906,947 annually.

Hoyt Lakes – Hoyt Lakes is located east of Aurora and realizes more camping and RV visitors than some areas. There are some restaurants in Hoyt Lakes. Hoyt Lakes is also estimated to realize 7.5% of the economic impacts generated by Giants Ridge or \$2,906,947 annually.

Virginia – Virginia has a significant number of lodging alternatives compared to the other communities. In addition Virginia has the largest population base on the municipalities. With the largest concentration of lodging alternative, Virginia should receive the largest percentage of off-site lodging of the five municipalities. At the same time Virginia will receive less of the direct impacts from activity at Giants Ridge. Overall Virginia is estimated to realize 10.0% of the economic impacts generated by Giants Ridge or \$3,875,930 annually.

EXECUTIVE SUMMARY

St. Louis County – St. Louis County is a large area with 630 lodging units available. The majority of off-site impacts will be realized by St. Louis County. We have estimated that St. Louis County will realize 15.0% of the economic impacts generated by Giants Ridge or \$5,813,894 annually.

In total, Biwabik, Aurora Eveleth, Gilbert, Virginia and St. Louis County are estimated to realize \$38.8 million in economic impacts today from Giants Ridge. This is exclusive of increased impacts from an improved ski hill and additional development. At current levels of economic impacts over twenty years the communities could realize well over \$775 million, again before improvements to the ski hill and additional development.

The communities and the county incur some expenses to provide services to visitors and residents. THK has reviewed the budgets for each municipality and the County to estimate applicable General Fund expenditures. The categories of police, fire, public works, roads and recreation are the categories most likely to be impacted. General Fund expenditures were calculated on a per person basis.

To estimate the full time equivalent population for each major activity the following basic assumptions were applied:

- 28,790 golf rounds in 2016 over 180 days equals 160 golfers per day and 50% (180 days divided by 365 days) are a full time equivalent or there are 86 full time persons associated with the golf operations
- 37,255 skiers over 120 days equals 310 skiers per day and 33% of those (120 days divided by 365 days) are a full time equivalent, or there are 103 full time persons associated with the ski hill
- Virtually 100% of the guests at the Lodge, the Villas and Green Gate are associated with skiing, golf or the event center
- With 54 total units at the Woodlands, the Residence Club and Voyagers Retreat at 3 persons per unit and 25% occupancy year round equals 41 full time equivalent persons
- The current IRRRB staff of 35 persons with an employment participation ratio of .5805 equates to 60 full time residents
- The 39 full time equivalent staff at the Lodge, the Villas and Green Gate equals 67 full time persons
- The 64 full time equivalent staff at the Legend and Quarry equals 110 full time persons

These assumptions result in a direct population of 461 full time persons and, when adjusted for economic multipliers, the total impact is estimated to be 737 persons. We have allocated the population to each municipality and the county based on their percentage of economic impacts realized. At today's General Fund expenses, the communities combined could realize annual expenses associated with Giants Ridge impacts of \$544,314. Over twenty years the expenses to the communities could total \$10.9 million dollars.

Marketing Research and Recommendations:

THK researched the Central Reservations System currently in use at the Giants Ridge Facility, and has reached the following conclusions:

Currently, the Giants Ridge facilities and surrounding facilities participate in a central reservation system. However, not all of the lodging facilities within the Giants Ridge recreational area participate in the central reservation system.

When searching for the Giants Ridge central reservation system, people are directed to the main Giants Ridge website, which is highly promotional of the on-site Giants Ridge facilities. This has caused many of the local lodging facilities to operate independently of the central reservation system. The phone number for the central reservations system is also difficult to find on the website and when calling Giants Ridge the representatives have difficulty finding the central reservations contact information as well. Only four other facilities in the area appear on the selection of off-site facilities.

There are also numerous reports on Facebook and Trip Advisor that offer negative comments. The negative comments revolve around inconsistent information. Many complaints refer to the representative being unaware of specials, coupons or other offers that are available. When a customer would find a special or offers that were available when they made a reservation, the offers were not honored.

There also seems to be complaints about the Spa in terms of timing to book an appointment. The Spa only takes reservations two weeks in advance. When guests book a trip months in advance on many occasions when the two week window arrives there are no appointments available.

The coordination between the Lodge, Villas, Green Gate and the ski hill and golf courses is inconsistent in many cases. At this time there appears to be too many options for booking visits which leads to inconsistent information and pricing. THK recommends that the website and reservation system be updated to have a sole reservation access point that is familiar with all facilities. The respective facility representatives also need better and consistent training so consistent messages and policies are understood and followed. For instance, the Spa should be required to allow guests of the Lodge, Villas and Green Gate to book an appointment when they make their reservation. A penalty for cancellation in less than two weeks could be applied. This process should be revised with better cooperation among the owners of the Lodge, Villas and Green Gate and IRRRB to allow for the lodging facilities to have access to other facilities information like the tees sheets at the golf courses when a guest is trying to make a reservation and book both a room and golf at the same time. Guests should also be able to purchase ski tickets, book lessons and plan group gatherings in one seamless transaction.

EXECUTIVE SUMMARY

THK Associates, Inc. also researched the health and wellness impact of the Giants Ridge Facility on the surrounding communities. The findings are as follows:

Lack of physical activity, combined with a poor diet, is the second leading cause of preventable death and disease in the United States and is a huge economic burden on the state. People who are physically active tend to live longer and have lower risk for heart disease, stroke, type 2 diabetes, depression, better weight control, and some cancers. Inactive adults have a higher risk for early death, heart disease, stroke, type 2 diabetes, depression, and some cancers. Nationally, less than half (48%) of all adults meet the 2008 Federal Physical Activity Guidelines.

In Minnesota however, 53% of adults participated in 150 minutes or more of aerobic physical activity per week, 31% of adults participated in muscle strengthening exercises more than twice per week, and 33% of 12th grade girls and 55% of 12th grade boys report participating in moderate physical activity five or more days per week at least 30 minutes a day.

Conversations with local city administrators in the Giants Ridge vicinity (including Virginia, Biwabik, Aurora, and Hoyt Lakes) indicate that it plays a significant role in the health and wellness of the residents. They believe that Giants Ridge encourages them and their families to be active and Giants Ridge is the reason that they ski or snowshoe in the winter and walk, run or cycle in the summer and boat on the lakes. They believe that Giants Ridge attracts a demographic that follows a healthier lifestyle, and the healthy lifestyle perpetuates itself due to Giants Ridge through events such as ski racing, running, and events like the “Tough Mudder” obstacle race. Furthermore, they report the loss of trails on private land as an issue, causing an increased demand for the trails at Giants Ridge.

The fitness lifestyle influenced by Giants Ridge helps to promote the area as well. Potential home buyers are attracted to the recreation provided by the lakes, golf, trails, and skiing. Homeowners that are attracted to the lifestyle complemented by Giants Ridge also bring in additional family and friends to visit for golf and other activities. Many of the campground users also cycle on the trails and boat on the lake.

Many visiting groups will rent community buildings in Biwabik and Hoyt Lakes for “sleep and ski” lodging for events such as the state high school skiing championships.

Hoyt Lakes indicates they see Giants Ridge as a partner for promoting golf on a regional scale. While Aurora has no hotels, it sees business for gas and dining, and increased demand for property due to Giants Ridge.

Many of the largest employers in St. Louis County offer wellness benefits as part of their overall health benefits. Typically this includes discounts on participation gym club memberships and fitness points that are earned to help reduce insurance premiums. None of the Human Resource departments that were surveyed reported using Giants Ridge for events or incentives, indicating Giants Ridge could do more to attract corporate and employer events.

II. INTRODUCTION

TASK ONE: ECONOMIC MEASURING OF THE IMPACTS OF GIANTS RIDGE

The initial task for the Economic and Fiscal Impact Study has been to assess the overall economic performance and potential performance of the Giants Ridge community. This involved reviewing the overall goals and objectives of IRRRB for the community and investments made to date. Major areas of research included:

- The historical performance of the local economy in terms of employment, population, household, tourism and development activity since the IRRRB involvement with Giants Ridge after the departure of the LTV mine
- Historical impacts on assessed values and taxes on privately held property within the recreation area and areas outside the boundaries of the recreation area.
- Projecting employment, population, households, tourism visits (skiing, golf, snowmobiling, fishing, etc.) in the surrounding area over the next decade.
- Projecting future residential and other development potentials within Giants Ridge recreation area and the surrounding area.
- Projecting new assessed values and taxes within the Giants Ridge recreation area and the surrounding area.
- Marketing methods and effectiveness of current policies, reservation systems, etc.
- An evaluation of the quality of life realized through recreation in terms of property values; recruitment and retention of employees (recreation benefits as part of compensation, preferred activities, etc.); availability of workforce housing and the overall assessment of the health of the population. Data was obtained through interviews and from local health care providers and employer sponsored “wellness” activities related directly to the Giants Ridge recreation area.

TASK TWO: INFORMATION GATHERING AND IRRRB/STAKEHOLDER INPUT

The second task was to coordinate the assemblage of data that referred to, but was not limited to: the ski area; the Legend and Quarry golf courses; the ski chalet; the Lodge; the Event Center; surrounding improved residential real estate; surrounding residential and vacant land; and any other assets/properties that are associated with the Giants Ridge community. The State of Minnesota, Giants Ridge, IRRRB, and other sources had assembled large portions of this data previously. Additional data, such as methods of assessment and tax rates for the Towns of Biwabik and White, the Mesabi East School district and St. Louis County was also assembled and researched. THK physically inspected the Giants Ridge assets and personally meet with representatives of IRRRB, stakeholders as defined by IRRRB, the Town of Biwabik, the Town of White, Mesabi East School District and St. Louis County.

TASK THREE: OFF-MOUNTAIN AND RESIDENT SPENDING

While identified as “if necessary” in the request for proposal, THK Associates, Inc. believes that the impacts from local and destination guests as well as residents is potentially significant and was quantified. Typical expenditures from skiers, golfers, fishing, snowmobiling and other activities were researched and the total spending at Giants Ridge and in the local community was quantified. Also, residents within the Recreation area make expenditures at Giants Ridge and in the local communities which was measured from median household incomes and expenditures by retail and service category. This research helped to quantify and capture the important fiscal impact of the community.

TASK FOUR: DATA ANALYSIS

The analysis of the data which was assembled resulted in the projection of a number of economic impacts. The major impacts that we anticipated include, but were not limited to, the following areas:

Property and Sales Taxes

Within the Giants Ridge facility there are a number of entities that are required to pay property taxes to the county and local municipalities. In order to determine property tax impacts, THK researched current valuations placed on the various land uses and improvements as established by St. Louis County. Using that information as a base, THK applied the current tax rates to the market and assessed values to determine property taxes and entities that will receive them. It was important to isolate revenue sharing that was agreed to between the Town of Biwabik and the Town of White in prior negotiations regarding annexation of the Giants Ridge facility into the Town of Biwabik.

THK Associates, Inc. reviewed recent economic trends to estimate residential and commercial development potentials and estimate future potentials for the golf, ski, event center and related operations. THK outlined future growth and absorption of various product types and the future performance of existing facilities.

Through these projections, property and sales taxes and other revenues to each affected jurisdiction were projected for the next twenty years.

Direct Wages

The Giants Ridge golf, ski and related recreation facilities result in the direct, or contracted, employment of a number of personnel ranging from development managers to maintenance workers. In addition, private enterprises employ workers at the Lodge, ski and bicycle rentals, the Villas and other businesses.

Payroll for all of these employees was reviewed and projected for the next twenty years based on anticipated increases in compensation and future development.

Also, temporary employment from construction and development was estimated for the same time period.

Total direct wages was estimated for current operations and anticipated activity over the next twenty years.

Tourism Impacts

Visitors to the golf, ski, and second home market generate significant expenditures for lodging, services, golf and ski and other recreation user fees/food and beverage sales. Current and future expenditures were estimated, as well as resulting sales/lodging taxes that are generated by jurisdiction. This included estimates of the number of visitors to the facilities (Giants Ridge and other facilities in the area), average expenditures for lodging, recreation, food/beverage, etc. The resulting taxes generated by these expenditures were illustrated for the next twenty years.

Direct Purchases

In order to operate the facilities a number of expenditures for supplies, materials and other items are required on an ongoing basis. These items include replacement of equipment and supplies for the golf and ski operations, supplies and equipment for the Lodge and other administrative expenditures. These expenditures were isolated by local, regional, or national origin.

Indirect Expenditures

THK researched industry standards which were applied to expenditures that determined “churn” or “secondary” expenditures that are caused by initial expenditure. For example, wages paid directly to employees in the area are in turn cycled throughout the community for housing, retail goods and services, etc.

THK Associates Inc. researched and estimated indirect expenditures, indirect taxes, indirect employment and other areas impacted. Data sources included IMPLAN, REMI, the US Bureau of Economic Analysis, etc. IRRRB and THK Associates, Inc. mutually agreed upon the method(s) to be used.

After identifying the model(s) that calculate these indirect expenditures THK reviewed the models and, with input from IRRRB, estimated the indirect expenditures, revenues, employment and related items.

Costs to Serve

While revenues are important to estimate that result from current and future activity at the Giants Ridge facilities, expenses for the Town of White, the Town of Biwabik, St. Louis County that are incurred to serve residents and visitors are equally important. THK Associates, Inc. reviewed the annual budgets for each service provider to determine expenditures on a per-person or per-visitor basis. This included general funds as well as capital expenditures.

Surplus or Deficit

By comparing the economic impacts to service providers with anticipated expenditures, THK Associates, Inc. estimated the net impacts, over the next twenty years, to each service provider as a result of operations and future development from the Giants Ridge facility.

FIGURE 1 - REGIONAL LOCATION MAP

Figure 1- Regional Location Map

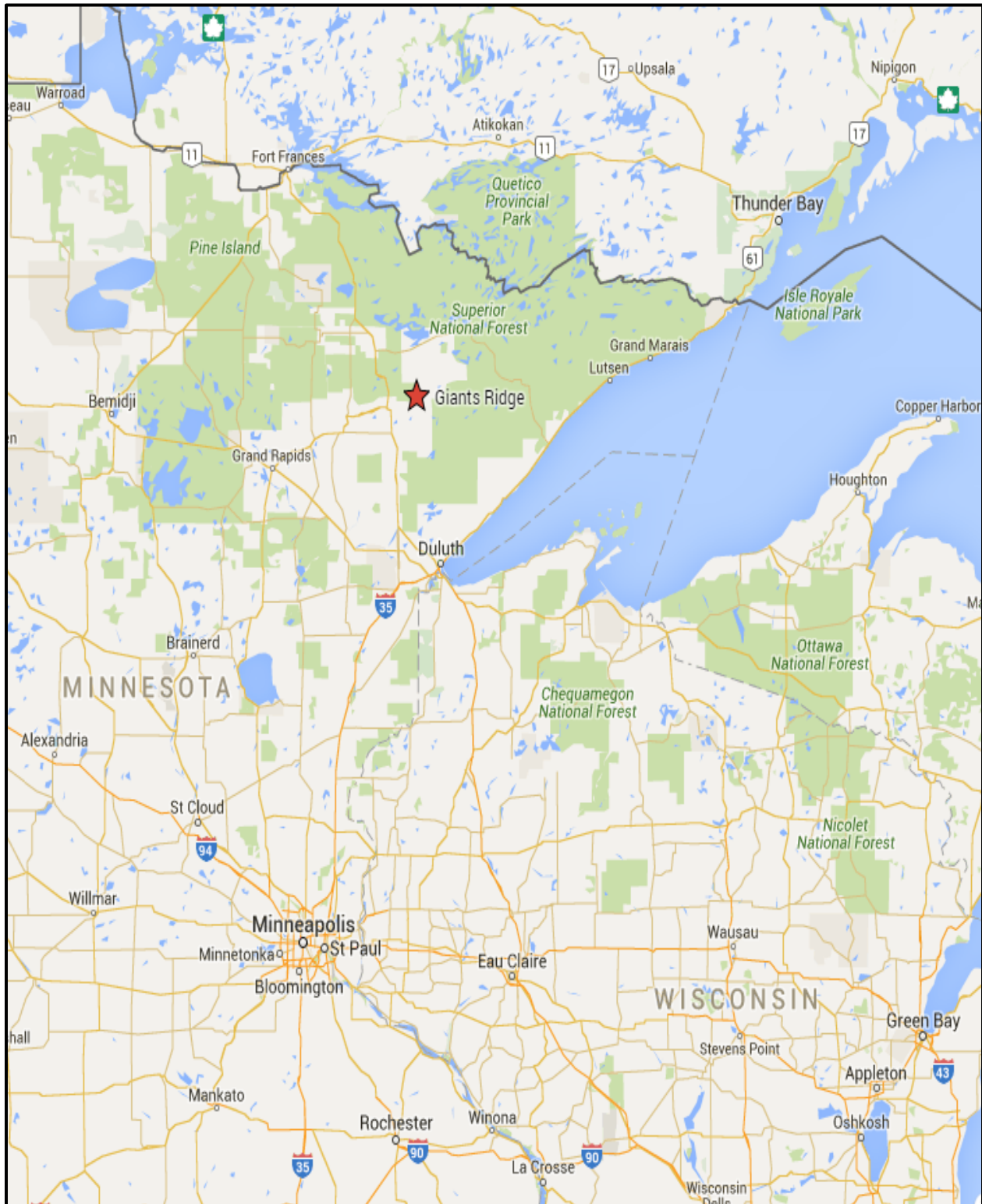
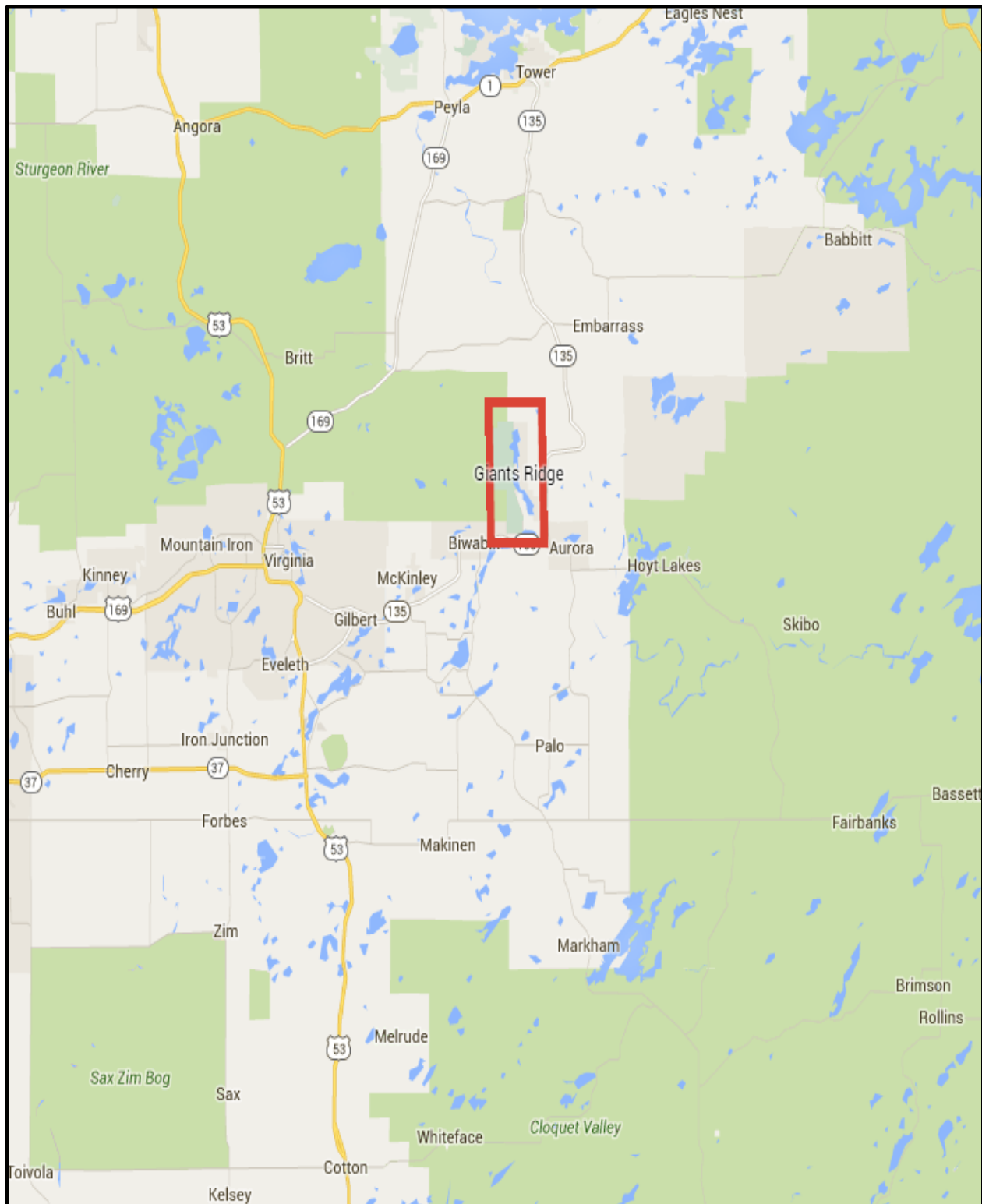


FIGURE 1 - REGIONAL LOCATION MAP

Figure 2- Vicinity Map



III. Fiscal Impact Analysis

Having examined the demand for golf, skier visits, lodging and new residential construction in the Giants Ridge Recreation Area, THK Associates, Inc. has estimated the total Economic Impacts that will be generated from activities at the Giants Ridge Facility over the next 20 years.

It is important to note that there have been numerous previous studies on Giants Ridge and its impacts over the years. Some of these reports were based on a larger six county area that related to all IRRRB activities. This economic impact estimate is based on the two county area of St. Louis and Itasca County only.

The following tables illustrate direct and indirect impacts from the Legend Golf Course, the Quarry Golf Course, the Giants Ridge Ski Hill, the South Chalet, the Pavilion, the new Events Center, the Lodge, the Villas, The Green Gate, the Woodlands/Residence Club, Voyagers Retreat and overall jobs and wages at Giants Ridge incurred by the IRRRB.

A. THE LEGEND GOLF COURSE

It was shown in the golf course market analysis that there is a potential for 28,790 golf rounds at Giants Ridge in 2016 which will grow to 30,732 rounds by 2025. THK has assumed that these rounds will be equally divided among the Legend and the Quarry. The average revenue for greens fees and carts at the Legend is approximately \$57.00 which has been inflated at 2.5% annually. These revenues are subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge). On site food and beverage is approximately \$51.50 per round, acknowledging some of these revenues may come from non-golfers. These revenues are subject to an 8.375% sales tax rate (6.875% State, .5% County, 1.0% Giants Ridge). Merchandise sales are \$8.50 per round and subject to a 9.375% sales tax rate. Wages to maintain the golf course and related operation are reported at approximately \$854,716 annually. In addition to the on-site expenditures, a publication entitled Evaluation of the Tourism Market and Development Potential of the Itasca Area, prepared by the University of Minnesota, estimates that recreational visitors to the St. Louis/Itasca County area, in addition to the on-site expenditures, will spend an additional \$22.50 per day in local restaurants, retail shops, etc. These expenditures are subject to a 7.375% sales tax rate (6.875% State, .5% County). The Legend Golf course is not subject to property taxes.

In summary, total taxes related to the Legend Golf Course are \$174,368 in 2016 which will grow to \$305,691 by 2035. Total revenues are estimated at \$2,008,097 in 2016 and \$3,520,468 by 2035. Wages are \$854,716 in 2016 increasing to \$1,366,392 by 2035. Total impacts related to the Legend Golf course are \$3,037,181 in 2016 and could increase to \$5,192,550 by 2035.

FISCAL IMPACT ANALYSIS

ESTIMATE OF ECONOMIC IMPACTS FOR GIANTS RIDGE

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
LEGEND					
Number of Rounds	14,395	15,154	15,366	15,576	15,786
Average Revenue per Round	\$57.00	\$62.92	\$71.19	\$80.54	\$91.12
Total Revenues	\$820,513	\$953,429	\$1,093,833	\$1,254,485	\$1,438,471
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Tax Revenues	\$76,923	\$89,384	\$102,547	\$117,608	\$134,857
On-Site Food and Beverage per Round	\$51.50	\$56.85	\$64.32	\$72.77	\$82.33
On-Site Food and Beverage	\$741,340	\$861,431	\$988,288	\$1,133,438	\$1,299,671
Applicable Tax Rate	8.375%	8.375%	8.375%	8.375%	8.375%
Sales Tax Revenues	\$62,087	\$72,145	\$82,769	\$94,925	\$108,847
Merchandise and Miscellaneous Revenue per Round	\$8.50	\$9.38	\$10.62	\$12.01	\$13.59
Miscellaneous Revenue	\$122,357	\$142,178	\$163,115	\$187,072	\$214,509
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Tax Revenues	\$11,471	\$13,329	\$15,292	\$17,538	\$20,110
Total Wages	\$854,716	\$943,447	\$1,067,423	\$1,207,691	\$1,366,392
Total Direct Impacts	\$1,752,152	\$1,986,259	\$2,263,803	\$2,579,784	\$2,939,719
Expenditures off-site per Round	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-site Expenditures	\$323,887	\$376,353	\$431,776	\$495,192	\$567,817
Applicable Sales Tax Rate*	7.375%	7.375%	7.375%	7.375%	7.375%
Off-site Taxes	\$23,887	\$27,756	\$31,843	\$36,520	\$41,877
TOTAL TAXES	\$174,368	\$202,614	\$232,452	\$266,592	\$305,691
TOTAL REVENUES	\$2,008,097	\$2,333,392	\$2,677,013	\$3,070,187	\$3,520,468
TOTAL WAGES	\$854,716	\$943,447	\$1,067,423	\$1,207,691	\$1,366,392
TOTAL IMPACT	\$3,037,181	\$3,479,452	\$3,976,887	\$4,544,470	\$5,192,550

B. THE QUARRY GOLF COURSE

The same assumptions for the Legend Golf Course have been applied to the Quarry Golf Course with the exception of a greens and cart fee at \$52.15 per round, on-site food and beverage at \$30.00 per round and merchandise sales at \$6.50 per round.

In summary, total taxes related to the Quarry Golf Course are \$139,204 in 2016 which will grow to \$305,691 by 2035. Total revenues are estimated at \$1,600,000 in 2016 and \$2,805,018 by 2035. Wages are \$854,716 in 2016 increasing to \$1,232,943 by 2035. Total impacts related to the Quarry Golf Course are \$2,510,443 in 2016 and increasing to \$4,282,004 by 2035.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
QUARRY					
Number of Rounds	14,395	15,154	15,366	15,576	15,786
Average Revenue per Round	\$52.15	\$57.56	\$65.13	\$73.69	\$83.37
Total Revenues	\$750,697	\$872,304	\$1,000,761	\$1,147,744	\$1,316,074
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Tax Revenues	\$70,378	\$81,778	\$93,821	\$107,601	\$123,382
On-Site Food and Beverage per Round	\$30.00	\$33.11	\$37.47	\$42.39	\$47.96
On-Site Food and Beverage	\$431,849	\$501,805	\$575,702	\$660,255	\$757,090
Applicable Tax Rate	8.375%	8.375%	8.375%	8.375%	8.375%
Sales Tax Revenues	\$36,167	\$42,026	\$48,215	\$55,296	\$63,406
Merchandise and Miscellaneous Revenue per Round	\$6.50	\$7.17	\$8.12	\$9.18	\$10.39
Miscellaneous Revenue	\$93,567	\$108,724	\$124,735	\$143,055	\$164,036
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Tax Revenues	\$8,772	\$10,193	\$11,694	\$13,411	\$15,378
Total Wages	\$771,240	\$851,305	\$963,173	\$1,089,742	\$1,232,943
Total Direct Impacts	\$1,592,315	\$1,805,387	\$2,057,756	\$2,345,087	\$2,672,399
Expenditures off-site per Round	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-site Expenditures	\$323,887	\$376,353	\$431,776	\$495,192	\$567,817
Applicable Sales Tax Rate*	7.375%	7.375%	7.375%	7.375%	7.375%
Off-site Taxes	\$23,887	\$27,756	\$31,843	\$36,520	\$41,877
TOTAL TAXES	\$139,204	\$161,754	\$185,574	\$212,829	\$244,043
TOTAL REVENUES	\$1,600,000	\$1,859,186	\$2,132,975	\$2,446,246	\$2,805,018
TOTAL WAGES	\$771,240	\$851,305	\$963,173	\$1,089,742	\$1,232,943
TOTAL IMPACT	\$2,510,443	\$2,872,244	\$3,281,722	\$3,748,817	\$4,282,004

C. SKI HILL

The Ski Hill has seen a drop in visits primarily due to snowfall, competition and the recent recession. Assuming average snowfall and positive economic conditions in the Twin cities and other areas that provide skier visits to Giants Ridge, it is projected that skier visits will grow from 37,255 in 2016 to 55,703 in 2035, assuming a new high speed lift is available in 2017. The average revenue per skier for lift tickets and passes is \$31.16 per visit. Ski Hill revenue, exclusive of food and beverage and rental, is estimated to be \$1,160,866 in 2016 and increase to \$2,774,776 by 2035. These revenues are subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge). The average skier visit will generate \$22.50 in off-site expenditures in restaurants, grocery stores and retail sales. The off-site sales are estimated to be \$838,238 in 2016 and increase to \$2,003,609 by 2035. These revenues are subject to a 7.375% sales tax rate (6.875% State, .5% County).

In summary, total taxes related to the Ski Hill are \$170,651 in 2016 which will grow to \$407,901 by 2035. Total revenues are estimated at \$1,999,103 in 2016 and \$4,778,384 by 2035. Wages are addressed in overall Giants Ridge wages and jobs. The Ski Hill is not subject to property taxes. Total impacts related to the Ski Hill are \$2,169,754 in 2016 and estimated to increase to \$5,186,286 by 2035.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
SKI HILL					
Number of Visits	37,255	47,980	50,427	52,999	55,703
Revenue per Visit	\$31.16	\$34.39	\$38.91	\$44.03	\$49.81
Total Ski Hill Revenues	\$1,160,860	\$1,650,248	\$1,962,346	\$2,333,467	\$2,774,776
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Taxes	\$108,831	\$154,711	\$183,970	\$218,763	\$260,135
Off-Site Expenditures per Visit	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-site Expenditures	\$838,233	\$1,191,611	\$1,416,970	\$1,684,949	\$2,003,609
Applicable Sales Tax Rate*	7.375%	7.375%	7.375%	7.375%	7.375%
Off-site Taxes	\$61,820	\$87,881	\$104,502	\$124,265	\$147,766
TOTAL TAXES	\$170,650	\$242,592	\$288,471	\$343,028	\$407,901
TOTAL REVENUES	\$1,999,093	\$2,841,859	\$3,379,315	\$4,018,416	\$4,778,384
TOTAL IMPACT	\$2,169,743	\$3,084,451	\$3,667,787	\$4,361,444	\$5,186,286

D. EVENT CENTER

The new Event Center will open in June of 2016. This facility will replace the food service element in the South Chalet; rental services for skiing, bicycling, boats, and other rental services; provide eating and warming areas for skiers, and create rental space for meetings/events/weddings and similar functions. IRRRB has prepared budgets and financial estimates for the performance of this center. Based on the IRRRB budget we have made the following assumptions: There will be approximately 10,800 non-ski visitors a year using the Event Center and partaking in Canopy Tours, bicycling, fishing, boating and related activities. Each visitor will spend approximately \$40 on these activities. These activities are subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge). Winter equipment rentals will average \$7.75 per visitor and are subject to a 9.375% sales tax. Food and beverage, including for weddings, are estimated at \$599,806 or \$16.10 per skier visit as the base of demand. These revenues are subject to an 8.375% sales tax rate (6.875% State, .5% County, 1.0% Giants Ridge).

In summary, total taxes collected due to the Event Center will be \$117,801 in 2016 which will grow to \$188,323 by 2035. Total revenues are estimated at \$1,320,532 in 2016 and \$2,111,068 by 2035. Wages are addressed in overall Giants Ridge wages and jobs. The Event Center is not subject to property taxes. Total impacts related to the Event Center are \$1,438,328 in 2016 and could increase to \$2,299,384 by 2035.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
EVENT CENTER					
Non Ski Rentals and Activities Income	\$432,000	\$476,847	\$539,509	\$610,405	\$690,617
Winter Equipment Rentals	\$288,725	\$318,698	\$360,578	\$407,960	\$461,570
Sub-Total	\$720,725	\$795,545	\$900,086	\$1,018,365	\$1,152,187
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Taxes	\$67,568	\$74,582	\$84,383	\$95,472	\$108,018
Food, Beverage and Weddings	\$599,802	\$662,069	\$749,071	\$847,505	\$958,874
Applicable Sales Tax Rate*	8.375%	8.375%	8.375%	8.375%	8.375%
Sales Taxes	\$50,233	\$55,448	\$62,735	\$70,979	\$80,306
TOTAL TAXES	\$117,801	\$130,031	\$147,118	\$166,450	\$188,323
TOTAL REVENUES	\$1,320,527	\$1,457,615	\$1,649,157	\$1,865,870	\$2,111,061
TOTAL IMPACTS	\$1,438,328	\$1,587,645	\$1,796,275	\$2,032,320	\$2,299,384

E. THE SOUTH CHALET

The South Chalet is being renovated into a smaller facility that will provide lockers for season pass holders, room for the ski patrol and a Nordic Center. All food services will be shifted to the Event Center once complete. There will be moderate locker and facility rental revenues estimated at \$10,000 annually, subject to a 9.375% sales tax rate (6.875% State, .5% County, 2.0% Giants Ridge).

In summary, total taxes related to the South Chalet are \$938 in 2016 which will grow to \$1,499 by 2035. Total revenues are estimated at \$10,000 in 2016 and \$15,987 by 2035. Wages are addressed in the overall Giants Ridge wages and jobs section.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
SOUTH CHALET					
Rental Income	\$10,000	\$11,038	\$12,489	\$14,130	\$15,987
Sub-Total	\$10,000	\$11,038	\$12,489	\$14,130	\$15,987
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Taxes	\$938	\$1,035	\$1,171	\$1,325	\$1,499
TOTAL TAXES	\$938	\$1,035	\$1,171	\$1,325	\$1,499
TOTAL REVENUES	\$10,000	\$11,038	\$12,489	\$14,130	\$15,987
TOTAL IMPACTS	\$10,938	\$12,073	\$13,659	\$15,454	\$17,485

F. THE PAVILION

The Pavilion is an inflatable structure used for weddings, events and athletic functions. The facility has rental income from weddings and events estimated at \$50,000 subject to a 9.375% sales tax (6.875% State, .5% County, 2.0% Giants Ridge).

In summary, total taxes related to the Pavilion are \$1,406 in 2016 which will grow to \$2,248 by 2035. Total revenues are estimated at \$15,000 in 2016 and \$23,980 by 2035. Wages are addressed in overall Giants Ridge wages and jobs.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
PAVILION					
Rental Income	\$15,000	\$16,557	\$18,733	\$21,195	\$23,980
Sub-Total	\$15,000	\$16,557	\$18,733	\$21,195	\$23,980
Applicable Sales Tax Rate*	9.375%	9.375%	9.375%	9.375%	9.375%
Sales Taxes	\$1,406	\$1,552	\$1,756	\$1,987	\$2,248
TOTAL TAXES	\$1,406	\$1,552	\$1,756	\$1,987	\$2,248
TOTAL REVENUES	\$15,000	\$16,557	\$18,733	\$21,195	\$23,980
TOTAL IMPACTS	\$16,406	\$18,109	\$20,489	\$23,182	\$26,228

G. THE LODGE, VILLAS AND GREEN GATE

The Lodge, the Villas and Green Gate represent on-site lodging at Giants Ridge. Among the three properties there are a total of 122 rooms or units.

The Lodge has an Estimated Market Value of \$9,860,500 and pays property taxes of \$220,979. The Villas have an Estimated Market Value of \$7,999,800 and pay property taxes of \$128,451. Green Gate has an Estimated Market Value of \$167,600 and pays property taxes of \$2,500.

For the 122 units the estimated annual average occupancy is 45% (based on the conditions at Giants Ridge and the other 1,034 hotel/lodging units in the area blended to avoid specific information on any one property). It is reported that the Lodge has seen an increase in occupancy in recent years due to new management. With the increased impacts of the Event Center, occupancy is projected to increase by .5% annually to 54.5% by 2035. The average realized daily rate is \$135 per room. In 2016 room revenues on-site are estimated at \$2,705,198 and are subject to a 12.375% sales tax (6.875 State, .5% County, 2.0% Giants Ridge, and 3.0% Biwabik/Iron Range). Sales taxes from on-site room rentals are estimated at \$334,768 in 2016. By 2035 room revenues are projected to be \$5,237,649 and sales taxes will be \$648,159.

In addition to on-site food and beverage at the Lodge and the Event Center, visitors will spend \$22.50 per day in area restaurants and retail establishments. With an average of 1.8 persons per room there will be 36,069 visitors in 2016 spending \$811,599 in area establishments. By 2035 there will be \$1,571,295 in off-site area expenditures. These revenues are subject to a sales tax rate of 7.375% (6.875 State, .5% County). Sales taxes will be \$59,852 in 2016 and \$115,883 by 2035.

Combined, the three properties have an estimated 39 employees, including the restaurant at the Lodge. Total wages are estimated to be \$1,450,000 today and will increase to \$2,318,043 by 2035.

In summary, total taxes related to the three on-site lodging facilities are \$394,621 in 2016 which will grow to \$764,042 by 2035. Total revenues are estimated at \$2,705,198 in 2016 and \$5,237,649 by 2035. Wages are estimated at \$1,450,000 today and \$2,318,043 by 2035. Total impacts related to the Lodge, Villas and Green Gate are \$4,549,818 in 2016 and could increase to \$8,319,734 by 2035.

On-site food and beverage at the Lodge is estimated to be \$745,100 in 2016 and this will increase to \$1,780,986 by 2035. On-site food and beverage is subject to an 8.735% sales tax (6.875% State, .5% County, 1.0% Giants Ridge). Sales taxes will be \$65,084 in 2016 and \$155,569 by 2035.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
THE LODGE					
Total EMV	\$9,860,500	\$10,884,147	\$12,314,413	\$13,932,628	\$15,763,490
Property Tax Rate	2.2411%	2.2411%	2.2411%	2.2411%	2.2411%
TOTAL PROPERTY TAXES	\$220,979	\$243,919	\$275,972	\$312,237	\$353,268
THE VILLAS					
Total EMV	\$7,999,800	\$8,830,282	\$9,990,654	\$11,303,508	\$12,788,882
Property Tax Rate	1.6057%	1.6057%	1.6057%	1.6057%	1.6057%
TOTAL PROPERTY TAXES	\$128,451	\$141,786	\$160,417	\$181,498	\$205,348
THE GREEN GATES					
Number of Units	3	3	3	3	3
Assessed Value	\$167,600	\$184,999	\$209,309	\$236,814	\$267,934
Property Tax Rate	1.5215%	1.5215%	1.5215%	1.5215%	1.5215%
TOTAL PROPERTY TAXES	\$2,550	\$2,815	\$3,185	\$3,603	\$4,077

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
On-Site Lodging (The Lodge, The Villas and The Green Gates)					
Total Number of Units/Rooms	122	122	122	122	122
Blended ADR	\$135.00	\$149.01	\$168.60	\$190.75	\$215.82
Assumed Annual Occupancy	45.00%	47.00%	49.50%	52.00%	54.50%
Total Room Revenues	\$2,705,198	\$3,118,744	\$3,716,263	\$4,416,965	\$5,237,649
Applicable Sales Tax Rate	12.375%	12.375%	12.375%	12.375%	12.375%
Sales Taxes	\$334,768	\$385,945	\$459,888	\$546,599	\$648,159
Estimated Number of Guests	36,069	37,672	39,676	41,680	43,684
Off site Food and Beverage	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-Site Expenditures	\$811,559	\$935,623	\$1,114,879	\$1,325,089	\$1,571,295
Applicable Sales Tax Rate	7.375%	7.375%	7.375%	7.375%	7.375%
Off-Site Sales Taxes	\$59,852	\$69,002	\$82,222	\$97,725	\$115,883
Estimate Full Time Equivalent Employees	39	39	39	39	39
Wages	\$1,450,000	\$1,600,529	\$1,810,851	\$2,048,812	\$2,318,043
TOTAL REVENUES	\$2,705,198	\$3,118,744	\$3,716,263	\$4,416,965	\$5,237,649
TOTAL WAGES	\$1,450,000	\$1,600,529	\$1,810,851	\$2,048,812	\$2,318,043
TOTAL TAXES	\$394,621	\$454,947	\$542,110	\$644,325	\$764,042
TOTAL DIRECT IMPACTS	\$4,549,818	\$5,174,220	\$6,069,224	\$7,110,101	\$8,319,734
LODGE FOOD AND BEVERAGE					
Applicable Sales Tax Rate	8.735%	8.735%	8.735%	8.735%	8.735%
Sales Taxes	\$65,084	\$92,522	\$110,020	\$130,827	\$155,569
TOTAL REVENUES	\$745,096	\$1,059,209	\$1,259,529	\$1,497,732	\$1,780,986
TOTAL TAXES	\$65,084	\$92,522	\$110,020	\$130,827	\$155,569
TOTAL DIRECT IMPACTS	\$810,180	\$1,151,731	\$1,369,548	\$1,628,559	\$1,936,555

H. OFF-SITE LODGING

In addition to the Lodge, the Villas and Green Gate there are approximately 1,034 hotel/lodging rooms in the vicinity of Giants Ridge.

On average for the 1,034 units (based on the conditions at Giants Ridge and the other 1,034 hotel/lodging units in the area blended to avoid specific information on any one property) the estimated annual occupancy is 45%. With the increased impacts of the Event Center, occupancy is projected to increase .5% annually to 54.5% by 2035. Approximately 20% of the off-site business is related to Giants Ridge activities. To acquire this data, management at each individual lodging/ hotel facility was interviewed regarding the estimated percentage of their business/ visitors that are attributable to Giants Ridge. The average realized daily rate is \$135 per room. In 2016 room revenues off-site are estimated at \$4,585,532 and are subject to a 10.375% sales tax (6.875% State, .5% County and 3.0% Iron Range). Sales taxes from off-site room rentals are estimated at \$475,749 in 2016. By 2035 room revenues are projected to be \$8,878,245 and sales taxes will be \$921,118.

Off-site visitors will spend \$22.50 per day in area restaurants and retail establishments. With an average of 1.8 persons per room there will be 61,140 visitors in 2016 spending \$1,375,659 in area establishments. By 2035 there will be \$2,663,473 in off-site area expenditures. These revenues are subject to a sales tax rate of 7.375% (6.875% State, .5% County). Sales taxes will be \$101,455 in 2016, growing to \$196,431 by 2035.

Combined, the portion of the 1,034 rooms that are occupied by activities generated at Giants Ridge are managed or serviced by an estimated 64 employees. Total wages are estimated to be \$2,383,535 today and will increase to \$3,810,439 by 2035.

In summary, total taxes related to the portion of the 1,034 off-site hotel/lodging rooms are \$577,204 in 2016 which will grow to \$1,117,549 by 2035. Total revenues are estimated at \$5,961,191 in 2016 and \$11,541,718 by 2035. Wages are estimated at \$2,383,535 today and \$3,810,439 by 2035. Total impacts related to the Lodge, Villas and Green Gate are \$8,921,930 in 2016 and could increase to \$16,469,707.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
OFF-SITE LODGING					
Number of Rooms	1,034	1,034	1,034	1,034	1,034
Occupancy	45.0%	47.0%	49.5%	52.0%	54.5%
Average Daily Rate	\$135.00	\$149.01	\$168.60	\$190.75	\$215.82
Percentage Related to Giants Ridge	20.0%	20.0%	20.0%	20.0%	20.0%
Room Revenues	\$4,585,532	\$5,286,527	\$6,299,371	\$7,487,117	\$8,878,245
Sales Tax Rate	10.375%	10.375%	10.375%	10.375%	10.375%
Sales Taxes	\$475,749	\$548,477	\$653,560	\$776,788	\$921,118
Number of Visitors	61,140	63,858	67,254	70,651	74,048
Off site Food and Beverage	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-Site Expenditures	\$1,375,659	\$1,585,958	\$1,889,811	\$2,246,135	\$2,663,473
Applicable Sales Tax Rate	7.375%	7.375%	7.375%	7.375%	7.375%
Sales Taxes	\$101,455	\$116,964	\$139,374	\$165,652	\$196,431
Estimated Full Time Equavilent Jobs	64	64	64	64	64
Wages	\$2,383,535	\$2,630,977	\$2,976,709	\$3,367,873	\$3,810,439
TOTAL REVENUES	\$5,961,191	\$6,872,486	\$8,189,182	\$9,733,252	\$11,541,718
TOTAL WAGES	\$2,383,535	\$2,630,977	\$2,976,709	\$3,367,873	\$3,810,439
TOTAL TAXES	\$577,204	\$665,442	\$792,933	\$942,441	\$1,117,549
TOTAL DIRECT IMPACTS	\$8,921,930	\$10,168,904	\$11,958,824	\$14,043,566	\$16,469,707

I. THE WOODLANDS/RESIDENCE CLUB

The Woodlands and Residence Club have a combined 46 lots. The 19 lots in the Woodlands have been sold and five homes have been built. One person owns five lots. Realistically only 14 homes can be built in the Woodlands. The Residence Club contains 27 lots and one home has been built as a fractional unit. IRRRB will be taking possession of the remaining 26 lots in 2016. The Woodlands and Residence Club have a current Estimated Market Value of \$3,732,045 and pay taxes of \$72,227. The average home has an Estimated Market Value of \$276,114. Beginning in 2017 THK estimates that the Woodlands and Residence Club could add 2.5 home per year until 41 homes are built by 2030. By 2035 the Estimated Market Value will be \$21,415,583. In 2035 property taxes will be \$414,748.

The National Association of Home Builders estimates that for every new home built there is an estimated 3.5 full time jobs created with average wages of \$22.00 per hour. The construction of 2.5 homes per year in the Woodlands/Residence Club will result in 9 full time jobs. Resulting construction wages will total \$422,136 in 2017.

Virtually all of the homes in The Woodlands/Residence Club will be seasonal homes. Occupancy is estimated at 25% annually with 2.0 persons per unit. The average person will spend \$22.50 per day on-site and \$22.50 per day off-site. The on-site expenditures are subject to an 8.375% sales tax (6.875% State, .5% County, 1.0% Giants Ridge) and off-site expenditures are subject to a 7.375% sales tax (6.875% State, .5% County).

In summary, total taxes related to the Woodlands/Residence Club are \$76,158 in 2016 which will grow to \$457,138 by 2035. Total revenues are estimated at \$49,275 in 2016 and \$538,286 by 2035. Wages will be \$0 in 2016 and \$581,919 in 2030 when the Woodlands/Residence Club is built-out.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
The Woodlands/Residence Club					
Total Lots	46	46	46	46	46
Total Homes	6	16	28.5	41	41
Total Existing EMV	\$3,732,045	\$6,405,317	\$11,557,388	\$17,952,900	\$21,415,583
Additional Homes					
Annual	0	2.5	2.5	2.5	0
Cumulative	0	10	22.5	35	35
Average Home Value	\$276,114	\$304,778	\$344,829	\$390,142	\$441,410
Additional EMV	\$0	\$761,946	\$862,072	\$975,355	\$0.00
Total EMV	\$3,732,045	\$7,167,263	\$12,419,460	\$18,928,255	\$21,415,583
Property Tax Rate	1.94%	1.94%	1.94%	1.94%	1.94%
Total Property Taxes	\$72,277	\$138,806	\$240,524	\$366,577	\$414,748
Annual Jobs for Construction*	0	9	9	9	0
Construction Hours	0	18,720	18,720	18,720	0
Construction Wages per Hour	\$22.00	\$24.28	\$27.47	\$31.09	\$35.17
Construction Wages	\$0	\$454,594	\$514,332	\$581,919	\$0
Average Occupancy	25.00%	25.00%	25.00%	25.00%	25.00%
Occupied Units	1.5	4	7.125	10.25	10.25
Persons in Units	2	2	2	2	2
On-Site Expenditures per person	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
On-Site Expenditures	\$24,638	\$72,521	\$146,152	\$237,883	\$269,143
Applicable Tax Rate	8.375%	8.375%	8.375%	8.375%	8.375%
On-Site Taxes	\$2,063	\$6,074	\$12,240	\$19,923	\$22,541
Off-site Expenditures per person	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-site Expenditures	\$24,638	\$72,521	\$146,152	\$237,883	\$269,143
Applicable Tax Rate	7.375%	7.375%	7.375%	7.375%	7.375%
Off-Site Sales Taxes	\$1,817	\$5,348	\$10,779	\$17,544	\$19,849
TOTAL REVENUES	\$49,275	\$145,041	\$292,304	\$475,766	\$538,286
TOTAL WAGES	\$0	\$454,594	\$514,332	\$581,919	\$0
TOTAL TAXES	\$76,158	\$150,228	\$263,543	\$404,044	\$457,138
TOTAL WOODLANDS/RESIDENCE CLUB IMPACTS	\$125,433	\$749,863	\$1,070,178	\$1,461,729	\$995,424

J. VOYAGERS RETREAT

Voyagers Retreat has a total of 240 lots. To date approximately 49 homes have been built. Voyagers Retreat has a current Estimated Market Value of \$29,569,000 and pays taxes of \$571,121. The average home has an Estimated Market Value of \$254,617. Beginning in 2017 THK estimates that the Voyagers Retreat could add 5.5 homes per year. By 2035 the Estimated Market Value will be \$472,630,308. In 2035 property taxes will be \$9,128,784.

The National Association of Home Builders estimates that for very new home built there is an estimated 3.5 full time jobs created with average wages of \$22.00 per hour. The construction of 5.5 homes per year in the Voyagers Retreat will result in 19.25 full time jobs. Construction wages will total \$902,902 in 2017.

Virtually all of the homes in Voyagers Retreat will be seasonal homes. Occupancy is estimated at 25% annually with 2.0 persons per unit. The average person will spend \$22.50 per day on-site and \$22.50 per day off-site. The on-site expenditures are subject to an 8.375% sales tax (6.875% State, .5% County, 1.0% Giants Ridge) and the off-site expenditures are subject to a 7.375% sales tax (6.875% State, .5% County).

In summary, total taxes related to the Voyagers Retreat are \$602,164 in 2016 which will grow to \$9,286,455 by 2035. Total revenues are estimated at \$394,200 in 2016 and \$2,002,159 by 2035. Wages will be \$0 in 2016 and \$1,048,219 in 2035.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
The Voyagers Retreat					
Total Lots	240	240	240	240	240
Total Existing Homes	48	70	98	125	153
Total Existing EMV	\$29,569,000	\$41,913,264	\$99,887,918	\$221,843,408	\$430,094,326
Additional Homes					
Annual	0	5.5	5.5	5.5	5.5
Cumulative	0	22	49.5	77	104.5
Average Home Value	\$254,617	\$281,049	\$317,981	\$359,767	\$407,043
Additional EMV	\$0	\$6,183,080	\$15,740,072	\$27,702,029	\$42,535,982
Total EMV	\$29,569,000	\$48,096,344	\$115,627,990	\$249,545,437	\$472,630,308
Tax Rate	1.9315%	1.9315%	1.9315%	1.9315%	1.9315%
Total Property Taxes	\$571,121	\$928,974	\$2,233,338	\$4,819,933	\$9,128,784
Annual Jobs for Construction*	0	19.25	19.25	19.25	19.25
Construction Hours	0	40,040	40,040	40,040	40,040
Construction Wages per Hour	\$22.00	\$24.28	\$27.47	\$31.09	\$35.17
Construction Wages	\$0	\$972,327	\$1,100,098	\$1,244,660	\$1,408,219
Average Occupancy	25.00%	25.00%	25.00%	25.00%	25.00%
Occupied Units	12	17.5	24.375	31.25	38.125
Persons in Units	2	2	2	2	2
On-Site Expenditures per person	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
On-Site Expenditures	\$197,100	\$317,277	\$499,994	\$725,253	\$1,001,080
Applicable Tax Rate	8.38%	8.38%	8.38%	8.38%	8.38%
On-Site Taxes	\$16,507	\$26,572	\$41,874	\$60,740	\$83,840
Off-site Expenditures per person	\$22.50	\$24.84	\$28.10	\$31.79	\$35.97
Off-site Expenditures	\$197,100	\$317,277	\$499,994	\$725,253	\$1,001,080
Applicable Tax Rate	7.38%	7.38%	7.38%	7.38%	7.38%
Off-Site Sales Taxes	\$14,536	\$23,399	\$36,875	\$53,487	\$73,830
TOTAL REVENUES	\$394,200	\$634,554	\$999,988	\$1,450,506	\$2,002,159
TOTAL WAGES	\$0	\$972,327	\$1,100,098	\$1,244,660	\$1,408,219
TOTAL TAXES	\$602,164	\$978,945	\$2,312,087	\$4,934,161	\$9,286,455
TOTAL VOYAGERS RETREAT IMPACTS	\$996,364	\$2,585,826	\$4,412,173	\$7,629,327	\$12,696,833

K. BREAKDOWN OF PROPERTY TAX AUTHORITIES

The total property tax collected from the Giants Ridge recreational area will amount to \$995,378 in 2016. This is based off of taxes collected from the Voyagers Retreat, the Woodlands/ Residence Club, Green Gates, Villas and Lodge. Of these taxes collected, 13.09% go to Mesabi East School District, 31.73% go to St. Louis County and 54.54% go to the Town of Biwabik.

Due to a revenue sharing agreement made between the Town of White and the Town of Biwabik when the Giants Ridge Recreational Area was annexed from the Town of White to the Town of Biwabik, the Town of White receives a portion of the Biwabik's tax revenue. This revenue sharing agreement, as described is calculated by taking 40% of all taxes collected on the East side of the lake (Voyagers Retreat) and a base rate of approximately \$216,000 growing at the same rate as the EMV of all property on the West side of the lake. THK has projected the revenue sharing agreement based on this formula despite the likelihood that the formula used to calculate the amount shared will change dramatically.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
BREAKDOWN OF PROPERTY TAX AUTHORITIES					
Total Property Taxes	\$995,378	\$1,456,299	\$2,913,435	\$5,683,848	\$10,106,225
Mesabi East School District	\$130,294.95	\$190,629.60	\$381,368.70	\$744,015.77	\$1,322,904.89
St. Louis County	\$315,863.24	\$462,127.51	\$924,520.47	\$1,803,655.64	\$3,207,008.48
The Town of Biwabik	\$202,283.32	\$375,600.75	\$885,762.73	\$1,832,454.29	\$3,304,399.64
Town of White, Under Revenue Sharing*	\$340,595.73	\$418,664.97	\$703,224.96	\$1,267,516.67	\$2,207,535.65

*Revenue sharing agreement formula is set to change in the coming years

L. GIANTS RIDGE EMPLOYMENT AND WAGES

Currently the number of jobs and wages required for operating the private lodging facilities, in addition to wages and jobs associated with the golf courses, private facilities, and residential properties are approximately 35 full-time jobs with wages of \$2,115,000. These jobs operate the South Chalet, Pavilion and overall management of the Giants Ridge facilities. Other than a 2.5% inflation rate, these jobs have been projected to remain stable over the next twenty years. Wages will increase to \$3,381,145 by 2035.

M. TOTAL DIRECT IMPACTS

Direct Economic Impacts from Giants Ridge on the local economy are estimated to be \$27,053,744 today and \$61,366,027 by 2035.

N. DIRECT IMPACT MULTIPLIER

There are a number of sources and models to estimate a multiplier effect of direct impacts generated from economic activity. A well know model is IMPLAN, based upon a complex input-output model. REMI (Regional Economic Multiplier Impacts) is a model developed by the U.S. Department of Commerce. The U.S. Bureau of Economic Analysis also prepares estimates of Economic Multipliers called the RIMS II. The IMPLAN Model projects Indirect and Induced Impacts that range from 1.65 to 1.70 times the Direct Impact. The REMI and U.S. Department of Commerce Models estimate a multiplier of approximately 1.6 of Direct Impacts. A 1.65 Multiplier Impact has been applied.

With a multiplier of 1.6, Economic Impacts from Giants Ridge on the local (Two County area) is estimated to be \$43,053,744 today and estimated to increase to \$98,185,643 by 2035. THK estimates that over the next twenty years the Economic Impact of Giants Ridge could be as much as \$1.37 Billion Dollars.

FISCAL IMPACT ANALYSIS

	Year 1 2016	Year 5 2020	Year 10 2025	Year 15 2030	Year 20 2035
FULL TIME GIANTS RIDGE/IRRRB EMPLOYEES	35	46	46	46	46
TOTAL GIANTS RIDGE/IRRRB WAGES*	\$2,115,000	\$2,334,564	\$2,641,345	\$2,988,440	\$3,381,145
Total Revenues	\$16,807,676	\$20,349,681	\$24,326,947	\$29,010,265	\$34,355,695
Total Wages	\$7,574,491	\$7,453,178	\$8,432,587	\$9,540,698	\$10,136,036
Total Taxes	\$2,671,577	\$3,470,180	\$5,316,808	\$8,545,345	\$13,493,151
TOTAL DIRECT IMPACTS	\$27,053,744	\$33,607,604	\$40,717,687	\$50,084,748	\$61,366,027
 MULTIPLIER	 1.6	 1.6	 1.6	 1.6	 1.6
TOTAL IMPACTS	\$43,285,991	\$53,772,167	\$65,148,299	\$80,135,597	\$98,185,643
 20 YEAR CUMULATIVE IMPACTS	 \$1,368,682,898				

Source: IRRRB, St. Louis County Assessor, Operators and THK Associates, Inc.

IV. Cost to Serve

While the Giants Ridge recreation area and its activities generate tremendous economic activity in the area, the local municipalities and St. Louis county incur costs to provide police, fire public works, road maintenance and recreation services. Based on the location of the different service providers THK Associates, Inc. has estimated the portion of the economic impacts that are realized in each community.

Overall, of the economic activity of \$43,065,885 annually (2016) generated in St. Louis and Itasca Counties, it is estimated that 90% of the economic benefits are realized in the St. Louis County environs. The largest benefactor of the economic impacts is Biwabik which realizes significant property and other taxes. Other communities and the county also benefit, but to a lesser degree.

Biwabik – Of all of the economic activity generated on-site by the Legend, Quarry, Ski Hill, Chalet, Pavilion, Event Center, the Lodge, Green Gate, the Villas, the Residence club, the Woodlands and Voyagers Retreat, THK Associates, Inc. estimates that approximately 60% of that activity takes place either on-site or in Biwabik. The remaining 40% is distributed among Aurora, Eveleth, Gilbert, Hoyt Lakes, Virginia and St. Louis County. Only 10% of off-site economic impacts are realized by Biwabik as there are no other lodging facilities in Biwabik and only 45% of the IRRRB employees live in the immediate area of Biwabik. Overall, THK has estimated that 40% of the total economic impacts generated by Giants Ridge are realized in Biwabik. Today the economic impacts realized by Giants Ridge in Biwabik are estimated at \$15.5 million. This is prior to improvements to the Ski Hill (high speed lift) and additional development.

Aurora – While Aurora is located very near Giants Ridge there are minimal lodging facilities and only a few restaurants that cater to Giants Ridge visitors. Only 10% of the economic impacts generated by Giants Ridge are estimated to be realized by Aurora. The current annual economic impacts to Aurora from Giants Ridge are estimated at \$3,875,930.

Eveleth – Eveleth is similar to Aurora in terms of economic impacts realized by Giants Ridge. Located further away than Aurora, but one of the most convenient stops off of Highway 53, we have also estimated that 10% of the economic impacts are realized by Eveleth, or \$3,875,930 annually.

Gilbert – Gilbert is somewhat closer to Giants Ridge than Eveleth and Virginia. Gilbert has minimal lodging facilities, but there are number of restaurants. Gilbert is estimated to realize 7.5% of the economic impacts generated by Giants Ridge or \$2,906,947 annually.

Hoyt Lakes – Hoyt Lakes is located east of Aurora and realizes more camping and RV visitors than some areas. There are some restaurants in Hoyt Lakes. Hoyt Lakes is also estimated to realize 7.5% of the economic impacts generated by Giants Ridge or \$2,906,947 annually.

Virginia – Virginia has a significant number of lodging alternatives compared to the other communities. In addition Virginia has the largest population base on the municipalities. With the largest concentration of lodging alternative, Virginia should receive the largest percentage of off-site lodging of the five municipalities. At the same time Virginia will receive less of the direct impacts from activity at Giants Ridge. Overall Virginia is estimated to realize 10.0% of the economic impacts generated by Giants Ridge or \$3,875,930 annually.

St. Louis County – St. Louis County is a large area with 630 lodging units available. The majority of off-site impacts will be realized by St. Louis County. We have estimated that St. Louis County will realize 15.0% of the economic impacts generated by Giants Ridge or \$5,813,894 annually.

In total, Biwabik, Aurora Eveleth, Gilbert, Virginia and St. Louis County are estimated to realize \$38.8 million in economic impacts today from Giants Ridge. This is exclusive of increased impacts from and improved ski hill and additional development. At current levels of economic impacts over twenty years the communities could realize well over \$775 million, again before improvements to the ski hill and additional development.

The communities and the county incur some expenses to provide services to visitors and residents. THK has reviewed the budgets for each municipality and the County to estimate applicable General Fund expenditures. The categories of police, fire, public works, roads and recreation are the categories most likely to be impacted. General Fund expenditures were calculated on a per person basis.

To estimate the full time equivalent population for each major activity the following basic assumptions were applied:

- 28,790 golf rounds in 2016 over 180 days equals 160 golfers per day and 50% (180 days divided by 365 days) are a full time equivalent, or there are 86 full time persons associated with the golf operations
- 37,255 skiers over 120 days equals 310 skiers per day and 33% of those (120 days divided by 365 days) are a full time equivalent, or there are 103 full time persons associated with the ski hill
- Virtually 100% of the guests at the Lodge, the Villas and Green Gate are associated with skiing, golf or the event center
- With 54 total units at the Woodlands, the Residence Club and Voyagers Retreat at 3 person per unit and 25% occupancy year round equals 41 full time equivalent persons
- The current IRRRB staff of 35 person with an employment participation ratio of .5805 equates to 60 full time residents
- The 39 full time equivalent staff at the Lodge, the Villas and Green Gate equals 67 full time persons
- The 64 full time equivalent staff at the Legend and Quarry equals 110 full time persons

These assumptions result in a direct population of 461 full time persons and when adjusted for economic multipliers the total impact is estimated to be 737 persons. We have allocated the population to each municipality and the County based on their percentage of economic impacts realized. At today's General Fund expenses, the communities combined could realize annual expenses associated with Giants Ridge impacts of \$544,314. Over twenty years the expenses to the communities could total \$10.9 million dollars.

COST TO SERVE

The economic impacts of \$775 million far outweigh the potential costs to serve for the surrounding communities and St. Louis County.

Table V-1: 2016 Estimated Costs to Serve Versus Economic Impacts

City or County	Estimated Economic Impacts	Population	Applicable General Fund Expenditures*	Applicable General Fund Expenditure per Person	Estimated Population Impacts from Giants Ridge	General Fund Expenditures from Giants Ridge
Biwabik	\$15,582,957	900	\$888,633	\$987.74	295	\$291,200
Aurora	\$3,895,739	1,682	\$1,163,039	\$691.64	74	\$50,976
Eveleth	\$3,895,739	3,721	\$2,666,467	\$716.54	74	\$52,811
Gilbert	\$2,921,804	1,803	\$1,432,044	\$794.04	55	\$43,893
Hoyt Lakes	\$2,921,804	2,014	\$2,996,774	\$1,487.84	55	\$82,245
Virginia	\$3,895,739	8,757	\$1,332,711	\$152.19	74	\$11,217
St. Louis County	\$5,843,609	199,518	\$21,639,000	\$108.46	111	\$11,990
TOTAL LOCAL IMPACTS	\$38,957,392		\$32,118,668			\$544,334
OVERALL IMPACTS	\$43,285,991					

*Police, Fire, Public Works, Roads and Recreation

Source: Town and County Budgets and THK Associates, Inc.

MARKETING REVIEW AND RECOMMENDATIONS

V. Marketing Review and Recommendations

Currently, the Giants Ridge facilities and surrounding facilities participate in a central reservation system. However, not all of the lodging facilities within the Giants Ridge recreational area participate in the central reservation system.

When searching for the Giants Ridge central reservation system, people are directed to the main Giants Ridge website, which is highly promotional of the on-site Giants Ridge facilities. This has caused many of the local lodging facilities to operate independently of the central reservation system. The phone number for the central reservations system is also difficult to find on the website, and when calling Giants Ridge the representatives have difficulty finding the central reservations contact information as well. Only four other facilities in the area appear on the selection of off-site facilities.

There are also numerous reports on Facebook and Trip Advisor that offer negative comments. The negative comments revolve around inconsistent information. Many complaints refer to the representative being unaware of specials, coupons or other offers that are available. When a customer would find a special or offers that were available when they made a reservation, the offers were not honored.

There also seems to be complaints about the Spa in terms of timing to book and appointment. The Spa only takes reservations two weeks in advance. When guests book a trip months in advance on many occasions when the two week window arrives there are no appointments available.

The coordination between the Lodge, Villas, Green Gate and the ski hill and golf courses is inconsistent in many cases. At this time there appears to be too many options for booking visits which leads to inconsistent information and pricing. THK recommends that the website and reservation system be updated to have a sole reservation access point that is familiar with all facilities. The respective facility representatives also need better and consistent training so consistent messages and policies are understood and followed. For instance, the Spa should be required to allow guests of the Lodge, Villas and Green Gate to book an appointment when they make their reservation. A penalty for cancellation in less than two weeks could be applied. This process should be revised with better cooperation among the owners of the Lodge, Villas and Green Gate and IRRRB to allow for the lodging facilities to have access to other facilities information like the tees sheets at the golf courses when a guest is trying to make a reservation and book both a room and golf at the same time. Guests should also be able to purchase ski tickets, book lessons and plan group gatherings in one seamless transaction.

APPENDIX

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

I. Giants Ridge Two County Economic Base

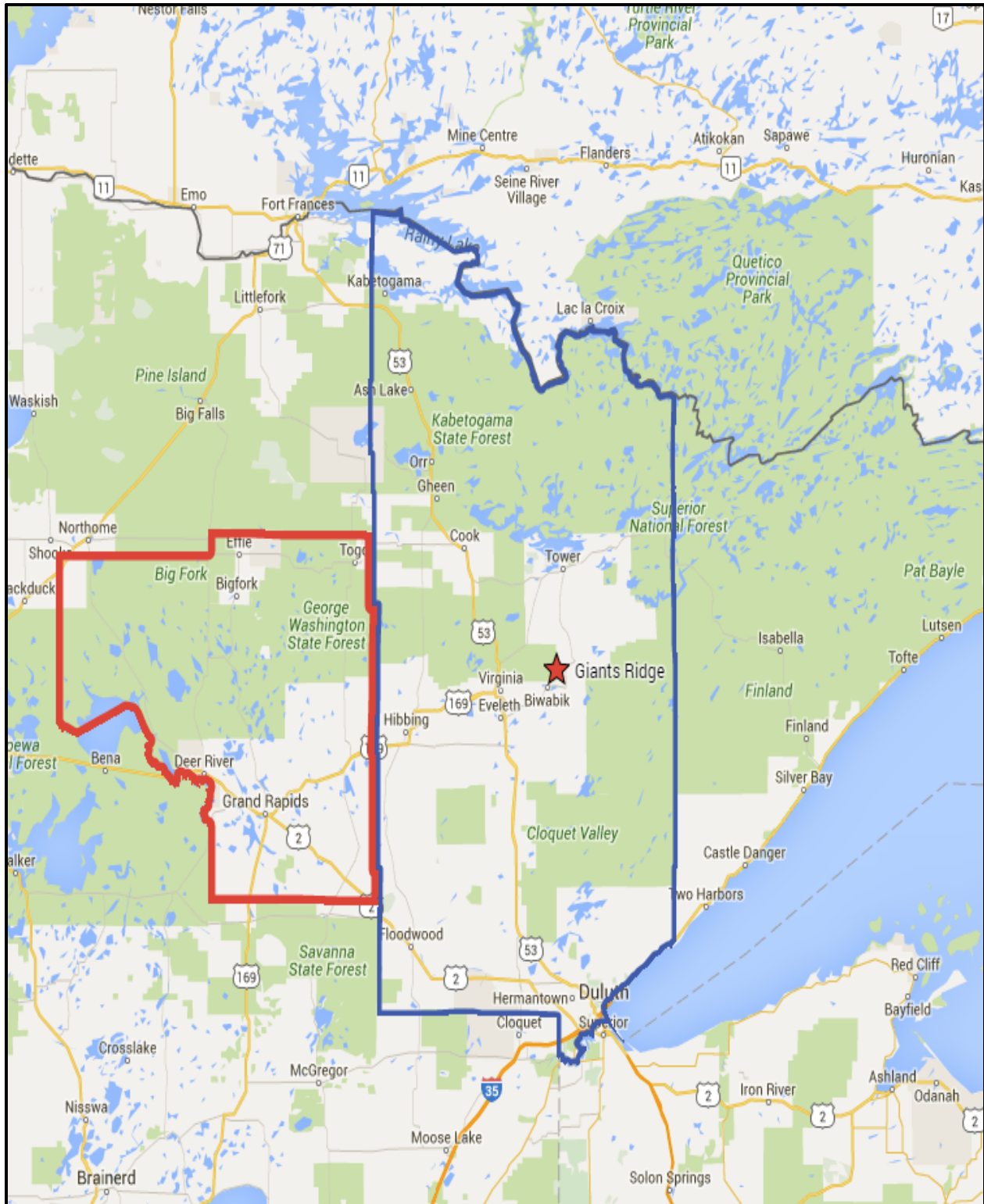
A. HISTORICAL EMPLOYMENT GROWTH TRENDS

Employment trends are prime indicators of the economic growth of an area. Increases in employment generate growth for most sectors of the local economy and dictate the rate at which it will expand. This section looks at the region's various employment figures and projects their course over the next decade. Table I-1 illustrates employment growth in the two- county market area. Over a 35 year period, total employment jumped from 120,155 in 1980 to 142,315 in 2015 -- an annual average of 633 jobs. Between 2001 and 2015, the Two County area added an average 208 jobs on an annual basis. The number of jobs added annually had decreased during the recession, reaching -270 jobs annually between 2006 and 2015, with a low of -4,926 jobs lost in 2009. In the past 5 years, from 2011 to 2015, there has been positive job growth at an annual average of 399 jobs a year. However, 2015 is expected to see negative job growth of almost -2,076 due to a number of mine closures.

Table I-2 shows the market area's employment growth by industry from 1970 to 2016. Since 2006, the Giants Ridge market area has experienced loss in almost all employment sectors. The only significant exception has been the "Health care and social assistance" sector which gained an average of 405 jobs annually between 2006 and 2015. Other strong growth industries include the educational services and finance and insurance industries, which added 70 and 90 jobs respectively on an average annual basis between 2006 and 2015. In the three year period between 2013 and 2015 an average of -164 jobs were lost annually in the Giants Ridge market area.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Figure 3- Giants Ridge Two County Boundary Map



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

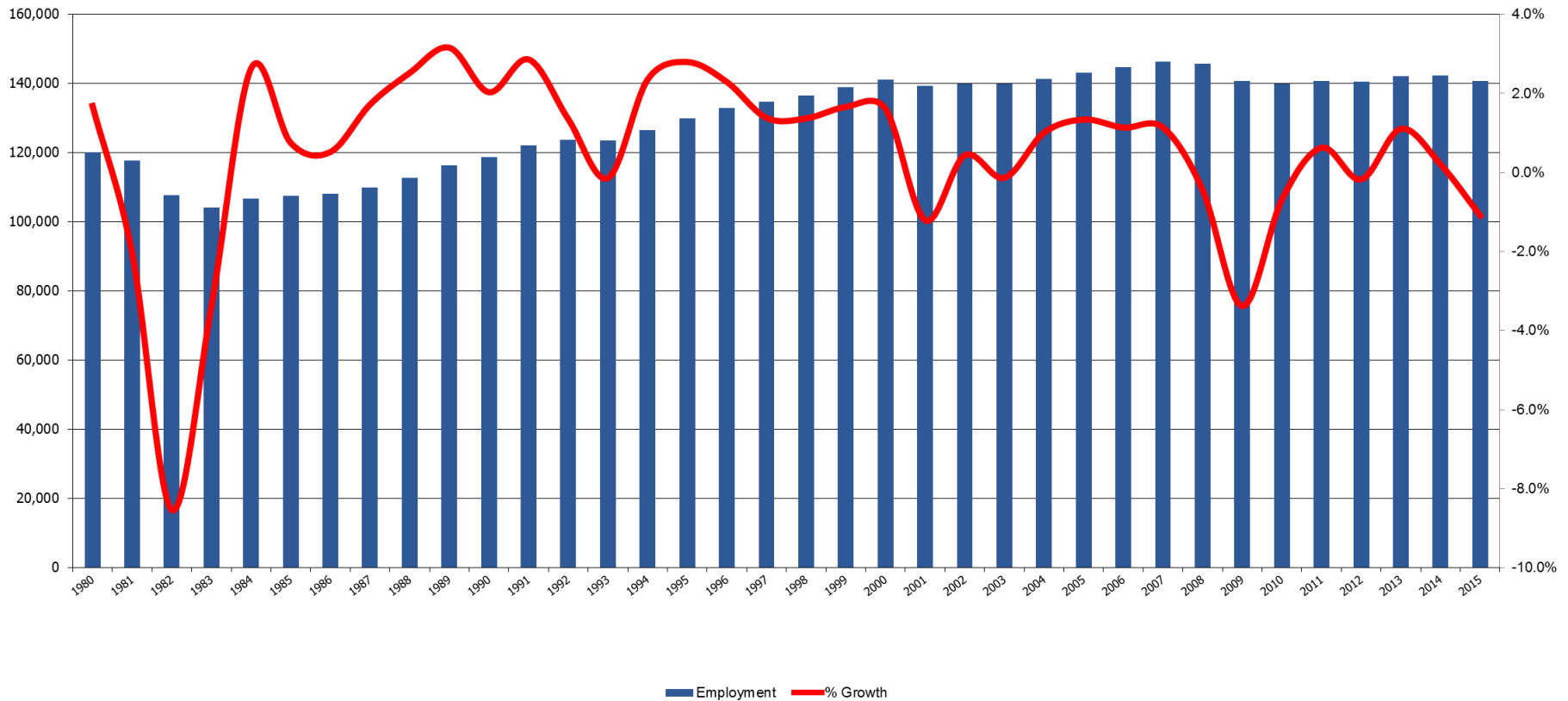
Table I-1: Giants Ridge Two County Area Employment Trends 1970- 2015

Year	Total Employment	Annual Change	
		Numerical	Percent
1970	101,689	--	--
1980	120,155	1,847	1.7%
1981	117,693	-2,462	-2.0%
1982	107,642	-10,051	-8.5%
1983	104,015	-3,627	-3.4%
1984	106,756	2,741	2.6%
1985	107,553	797	0.7%
1986	108,044	491	0.5%
1987	109,936	1,893	1.8%
1988	112,426	2,490	2.3%
1989	115,903	3,477	3.1%
1990	118,175	2,272	2.0%
1991	121,474	3,299	2.8%
1992	123,200	1,726	1.4%
1993	123,192	-8	0.0%
1994	126,131	2,938	2.4%
1995	129,451	3,320	2.6%
1996	132,393	2,942	2.3%
1997	133,936	1,543	1.2%
1998	137,213	3,277	2.4%
1999	139,398	2,186	1.6%
2000	141,590	2,192	1.6%
2001	139,961	-1,630	-1.2%
2002	140,681	720	0.5%
2003	140,588	-93	-0.1%
2004	142,010	1,422	1.0%
2005	143,930	1,920	1.4%
2006	145,946	2,016	1.4%
2007	147,841	1,895	1.3%
2008	147,238	-603	-0.4%
2009	142,500	-4,738	-3.2%
2010	141,410	-1,090	-0.8%
2011	142,182	772	0.5%
2012	141,155	-1,027	-0.7%
2013	142,642	1,487	1.1%
2014	144,392	1,749	1.2%
2015	142,315	-2,076	-1.4%
Annual Change			
1980-2015		633	0.5%
2001-2015		168	0.0%
2006-2015		-403	-0.6%
2011-2015		33	0.3%

Source: Bureau of Economic Analysis, and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Giants Ridge Two County Area Employment Trends, 1980-2015



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-2: Giants Ridge Two County Area Employment by Industry 1970- 2015

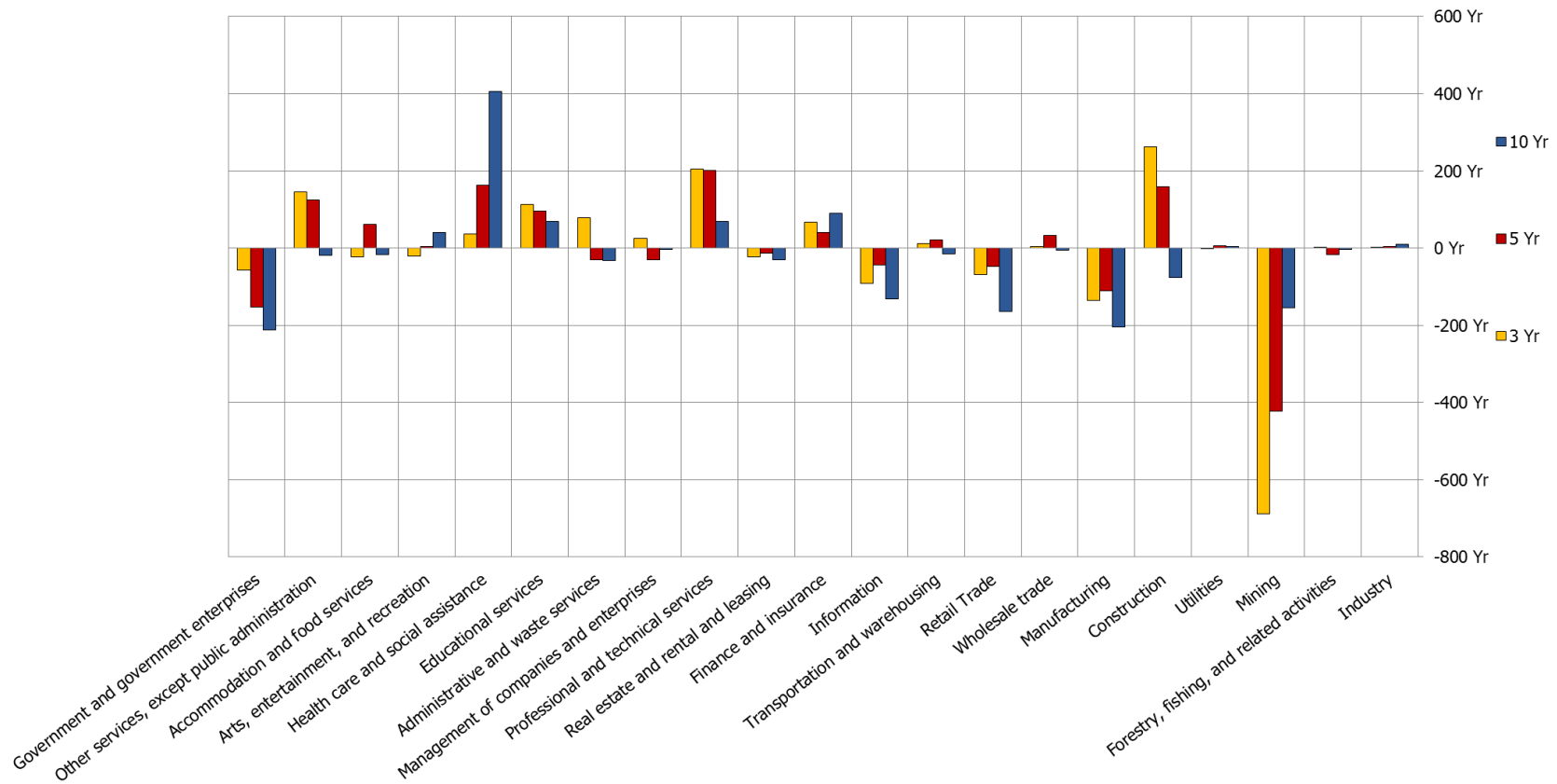
Industry	1970	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Non-Farm (By Place of Work)	76,629	88,031	85,373	79,993	78,204	79,770	81,894	85,303	88,431	88,321	92,254	93,840	96,963	98,328
Agricultural Services, Forestry, & Fisheries	395	563	569	526	566	619	599	594	733	723	790	811	839	839
Mining, Oil & Gas	12,656	10,612	10,193	8,967	8,260	8,370	8,809	9,114	9,076	9,270	9,871	9,738	9,585	9,558
Construction	4,694	5,192	4,592	3,987	3,738	4,103	4,248	5,229	5,546	4,749	5,031	5,192	5,459	5,499
Manufacturing	12,656	10,612	10,193	8,967	8,260	8,370	8,809	9,114	9,076	9,270	9,871	9,738	9,585	9,558
Transportation & Utilities	922	1,965	1,962	2,019	2,133	1,980	1,991	1,877	1,848	1,785	1,662	1,605	1,531	1,460
Wholesale Trade	922	1,965	1,962	2,019	2,133	1,980	1,991	1,877	1,848	1,785	1,662	1,605	1,531	1,460
Retail Trade	15,965	21,590	20,969	20,024	19,566	20,052	20,154	19,815	20,542	20,995	21,476	22,093	23,065	23,981
Finance, Insurance, Real Estate	4,694	5,192	4,592	3,987	3,738	4,103	4,248	5,229	5,546	4,749	5,031	5,192	5,459	5,499
Services	19,031	25,148	25,749	25,510	26,072	26,090	26,797	27,225	28,670	30,246	31,829	32,674	34,450	34,975
Government	4,694	5,192	4,592	3,987	3,738	4,103	4,248	5,229	5,546	4,749	5,031	5,192	5,459	5,499
Farm	4,694	5,192	4,592	3,987	3,738	4,103	4,248	5,229	5,546	4,749	5,031	5,192	5,459	5,499
Total F&PT Employment	101,689	120,155	107,553	118,175	121,474	123,200	123,192	126,131	129,451	132,393	133,936	137,213	139,398	141,590

Industry	Sector Code	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average Annual Change		
Total Non-Farm (By Place of Work)		138,426	139,283	139,266	140,766	142,718	144,803	146,717	146,146	141,391	140,312	141,108	140,097	141,588	143,350	141,285	-391	44	-152
Forestry, fishing, and related activities	11	908	977	929	945	918	891	934	863	962	925	923	907	850	878	854	-4	-17	2
Mining	21	4,737	4,360	4,112	4,129	4,160	4,177	4,291	4,391	3,778	4,144	4,476	4,143	4,161	4,278	2,786	-155	-423	-687
Utilities	22	1,316	1,298	1,271	1,218	1,232	1,253	1,275	1,284	1,264	1,257	1,260	1,263	1,282	1,289	1,281	3	5	0
Construction	23	7,120	7,073	7,296	7,485	7,906	7,982	7,752	7,510	7,051	6,537	6,661	6,777	6,769	7,209	7,295	-76	159	263
Manufacturing	31-33	8,355	7,920	7,616	7,501	7,663	7,809	7,873	7,900	6,244	5,869	6,418	6,318	6,250	6,146	5,978	-203	-110	-136
Wholesale trade	42	3,637	3,489	3,262	2,987	2,986	3,065	2,977	2,944	2,879	2,972	2,884	2,928	3,009	3,038	3,019	-5	34	5
Retail Trade	44-45	18,176	17,887	18,016	18,244	18,390	18,326	18,468	17,674	17,055	16,731	17,038	16,893	16,983	17,052	16,847	-164	-48	-68
Transportation and warehousing	48-49	4,378	4,288	4,044	4,064	4,318	4,393	4,448	4,365	4,179	4,184	4,180	4,183	4,240	4,292	4,265	-14	21	13
Information	51	2,769	2,777	2,815	2,937	2,883	2,706	2,718	2,457	2,196	1,927	1,689	1,624	1,699	1,618	1,515	-132	-44	-92
Finance and insurance	52	5,009	5,176	5,212	5,540	5,501	5,524	5,580	5,794	6,013	5,774	6,170	5,946	6,202	6,308	6,335	90	41	66
Real estate and rental and leasing	53	3,065	3,022	3,543	3,814	3,989	4,112	4,076	3,853	3,831	3,825	3,896	3,769	3,893	3,876	3,847	-29	-12	-23
Professional and technical services	54	5,011	5,103	5,007	5,091	5,435	5,564	5,973	6,016	5,840	5,676	5,379	5,385	5,771	6,095	6,181	69	201	205
Management of companies and enterprises	55	779	803	775	720	742	894	976	1,070	941	1,020	982	919	811	859	862	-4	-30	25
Administrative and waste services	56	4,399	4,766	4,971	5,159	4,751	4,827	5,086	5,044	4,569	4,652	4,660	4,316	4,382	4,542	4,540	-32	-30	79
Educational services	61	1,905	2,060	2,126	2,165	2,222	2,418	2,498	2,514	2,653	2,742	2,660	2,729	2,819	2,973	3,046	70	97	114
Health care and social assistance	62	20,748	22,127	22,821	23,642	24,401	25,554	26,917	27,418	27,885	28,655	28,549	28,407	29,124	29,213	29,199	405	162	37
Arts, entertainment, and recreation	71	2,500	2,393	2,432	2,503	2,535	2,599	2,714	2,877	2,813	2,802	2,947	2,998	3,007	2,980	2,967	41	5	-20
Accommodation and food services	72	11,215	11,292	11,331	11,348	11,468	11,434	11,574	11,557	11,301	11,077	11,028	11,245	11,322	11,378	11,276	-18	62	-23
Other services, except public administration	81	8,497	8,772	8,719	8,733	8,751	8,634	8,649	8,664	8,255	7,943	7,975	7,882	8,179	8,457	8,470	-18	124	145
Government and government enterprises	90	23,901	23,701	22,968	22,541	22,468	22,640	21,939	21,950	21,683	21,600	21,333	21,465	20,836	20,869	20,724	-213	-152	-56
Farm employment	--	1,535	1,398	1,322	1,244	1,212	1,143	1,124	1,092	1,109	1,098	1,074	1,058	1,054	1,042	1,031	-12	-11	-12
Total Employment		139,961	140,681	140,588	142,010	143,930	145,946	147,841	147,238	142,500	141,410	142,182	141,155	142,642	144,392	142,315	-403	33	-164

Source: Bureau of Economic Analysis and THK Associates, Inc.

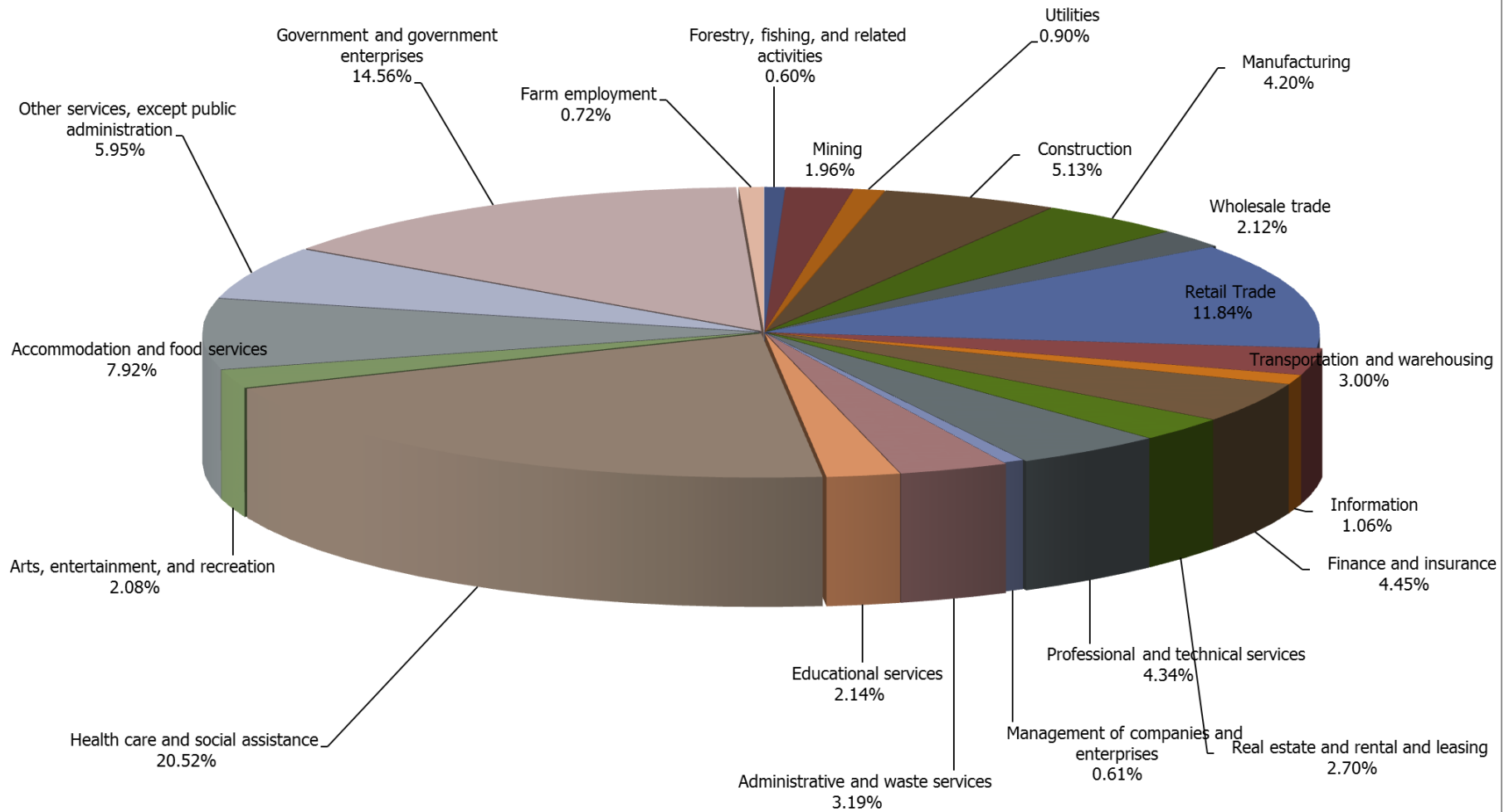
GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Annual Average Employment Trends by Industry



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Giants Ridge Two County Employment Breakdown

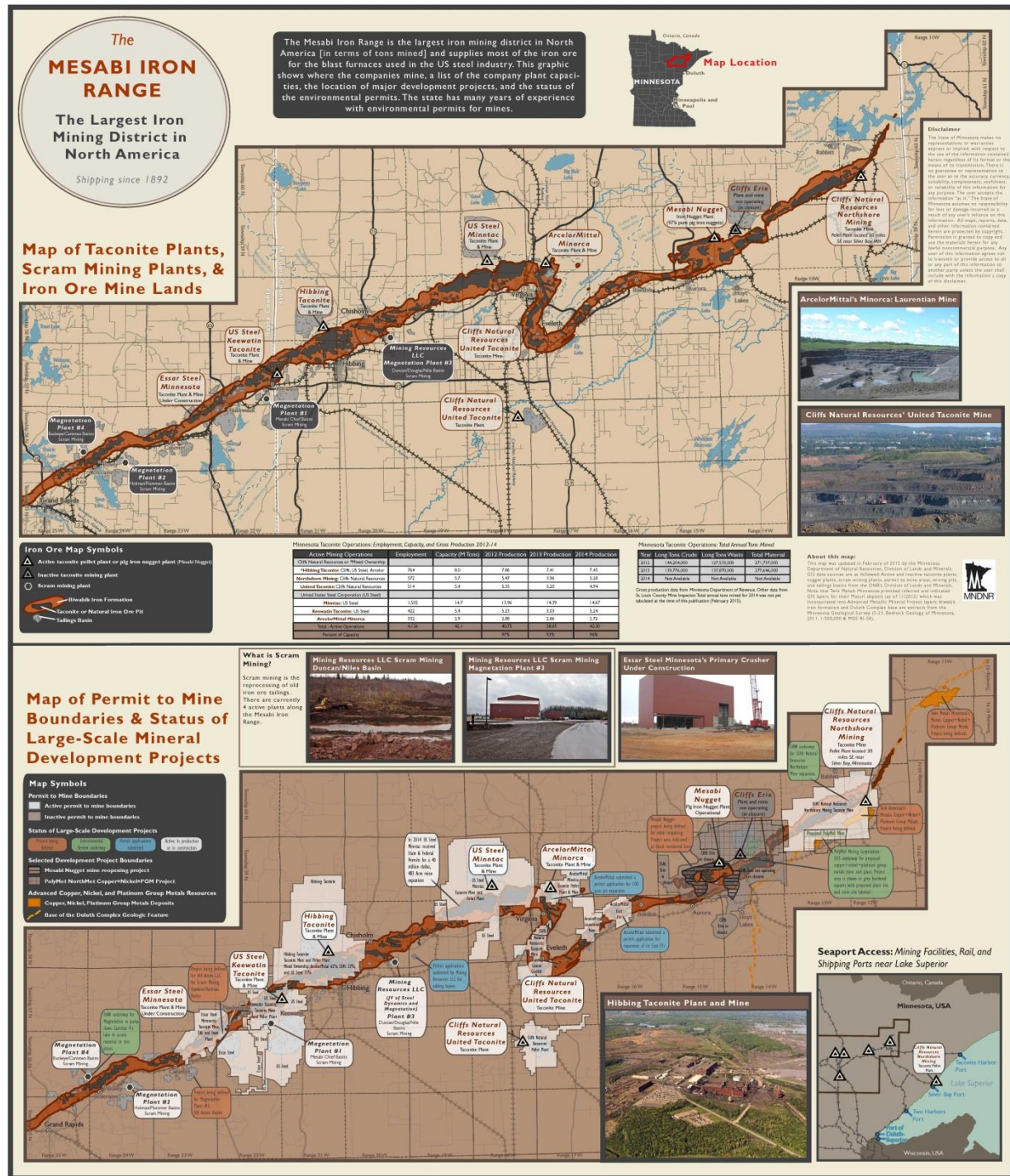


GIANTS RIDGE TWO COUNTY ECONOMIC BASE

B. PROJECTED EMPLOYMENT GROWTH

A map of the Mesabi Iron Range on the next page illustrates how dependent on mining the Giants Ridge market area is on commodities. Fueling the Giants Ridge market area's employment loss is the closure of mines, due mainly to decreasing commodities prices worldwide as BRIC economies experience slower than average growth over the last year and oil prices sink. This has resulted in a major loss in mining jobs, as well as industries ancillary to mining. Table I-3 projects employment by industry for the market area from 2016 to 2025. THK has been informed that multiple mining Companies have decided to cease operation in the area. This will lead to large amounts of unemployment over the next five years. THK has accounted for this economic shock in years 2016 and 2021. As shown, the market area will experience steady growth after 2021, when the economy might stabilize. No industry will see positive average annual change over the next 10 years, however. Note that the mining sector includes metal mining, coal mining, oil and gas extraction, and mining and quarrying of non-metallic materials, except fuels. Office employees are included in the mining employment count, and both full and part time employees by place of work are included in the employment count.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

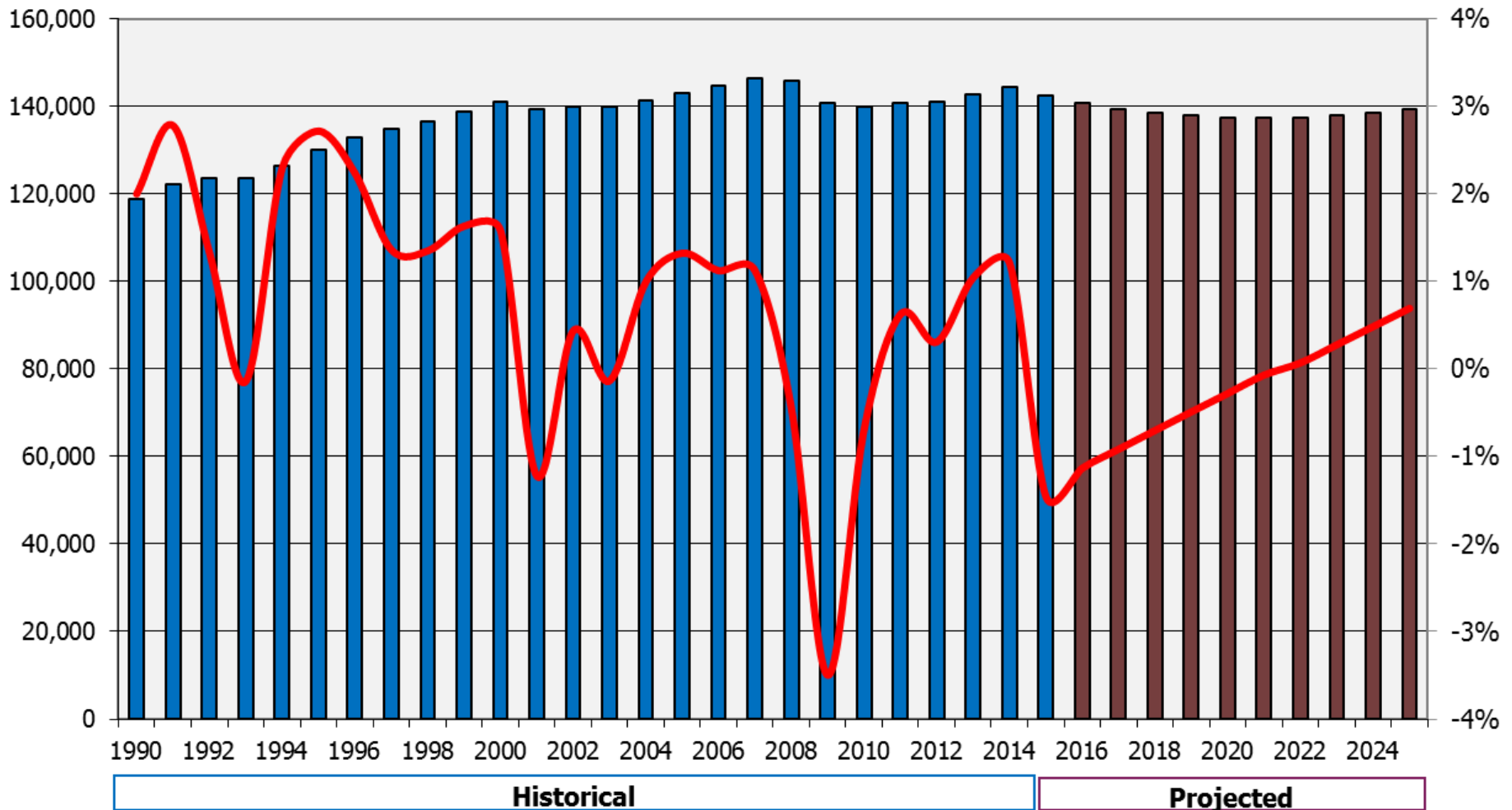
Table I-3: Projected Giants Ridge Two County Area Market Employment 2017-2025

Industry	Annual Rate of Change	Historical 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Average Annual Change
Total Non Farm (By Place of Work)	-0.3%	141,285	139,694	138,420	137,450	136,776	136,394	136,299	136,394	136,775	137,444	138,406	-143
Forestry, fishing, and related activities	-1.9%	854	847	841	837	834	833	832	833	834	837	841	-1
Mining	3.1%	2,786	2,742	2,706	2,679	2,660	2,649	2,647	2,649	2,660	2,679	2,705	-4
Utilities	0.0%	1,281	1,264	1,250	1,240	1,232	1,228	1,227	1,228	1,232	1,240	1,250	-2
Construction	-1.3%	7,295	7,214	7,149	7,099	7,065	7,045	7,040	7,045	7,065	7,099	7,149	-7
Manufacturing	0.4%	5,978	5,896	5,831	5,782	5,747	5,728	5,723	5,728	5,747	5,781	5,831	-7
Wholesale trade	0.6%	3,019	2,949	2,893	2,851	2,822	2,806	2,802	2,806	2,822	2,851	2,892	-6
Retail Trade	-0.3%	16,847	16,699	16,579	16,488	16,425	16,389	16,380	16,389	16,425	16,488	16,579	-13
Transportation and warehousing	0.0%	4,265	4,202	4,151	4,113	4,086	4,071	4,067	4,071	4,086	4,113	4,151	-6
Information	-9.6%	1,515	1,509	1,504	1,500	1,497	1,496	1,496	1,496	1,497	1,500	1,504	-1
Finance and insurance	-0.4%	6,335	6,271	6,220	6,181	6,154	6,139	6,135	6,139	6,154	6,181	6,220	-6
Real estate and rental and leasing	-0.5%	3,847	3,796	3,755	3,724	3,703	3,691	3,687	3,691	3,703	3,724	3,755	-5
Professional and technical services	-2.7%	6,181	6,121	6,073	6,036	6,011	5,996	5,992	5,996	6,011	6,036	6,073	-5
Management of companies and enterprises	-0.8%	862	823	793	771	756	748	746	748	756	771	792	-3
Administrative and waste services	-1.9%	4,540	4,501	4,469	4,445	4,428	4,419	4,416	4,419	4,428	4,445	4,469	-4
Educational services	0.9%	3,046	2,985	2,937	2,900	2,875	2,860	2,857	2,860	2,875	2,900	2,936	-5
Health care and social assistance	0.6%	29,199	28,846	28,563	28,347	28,197	28,112	28,091	28,112	28,197	28,346	28,560	-32
Arts, entertainment, and recreation	2.1%	2,967	2,914	2,873	2,841	2,819	2,807	2,804	2,807	2,819	2,841	2,872	-5
Accommodation and food services	-0.2%	11,276	11,096	10,951	10,842	10,766	10,723	10,712	10,723	10,766	10,841	10,949	-16
Other services, except public administration	-1.5%	8,470	8,379	8,306	8,250	8,212	8,190	8,184	8,190	8,212	8,250	8,305	-8
Government and government enterprises	-0.3%	20,724	20,641	20,574	20,522	20,486	20,466	20,461	20,466	20,486	20,522	20,573	-7
Farm employment	-1.6%	1,031	1,026	1,023	1,021	1,019	1,018	1,017	1,018	1,019	1,021	1,023	0
Total employment	-0.3%	142,315	140,721	139,443	138,470	137,795	137,412	137,316	137,412	137,794	138,465	139,429	-144
Job growth/(losses)	-2.07%	-2,076	-1,595	-1,278	-972	-675	-383	-96	95	382	671	964	-144
Job growth rate	-1.4%	-1.1%	-0.9%	-0.7%	-0.5%	-0.3%	-0.1%	0.1%	0.3%	0.5%	0.7%		

Source: BEA, BLS, and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Historical and Projected Giants Ridge Two-County Area Employment 1990-2025



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

C. ADDITIONAL EMPLOYMENT DATA

Table I-4 displays the top 15 employers in the Giants Ridge Two County Area. The top three employers account for approximately 53% of employees in the top 15. Two of the three are found in Health Care and Social Assistance, which has been the top growing industry in the Two County area over the past 5 years, and the third is Public Administration of St. Louis County – common for counties this size. The sixth largest employer is Minnesota Taconite, the only employer listed in the Mining industry. This change points to a demographic shift from mining as the main driver of industry in the Two County region.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-4: Top 10 Largest Employers in the Giants Ridge Two County Area Biwabik Market, 2015

Employer	City	Industry	Local Employees
1 Essentia Health	Duluth	Health Care and Social Assistance	5,341
2 St. Luke's	Duluth	Health Care and Social Assistance	2,073
3 St. Louis County	Duluth	Public Administration	1,956
4 University of Minnesota Duluth	Duluth	Educational Services	1,700
5 Duluth Public Schools	Duluth	Educational Services	1,426
6 Minnesota Taconite (USS)	Mountain Iron	Mining	1,390
7 United Healthcare	Duluth	Finance and Insurance	1,368
8 ALLETE	Duluth	Utilities	1,322
9 Duluth Air National Guard Base	Duluth	Public Administration	1,068
10 City of Duluth	Duluth	Public Administration	850
11 US Government	Duluth	Public Administration	850
12 Benedictine Health System	Duluth	Health Care and Social Assistance	829
13 Fairview University Medical Center-Mesabi	Hibbing	Health Care and Social Assistance	786
14 Black Bear Casino Resort & Golf Course	Carlton	Arts, Entertainment and Recreation	771
15 Cirrus Aircraft	Duluth	Manufacturing	760
Total			17,644

Source: Northland Connection For Economic Development and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

D. POPULATION AND HOUSEHOLD GROWTH TRENDS IN GIANTS RIDGE TWO COUNTY REGION

Population and household growth drive the demand for residential real estate development. The population and household growth in the Giants Ridge Two County Region are illustrated in Table I-5. There has been little or negative the Two County region over the past 5 years. Since 2010, the Giants Ridge Two County Region has lost an average of -23 people and gained 14 households annually; resulting in an annual growth rate for population and households of roughly 0%. In 2015, the Two County area has an estimated population of 245,284 persons living in 103,625 permanent households.

Shown on Table I-6 is the historical population and household trends for the cities of Biwabik, Virginia, Eveleth, Aurora, Hoyt Lakes and Gilbert. There has been very little or negative population and household growth in these selective cities, with an annual average of 0% for both population and households since 2010.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-5: Estimates of Population and Households in Giants Ridge Two County Area, 1980-2015

Year	Itasca County		St. Louis County		Giants Ridge Two County Area Total	
	Pop	HH	Pop	HH	Pop	HH
1980	35,737	13,490	189,837	75,764	225,575	89,254
1990	40,864	15,425	198,210	79,106	239,074	94,531
2000	43,992	17,789	200,526	82,618	244,518	100,407
2010	45,058	18,773	200,226	84,783	245,284	103,556
2015	45,653	19,038	199,518	84,587	245,171	103,625
(1980-2015):						
Numerical	280	159	280	252	560	410
Percent	0.7%	1.0%	0.1%	0.3%	0.2%	0.4%
Giants Ridge Two County Area	50%	39%	50%	61%		
(1990-2015):						
Numerical	190	145	50	219	240	360
Percent	0.4%	0.8%	0.0%	0.3%	0.1%	0.4%
Giants Ridge Two County Area	79%	40%	21%	61%		
(2000-2015):						
Numerical	111	83	-67	131	40	210
Percent	0.2%	0.5%	0.0%	0.2%	0.0%	0.2%
Giants Ridge Two County Area	277%	40%	-168%	63%		
(2010-2015)						
Numerical	119	53	-142	-39	-23	14
Percent	0.3%	0.3%	-0.1%	0.0%	0.0%	0.0%
	-529%	383%	629%	-283%		

Source: Bureau of Census and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-6: Estimates of Population and Households in Selected Cities in the Giants Ridge Two County Area, 1980-2015

Year	Biwabik city, MN		Virginia city, MN		Eveleth city, MN		Aurora city, MN		Hoyt Lakes city, MN		Gilbert city, MN		Total	
	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH
1980	1,030	443	9,477	4,377	4,056	1,718	1,936	822	2,329	950	1,828	789	20,656	9,099
1990	1,034	445	9,512	4,393	4,085	1,730	1,965	834	2,333	952	1,932	834	20,861	9,188
2000	904	439	9,230	4,369	3,869	1,719	1,850	812	2,082	916	1,845	841	19,780	9,096
2010	898	427	8,772	4,275	3,724	1,685	1,682	777	2,017	885	1,799	835	18,892	8,884
2015	900	429	8,757	4,275	3,721	1,686	1,682	779	2,014	886	1,803	839	18,877	8,893
(1980-2015):														
Numerical	0	0	-20	-3	-10	-1	-10	-1	-10	0	0	0	-50	-10
Percent	-0.4%	-0.1%	-0.2%	-0.1%	-0.2%	-0.1%	-0.4%	-0.2%	-0.4%	-0.2%	0.0%	0.2%	-0.3%	-0.1%
% of Total	0%	4%	40%	29%	20%	9%	20%	12%	20%	0%	0%	0%		
(1990-2015):														
Numerical	-10	-1	-30	-5	-10	-2	-10	-2	-10	0	-10	0	-80	-10
Percent	-0.6%	-0.1%	-0.3%	-0.1%	-0.4%	-0.1%	-0.6%	-0.3%	-0.6%	-0.3%	-0.3%	0.0%	-0.4%	-0.1%
% of Total	13%	7%	38%	47%	13%	18%	13%	22%	13%	0%	13%	0%		
(2000-2015):														
Numerical	0	-1	-32	-6	-10	-2	-11	-2	0	0	0	0	-60	-10
Percent	0.0%	-0.2%	-0.4%	-0.1%	-0.3%	-0.1%	-0.6%	-0.3%	-0.2%	-0.2%	-0.2%	0.0%	-0.3%	-0.2%
% of Total	0%	7%	53%	63%	16%	22%	19%	22%	0%	0%	0%	0%		
(2010-2015)									0.0%	0.0%	0.0%	0.0%		
Numerical	0	0	-3	0	-1	0	0	0	-1	0	1	1	-3	2
Percent	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
	-11%	19%	102%	0%	18%	10%	3%	20%	19%	10%	-30%	41%		

Source: Bureau of Census and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

E. RESIDENTIAL CONSTRUCTION TRENDS IN GIANTS RIDGE TWO COUNTY REGION

Residential housing permit data by unit type for the Giants Ridge market area is displayed in Tables I-7 and I-8. Table I-7 is a three-part summary of single-family and multi-family permits since 1980 broken out for both St. Louis and Itasca counties and Table I-8 summarizes that data for the area. As shown, single-family units have generated most of the permits annually in Giants Ridge Two County Region, with single-family having accounted for roughly 71.3% of permit activity since 1980 to 2014 and multi-family 28.7%. St. Louis County has generated the majority of permits in this time as well, accounting for approximately 76.8% of permits pulled in the Two County area since 1980.

In Table I-9, the number of residential permits issued inside a six-city area which surrounds Biwabik and Giants Ridge is displayed. This area includes Biwabik itself, Virginia, Eveleth, Aurora, Hoyt Lakes and Gilbert. In this area the residential permit trends are allocated even more consistently to single-family permits within the various city limits. On average since 1980, approximately 82% of the residential permits have been single-family and the remaining 18% have been multi-family. Over the last decade, the percentage of single-family residential permits has stayed roughly as dominant, with 78.7% of the permits going towards single-family projects since 2005.

Of the average 673 permits authorized annually since 1980 in Giants Ridge Two County Region, approximately 1.2% of the total permits, or approximately eight permits annually, have been issued inside the six city area. Over the last three years, the Two-Counties have issued an average of 265 permits annually of which approximately two permits (.8%) have been within the six city limits. In 2014, the Giants Ridge Two County Region issued 393 permits and the six city region issued six permits – a strong number for both regions.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-7: Residential Building Permits Issued by County in the Giants Ridge Two County Area, 1980-2015

Single Family					
Itasca			St. Louis		Giants Ridge Two County Total
Year	Permits	Percent of Total	Permits	Percent of Total	
1980	306	39.0%	478	61.0%	784
1981	222	33.3%	444	66.7%	666
1982	235	44.4%	294	55.6%	529
1983	236	44.7%	292	55.3%	528
1984	256	49.3%	263	50.7%	519
1985	175	47.3%	195	52.7%	370
1986	151	39.8%	228	60.2%	379
1987	319	49.9%	320	50.1%	639
1988	183	32.4%	382	67.6%	565
1989	208	35.9%	371	64.1%	579
1990	259	36.3%	455	63.7%	714
1991	228	33.3%	457	66.7%	685
1992	259	30.6%	588	69.4%	847
1993	220	24.2%	688	75.8%	908
1994	190	27.8%	493	72.2%	683
1995	201	28.7%	499	71.3%	700
1996	226	33.3%	452	66.7%	678
1997	218	33.9%	425	66.1%	643
1998	257	27.1%	690	72.9%	947
1999	286	34.4%	545	65.6%	831
2000	348	40.7%	506	59.3%	854
2001	306	35.7%	552	64.3%	858
2002	339	35.4%	619	64.6%	958
2003	382	34.0%	743	66.0%	1125
2004	400	31.9%	854	68.1%	1254
2005	480	40.0%	720	60.0%	1200
2006	281	31.4%	613	68.6%	894
2007	212	28.8%	524	71.2%	736
2008	235	36.0%	417	64.0%	652
2009	174	27.3%	464	72.7%	638
2010	71	38.4%	114	61.6%	185
2011	68	33.8%	133	66.2%	201
2012	71	33.5%	141	66.5%	212
2013	71	38.4%	114	61.6%	185
2014	82	20.6%	316	79.4%	398
2015-Reported*	15	45.5%	18	54.5%	33
35 Year Average					
1980-2014	233	34.6%	440	65.4%	673
10 year average					
2005-2014	175	32.9%	356	67.1%	530
5 year average					
2010-2014	73	30.7%	164	69.3%	236
3 year average					
2012-2014	75	28.2%	190	71.8%	265

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-7: Residential Building Permits Issued by County in the Giants Ridge Two County Area, 1980-2015

Multi-Family					
Year	Itasca		St. Louis		Giants Ridge Two County Total
	Permits	Percent of Total	Permits	Percent of Total	
1980	122	21.7%	439	78.3%	561
1981	0	0.0%	16	100.0%	16
1982	72	66.7%	36	33.3%	108
1983	9	100.0%	0	0.0%	9
1984	20	87.0%	3	13.0%	23
1985	35	74.5%	12	25.5%	47
1986	8	14.8%	46	85.2%	54
1987	64	53.8%	55	46.2%	119
1988	0	0.0%	18	100.0%	18
1989	30	25.9%	86	74.1%	116
1990	51	81.0%	12	19.0%	63
1991	24	12.4%	170	87.6%	194
1992	0	0.0%	42	100.0%	42
1993	24	30.0%	56	70.0%	80
1994	0	0.0%	72	100.0%	72
1995	0	0.0%	92	100.0%	92
1996	24	48.0%	26	52.0%	50
1997	0	0.0%	96	100.0%	96
1998	0	0.0%	126	100.0%	126
1999	28	11.7%	211	88.3%	239
2000	0	0.0%	75	100.0%	75
2001	20	71.4%	8	28.6%	28
2002	0	0.0%	4	100.0%	4
2003	0	0.0%	74	100.0%	74
2004	24	6.8%	331	93.2%	355
2005	5	2.5%	197	97.5%	202
2006	107	38.9%	168	61.1%	275
2007	0	0.0%	101	100.0%	101
2008	24	20.2%	95	79.8%	119
2009	18	17.6%	84	82.4%	102
2010	0	0.0%	50	100.0%	50
2011	0	0.0%	58	100.0%	58
2012	0	0.0%	85	100.0%	85
2013	0	0.0%	50	100.0%	50
2014	35	18.9%	150	81.1%	185
2015-Reported*	20	57.1%	15	42.9%	35
35 Year Average					
1980-2014	21	19.1%	90	80.9%	111
10 year average					
2005-2014	19	15.4%	104	84.6%	123
5 year average					
2010-2014	7	8.2%	79	91.8%	86
3 year average					
2012-2014	12	10.9%	95	89.1%	107

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-7: Residential Building Permits Issued by County in the Giants Ridge Two County Area, 1980-2015

Total					
Year	Itasca		St. Louis		Giants Ridge Two County Total
	Permits	Percent of Total	Permits	Percent of Total	
1980	428	31.8%	917	68.2%	1,345
1981	222	32.6%	460	67.4%	682
1982	307	48.2%	330	51.8%	637
1983	245	45.6%	292	54.4%	537
1984	276	50.9%	266	49.1%	542
1985	210	50.4%	207	49.6%	417
1986	159	36.7%	274	63.3%	433
1987	383	50.5%	375	49.5%	758
1988	183	31.4%	400	68.6%	583
1989	238	34.2%	457	65.8%	695
1990	310	39.9%	467	60.1%	777
1991	252	28.7%	627	71.3%	879
1992	259	29.1%	630	70.9%	889
1993	244	24.7%	744	75.3%	988
1994	190	25.2%	565	74.8%	755
1995	201	25.4%	591	74.6%	792
1996	250	34.3%	478	65.7%	728
1997	218	29.5%	521	70.5%	739
1998	257	24.0%	816	76.0%	1,073
1999	314	29.3%	756	70.7%	1,070
2000	348	37.5%	581	62.5%	929
2001	326	36.8%	560	63.2%	886
2002	339	35.2%	623	64.8%	962
2003	382	31.9%	817	68.1%	1,199
2004	424	26.4%	1,185	73.6%	1,609
2005	485	34.6%	917	65.4%	1,402
2006	388	33.2%	781	66.8%	1,169
2007	212	25.3%	625	74.7%	837
2008	259	33.6%	512	66.4%	771
2009	192	25.9%	548	74.1%	740
2010	71	30.2%	164	69.8%	235
2011	68	26.3%	191	73.7%	259
2012	71	23.9%	226	76.1%	297
2013	71	30.2%	164	69.8%	235
2014	117	20.1%	466	79.9%	583
2015-Reported*	35	51.5%	33	48.5%	68
35 Year Average					
1980-2014	254	32.4%	530	67.6%	784
10 year average					
2005-2014	193	29.6%	459	70.4%	653
5 year average					
2010-2014	80	24.7%	242	75.3%	322
3 year average					
2012-2014	86	23.2%	285	76.8%	372

*Both Counties have withheld the majority of permit data for 2015

Source: U.S. Department of Commerce, C-40 Reports and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-8: Residential Building Permits Issued by Type and Tenure in the Giants Ridge Two County Area, 1980-2015

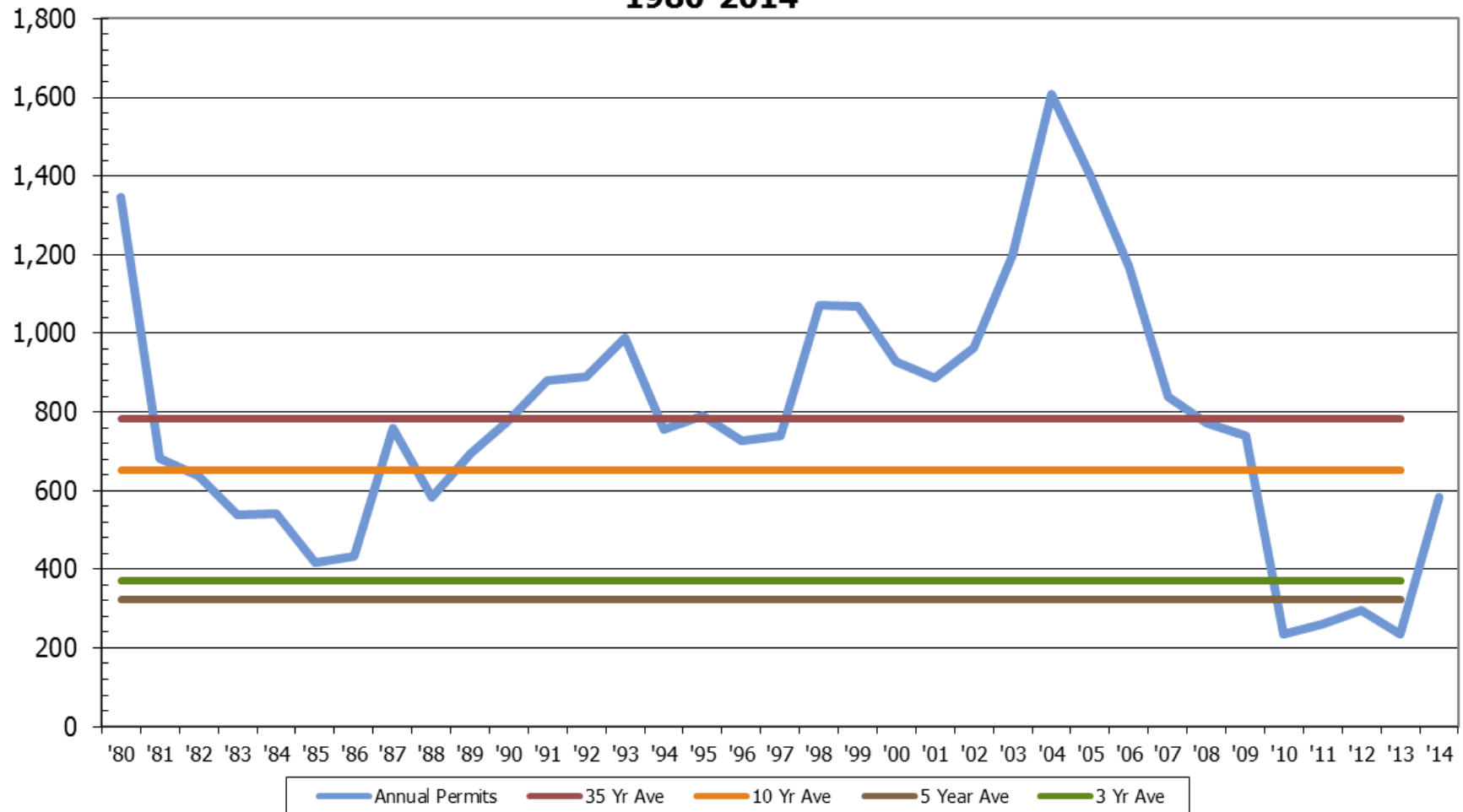
Year	Single Family Units	Percent of Total	Multi- Family Units	Percent of Total	Total
1980	784	58.3%	561	41.7%	1,345
1981	666	97.7%	16	2.3%	682
1982	529	83.0%	108	17.0%	637
1983	528	98.3%	9	1.7%	537
1984	519	95.8%	23	4.2%	542
1985	370	88.7%	47	11.3%	417
1986	379	87.5%	54	12.5%	433
1987	639	84.3%	119	15.7%	758
1988	565	96.9%	18	3.1%	583
1989	579	83.3%	116	16.7%	695
1990	714	91.9%	63	8.1%	777
1991	685	77.9%	194	22.1%	879
1992	847	95.3%	42	4.7%	889
1993	908	91.9%	80	8.1%	988
1994	683	90.5%	72	9.5%	755
1995	700	88.4%	92	11.6%	792
1996	678	93.1%	50	6.9%	728
1997	643	87.0%	96	13.0%	739
1998	947	88.3%	126	11.7%	1,073
1999	831	77.7%	239	22.3%	1,070
2000	854	91.9%	75	8.1%	929
2001	858	96.8%	28	3.2%	886
2002	958	99.6%	4	0.4%	962
2003	1,125	93.8%	74	6.2%	1,199
2004	1,254	77.9%	355	22.1%	1,609
2005	1,200	85.6%	202	14.4%	1,402
2006	894	76.5%	275	23.5%	1,169
2007	736	87.9%	101	12.1%	837
2008	652	84.6%	119	15.4%	771
2009	638	86.2%	102	13.8%	740
2010	185	78.7%	50	21.3%	235
2011	201	77.6%	58	22.4%	259
2012	212	71.4%	85	28.6%	297
2013	185	78.7%	50	21.3%	235
2014	398	68.3%	185	31.7%	583
2015-Reported* *	33	48.5%	35	51.5%	68
35 Year Average 1980-2014	673	85.8%	111	14.2%	784
10 year average 2005-2014	530	81.2%	123	18.8%	653
5 year average 2010-2014	236	73.4%	86	26.6%	322
3 year average 2012-2014	265	71.3%	107	28.7%	372

*Both Counties have withheld the majority of permit data for 2015

Source: U.S. Department of Commerce, C-40 Reports and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

**Two-County Historical Residential Building Permit Activity,
1980-2014**



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-9: Residential Building Permits Issued by City in the Giants Ridge Two County Area, 1980-2015

Single Family													
Year	Biwabik		Virginia		Eveleth		Aurora		Hoyt Lakes		Gilbert		Total
	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	
1980	1	7.7%	6	46.2%	3	23.1%	2	15.4%	1	7.7%	6	46.2%	13
1981	1	4.3%	7	30.4%	5	21.7%	9	39.1%	1	4.3%	2	8.7%	23
1982	0	0.0%	1	25.0%	1	25.0%	2	50.0%	0	0.0%	1	25.0%	4
1983	0	0.0%	2	40.0%	3	60.0%	0	0.0%	0	0.0%	0	0.0%	5
1984	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	2
1985	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1986	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1987	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1988	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1
1989	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
1990	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
1991	1	33.3%	1	33.3%	0	0.0%	1	33.3%	0	0.0%	0	0.0%	3
1992	0	0.0%	1	20.0%	1	20.0%	0	0.0%	3	60.0%	0	0.0%	5
1993	1	20.0%	2	40.0%	0	0.0%	0	0.0%	2	40.0%	0	0.0%	5
1994	0	0.0%	2	40.0%	3	60.0%	0	0.0%	0	0.0%	0	0.0%	5
1995	1	25.0%	0	0.0%	2	50.0%	0	0.0%	1	25.0%	0	0.0%	4
1996	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1997	0	0.0%	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
1998	1	12.5%	6	75.0%	0	0.0%	1	12.5%	0	0.0%	2	25.0%	8
1999	0	0.0%	7	58.3%	4	33.3%	1	8.3%	0	0.0%	2	16.7%	12
2000	0	0.0%	7	70.0%	0	0.0%	0	0.0%	3	30.0%	2	20.0%	10
2001	0	0.0%	6	54.5%	4	36.4%	0	0.0%	1	9.1%	2	18.2%	11
2002	0	0.0%	4	36.4%	4	36.4%	0	0.0%	3	27.3%	3	27.3%	11
2003	0	0.0%	5	38.5%	4	30.8%	1	7.7%	3	23.1%	3	23.1%	13
2004	0	0.0%	7	58.3%	4	33.3%	0	0.0%	1	8.3%	9	75.0%	12
2005	0	0.0%	7	58.3%	3	25.0%	1	8.3%	1	8.3%	6	50.0%	12
2006	0	0.0%	3	27.3%	2	18.2%	5	45.5%	1	9.1%	5	45.5%	11
2007	11	55.0%	6	30.0%	1	5.0%	1	5.0%	1	5.0%	5	25.0%	20
2008	0	0.0%	5	41.7%	1	8.3%	1	8.3%	5	41.7%	3	25.0%	12
2009	6	46.2%	5	38.5%	1	7.7%	1	7.7%	0	0.0%	2	15.4%	13
2010	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2011	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2012	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2013	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2014	2	33.3%	0	0.0%	1	16.7%	2	33.3%	1	16.7%	4	66.7%	6
2015 ytd	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6	0.0%	0
35-Year Average 1980-2014	1	11.0%	3	42.1%	1	21.9%	1	12.7%	1	12.3%	2	25.0%	7
10 -Year Average 2005-2014	2	25.7%	3	35.1%	1	12.2%	1	14.9%	1	12.2%	3	33.8%	7
5-Year Average 2010-2014	0	33.3%	0	0.0%	0	16.7%	0	33.3%	0	16.7%	1	66.7%	1
3-Year Average 2012-2014	1	33.3%	0	0.0%	0	16.7%	1	33.3%	0	16.7%	1	66.7%	2

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Table I-9: Residential Building Permits Issued by City in the Giants Ridge Two County Area, 1980-2015

Multi-Family													
Year	Biwabik		Virginia		Eveleth		Aurora		Hoyt Lakes		Gilbert		Total
	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	
1980	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1981	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1982	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1983	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1984	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1985	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1986	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1987	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1988	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1989	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1990	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1991	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1992	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1993	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1994	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1995	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1996	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
1997	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
1998	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1999	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2000	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2001	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2002	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2003	12	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	12
2004	10	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	10
2005	10	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	10
2006	10	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	10
2007	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2008	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2009	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2010	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2011	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2012	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2013	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2014	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2015 ytd	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
35-Year Average 1980-2014	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
10 -Year Average 2005-2014	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
5-Year Average 2010-2014	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
3-Year Average 2012-2014	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

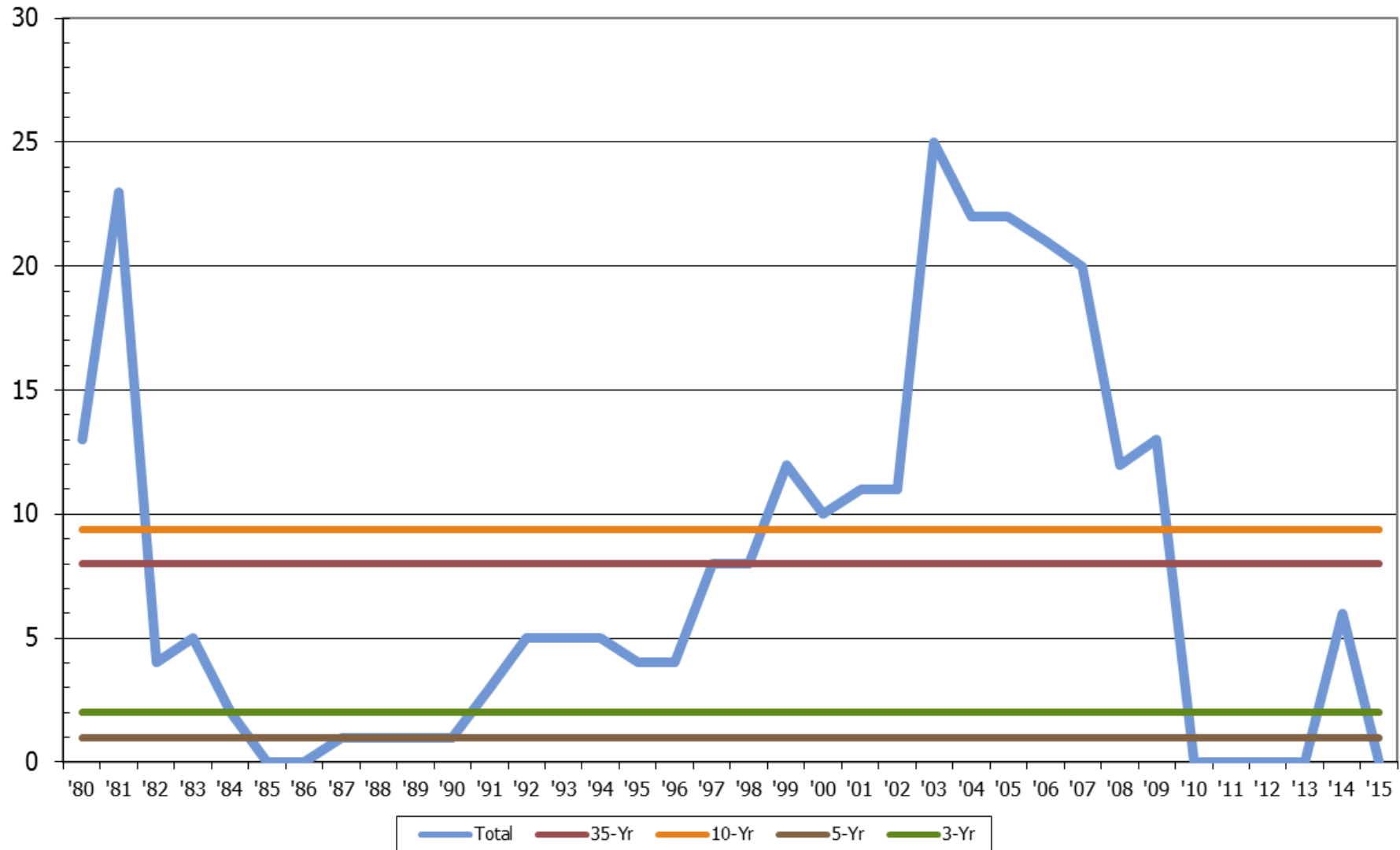
Table I-9: Residential Building Permits Issued by City in the Giants Ridge Two County Area, 1980-2015

Total													
Year	Biwabik		Virginia		Eveleth		Aurora		Hoyt Lakes		Gilbert		Total
	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	
1980	1	7.7%	6	46.2%	3	23.1%	2	15.4%	1	7.7%	6	46.2%	13
1981	1	4.3%	7	30.4%	5	21.7%	9	39.1%	1	4.3%	2	8.7%	23
1982	0	0.0%	1	25.0%	1	25.0%	2	50.0%	0	0.0%	1	25.0%	4
1983	0	0.0%	2	40.0%	3	60.0%	0	0.0%	0	0.0%	0	0.0%	5
1984	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	2
1985	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1986	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
1987	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1988	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1
1989	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
1990	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
1991	1	33.3%	1	33.3%	0	0.0%	1	33.3%	0	0.0%	0	0.0%	3
1992	0	0.0%	1	20.0%	1	20.0%	0	0.0%	3	60.0%	0	0.0%	5
1993	1	20.0%	2	40.0%	0	0.0%	0	0.0%	2	40.0%	0	0.0%	5
1994	0	0.0%	2	40.0%	3	60.0%	0	0.0%	0	0.0%	0	0.0%	5
1995	1	25.0%	0	0.0%	2	50.0%	0	0.0%	1	25.0%	0	0.0%	4
1996	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
1997	4	50.0%	4	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	8
1998	1	12.5%	6	75.0%	0	0.0%	1	12.5%	0	0.0%	2	25.0%	8
1999	0	0.0%	7	58.3%	4	33.3%	1	8.3%	0	0.0%	2	16.7%	12
2000	0	0.0%	7	70.0%	0	0.0%	0	0.0%	3	30.0%	2	20.0%	10
2001	0	0.0%	6	54.5%	4	36.4%	0	0.0%	1	9.1%	2	18.2%	11
2002	0	0.0%	4	36.4%	4	36.4%	0	0.0%	3	27.3%	3	27.3%	11
2003	12	48.0%	5	20.0%	4	16.0%	1	4.0%	3	12.0%	3	12.0%	25
2004	10	45.5%	7	31.8%	4	18.2%	0	0.0%	1	4.5%	9	40.9%	22
2005	10	45.5%	7	31.8%	3	13.6%	1	4.5%	1	4.5%	6	27.3%	22
2006	10	47.6%	3	14.3%	2	9.5%	5	23.8%	1	4.8%	5	23.8%	21
2007	11	55.0%	6	30.0%	1	5.0%	1	5.0%	1	5.0%	5	25.0%	20
2008	0	0.0%	5	41.7%	1	8.3%	1	8.3%	5	41.7%	3	25.0%	12
2009	6	46.2%	5	38.5%	1	7.7%	1	7.7%	0	0.0%	2	15.4%	13
2010	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2011	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2012	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2013	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
2014	2	33.3%	0	0.0%	1	16.7%	2	33.3%	1	16.7%	4	66.7%	6
2015 ytd	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6	0.0%	0
35-Year Average 1980-2014	2	27.0%	3	34.5%	1	18.0%	1	10.4%	1	10.1%	2	20.5%	8
10 -Year Average 2005-2014	4	41.5%	3	27.7%	1	9.6%	1	11.7%	1	9.6%	3	26.6%	9
5-Year Average 2010-2014	0	33.3%	0	0.0%	0	16.7%	0	33.3%	0	16.7%	1	66.7%	1
3-Year Average 2012-2014	1	33.3%	0	0.0%	0	16.7%	1	33.3%	0	16.7%	1	66.7%	2

Source: U.S. Department of Commerce, C-40 Reports and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

PTA Market Area Historical Residential Building Permit Activity, 1980-2013



GIANTS RIDGE TWO COUNTY ECONOMIC BASE

F. POPULATION AND HOUSEHOLD GROWTH PROJECTIONS IN GIANTS RIDGE TWO COUNTY REGION

Population, household, and employment data for Giants Ridge Two County Region are compared in Table I-10. In 1980, the population of Giants Ridge Two County Region was 225,575 and resident employment was 120,155 for an employment participation rate of .5327, meaning that 53.27% of the population was employed. By 1990, the study areas' resident employment had decreased to 118,175 while the population had increased to 239,074 for an employment participation rate of .4943. Employment had grown again between 1990 and 2000, increasing to 141,590. Over the same time period, population grew to 244,518, resulting in an employment participation ratio of 0.5791. By 2010, the employment participation ratio remained steady at 0.5765. The current employment participation ratio is estimated at .5805 – which is up from 2010. The estimated 2015 population is 245,171 for Giants Ridge Two County Region.

In Table I-10, the population growth of Giants Ridge Two County Region is projected based on the anticipated employment growth, which is expected to decline the next six years then slowly start gaining ground as commodity markets rebound. With a projected 2025 resident employment of 139,429, the estimated 2025 population for Giants Ridge Two County Region will be 240,921, with a projected employment participation rate of .5787. The area's permanent population is projected to decline by 175 persons per year through 2025 due to population loss over the next 6 years.

Table I-10 also shows the projected trends in new household formations for the Giants Ridge Two County Region. The population per household in the county has decreased from 2.4171 in 1980 to 2.4257 in 1990 and 2.3387 in 2000. By 2010, the population per household had continued to decrease to 2.695 and in 2015, this number decreased dramatically to approximately 2.2671.

As employment and population stall during the next six years, household size will continue to decrease slightly over the remainder of the decade. **New household formations in the county are projected to decline by an average of eight annually over the next decade. This low number is only due to the first six years, where after households will slowly start to grow again.**

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

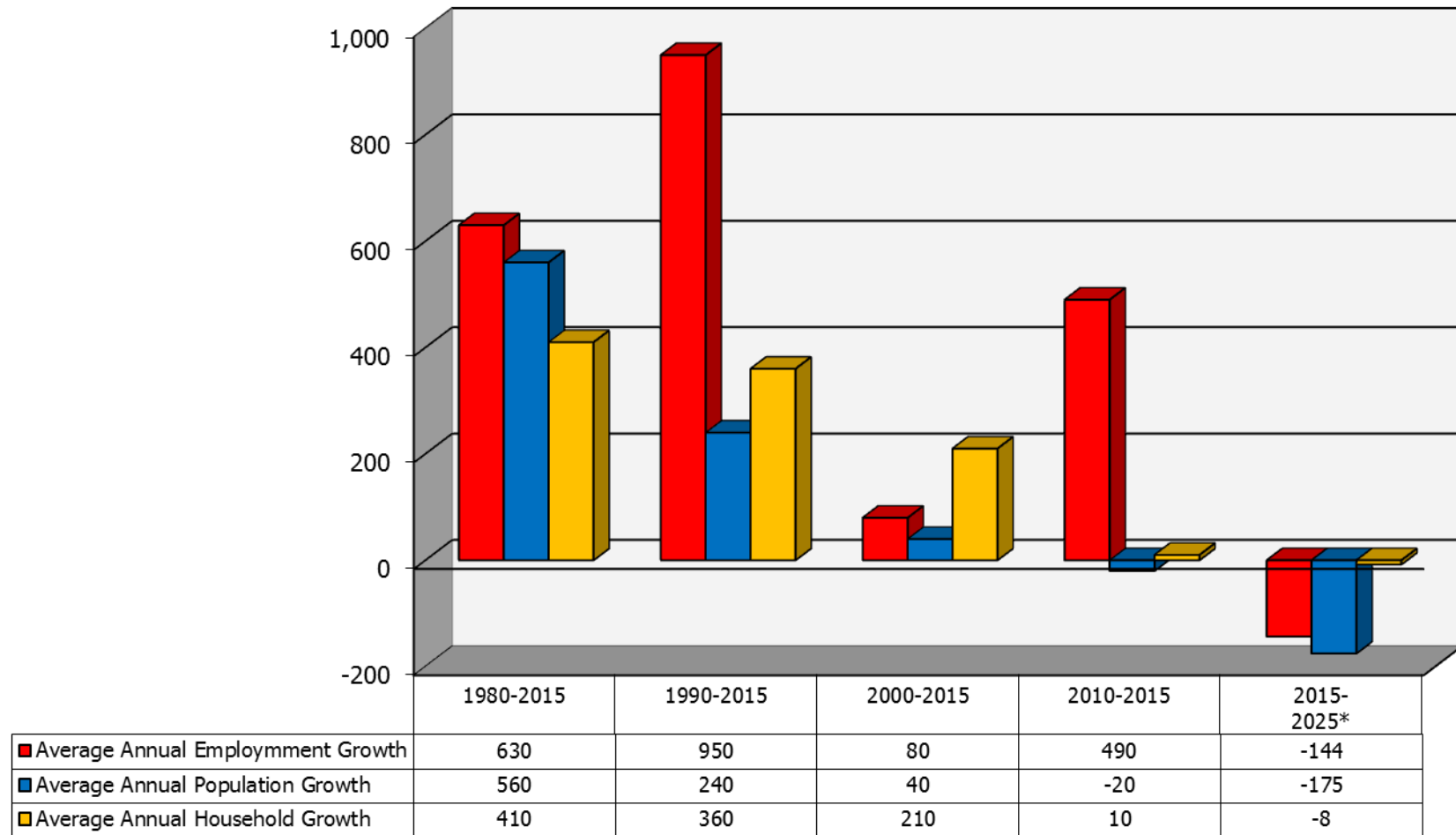
Table I-10: Projected Permanent Population and Households in the Giants Ridge Two County Area Biwabik Market 2016-2025

Year	Total Employment	Employment Participation Ratio	Permanent January 1, Population*	Annual Population Change	Population in Group Quarters**	Permanent Population In Households	Permanent Population Per Household	Households	Annual Household Change
1980	120,155	0.5327	225,575	---	9,839	215,736	2.4171	89,254	--
1990	118,175	0.4943	239,074	1,350	9,766	229,308	2.4257	94,531	530
2000	141,590	0.5791	244,518	540	9,693	234,825	2.3387	100,407	590
2010	141,410	0.5765	245,284	80	10,265	235,019	2.2695	103,556	310
2015	142,315	0.5805	245,171	-23	10,242	234,929	2.2671	103,625	10
2016	140,721	0.5803	242,497	-2,674	10,234	232,263	2.2656	102,515	-1,110
2017	139,443	0.5801	240,367	-2,130	10,227	230,140	2.2642	101,644	-871
2018	138,470	0.5800	238,762	-1,605	10,219	228,543	2.2627	101,004	-640
2019	137,795	0.5798	237,669	-1,093	10,211	227,458	2.2613	100,589	-415
2020	137,412	0.5796	237,079	-590	10,204	226,876	2.2598	100,396	-193
2021	137,316	0.5794	236,985	-94	10,196	226,789	2.2583	100,423	27
2022	137,412	0.5793	237,221	236	10,188	227,033	2.2569	100,596	173
2023	137,794	0.5791	237,953	731	10,181	227,772	2.2554	100,988	393
2024	138,465	0.5789	239,183	1,231	10,173	229,010	2.2540	101,603	615
2025	139,429	0.5787	240,921	1,738	10,165	230,756	2.2525	102,443	841
Average Annual Change 2016-2025									
Numerical:	-144		-175		-8	-167		-8	
Percent:	-0.1%		-0.1%		-0.1%	-0.1%		0.0%	

Source: Dept of Commerce, Bureau of the Census and THK Associates, Inc.

GIANTS RIDGE TWO COUNTY ECONOMIC BASE

Population and Household Growth in the Biwabik Market, 1980-2025



* Projected

GIANTS RIDGE TOURISM AND SECOND HOME ANALYSIS

II. Giants Ridge Tourism and Second home Analysis

A. HISTORICAL SECOND HOME GROWTH

The second home market is an important part of the local economic activity. Primarily persons from the Twin Cities, Wisconsin, Chicago and Iowa purchase second homes in St Louis County to take advantage of skiing, snowmobiling, golf, fishing, hunting and other outdoor recreational activities. Virtually all of the second home activity in Biwabik is Giants Ridge related.

From 2011 to 2012, St. Louis County saw the first growth of second home ownership units since the recession. Biwabik then saw it the following year in 2013. These areas have seen a slow growth, but it is a positive recovery from when development had significantly slowed from 2007 to 2010. According to U.S. Census data, since 2011 St. Louis County has added an average of 1,346 ownership second homes, and lost 54 rental second homes. In that same time, Biwabik gained four ownership second homes and saw no growth in its rental second home market. This information is displayed in Table II-1 on the following page.

GIANTS RIDGE TOURISM AND SECOND HOME ANALYSIS

Table II-1: Rental and Second Home Units between 2011-2015

Year	St. Louis County			Biwabik		
	Rental	Ownership	Total	Rental	Ownership	Total
2011	1,004	9,970	10,974	10	67	77
2012	993	10,450	11,443	9	62	71
2013	1,002	10,960	11,962	10	65	75
2014	984	11,316	12,300	9	70	79
2015	950	11,316	12,266	10	71	81
Change						
2011-2015	-54	1,346	1,292	0	4	4

Source: U.S. Census Bureau and THK Associates, Inc.

GIANTS RIDGE TOURISM AND SECOND HOME ANALYSIS

B. PROJECTED FUTURE SECOND HOME GROWTH

As illustrated in the table II-2, over the next 10 years the Two County area is expected to lose, on average, eight households a year because of the loss of jobs due to a downturn in taconite mining. However, THK does not foresee this having a serious consequence to the second home market as per most second home owners will live outside of the Two County region and work in industries unaffected by commodities. Therefore, THK is projecting a steady increase in second homes in St. Louis County to the tune of 5 rental and 321 ownership units a year. Biwabik, or more specifically Giants Ridge – where most of Biwabiks' growth will take place – should also experience steady growth. THK anticipates an average growth of ten second home units per-year over the next ten years. Of these ten units a year, the Woodlands will add .5; Voyageurs Retreat will add 5.5, and the Residents Club will add two on average per year. This will be due, in large part, to affordable land values within the Giants Ridge Recreation Area. IRRRB is taking back the Residence Club lots from the developer in 2016. THK recommends that these lots be discounted for a quick sale to stimulate additional home construction activity. THK does not predict, however, any rental second home growth in the Biwabik area.

GIANTS RIDGE TOURISM AND SECOND HOME ANALYSIS

Table II-2: Projected Future Second Home Growth

Two County		St. Louis County			Biwabik		
Year	Household Growth	Rental	Ownership	Total	Rental	Ownership	Total
2015	103,625	950	11316	12,266	10	71	81
2016	102,515	955	11,599	12,554	10	77	87
2017	101,644	960	11,889	12,848	10	84	94
2018	101,004	964	12,186	13,150	10	92	102
2019	100,589	969	12,491	13,460	10	100	110
2020	100,396	974	12,803	13,777	10	109	119
2021	100,423	979	13,123	14,102	10	119	128
2022	100,596	984	13,451	14,435	10	129	139
2023	100,988	989	13,787	14,776	10	141	151
2024	101,603	994	14,132	15,126	10	154	163
2025	102,443	999	14,485	15,484	10	167	177
Average Growth	-8	5	321	326	0	10	10

Estimated Second Home Unit Growth Per year for Giants Ridge Sites		
Woodlands	Voyageurs Retreat	Residents Club
0.5	5.5	2

Source: U.S. Census Beaureu and THK Associates, Inc.

III. Golf Course Market Analysis

A. SOCIO-ECONOMIC PROFILE OF THE GIANTS RIDGE GOLF TRADE AREA

In the analysis to determine demand for golf facilities, it is necessary to identify the primary trade area (PTA) from which the facility typically will attract its patrons.

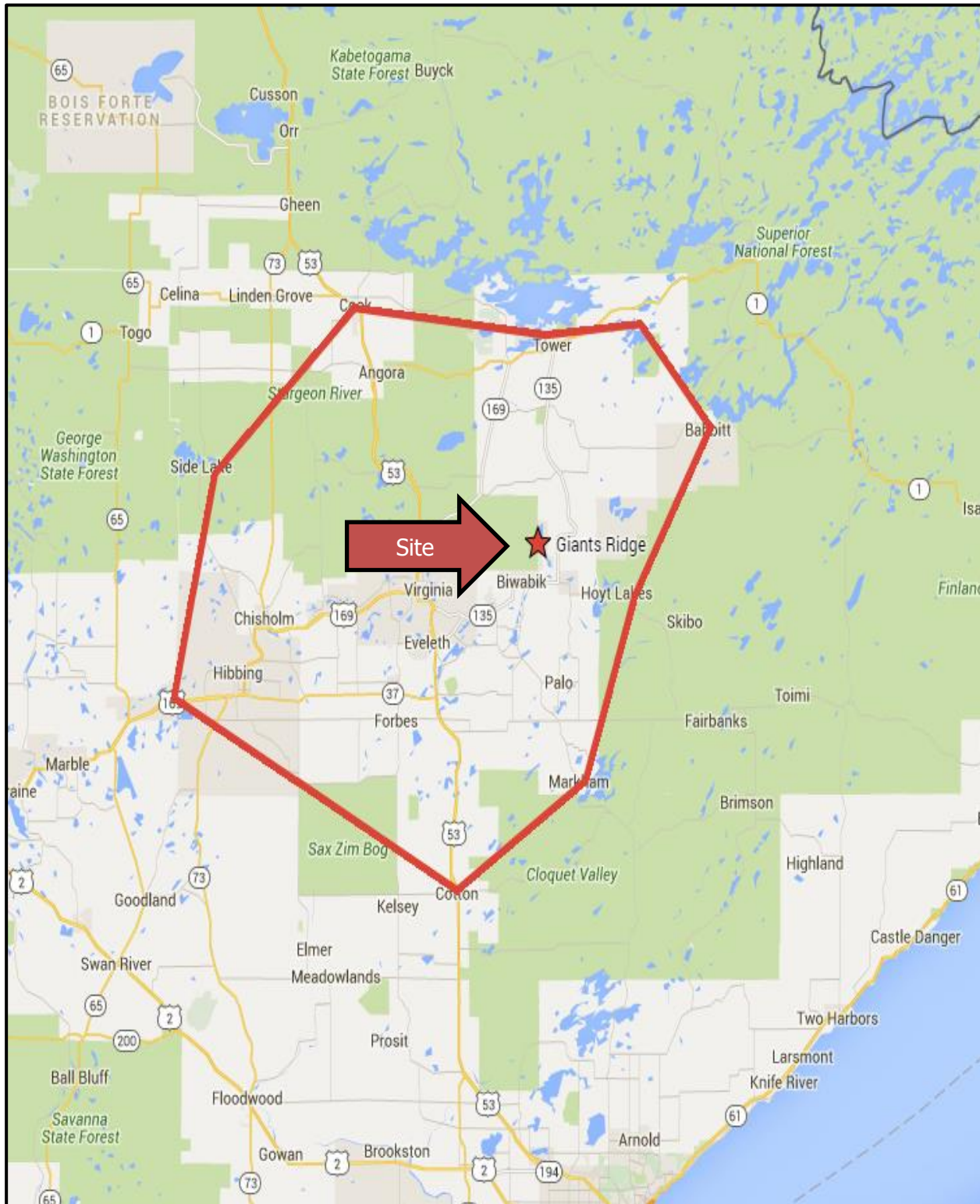
The trade area is a function of population density, natural barriers, golfer distance, travel time, habits, accessibility of the site, and the location of competitive facilities. THK was provided with a membership roster by zip code and this was used to determine where the majority of members reside in proximity to the Giants Ridge Golf Club. After driving this area and reviewing where competitive facilities are located, physical characteristics and conditions that impact increased or decreased travel time, the primary trade area boundaries were refined. The PTA is roughly a 25 to 35 mile perimeter from the Giants Ridge Golf Facilities. The geographic delineation of the PTA is shown below in Figure 4.

Having determined the appropriate trade area, THK then researched population, households, income, age and other demographic trends within the PTA using STI data as found in Sitewise Tetrad which tracks census data by geographical boundary. As shown in the following table, in 1990, there were 67,443 people living in the PTA. Since then the trade area has experienced a -.4% average annual growth in population with 244 residents lost annually. Households have stayed steady throughout this time period at a 0% growth rate, adding approximately eight new households annually, as shown in the table below.

Based on the historical development activity in the area and the economic forecast for the area, it is possible to project future population levels in the trade area, as shown. The Giants Ridge Golf Club PTA's 2015 population of 61,351 in 27,929 households will experience no positive population growth but gain roughly 10 households a year through 2025.

GOLF COURSE MARKET ANALYSIS

Figure 4- Golf Course PTA



GOLF COURSE MARKET ANALYSIS

**Table III-1: Population and Household Trends in the Two-County Region
and the Giants Ridge Primary Trade Area, 1990-2015**

					Annual Average					
					1990-2015		2000-2015		2010-2015	
Two-County	1990	2000	2010	2015	Numerical	Percent	Numerical	Percent	Numerical	Percent
Population	239,074	244,518	245,284	245,171	244	0.1%	44	0.0%	-23	0.0%
Households	94,531	100,407	103,556	103,625	364	0.4%	215	0.2%	14	0.0%
Giants Ridge Golf PTA										
Population	67,443	64,334	61,522	61,351	-244	-0.4%	-199	-0.3%	-34	-0.1%
Households	27,734	27,951	27,925	27,929	8	0.0%	-1	0.0%	1	0.0%
Giants Ridge Golf PTA as a percent of the Two-County										
Population	28.2%	26.3%	25.1%	25.0%	-99.9%		-456.5%		151.8%	
Households	29.3%	27.8%	27.0%	27.0%	2.1%		-0.7%		6.4%	

Source: U.S. Bureau of the Census and THK Associates, Inc.

GOLF COURSE MARKET ANALYSIS

**Table III-2: Projected Population and Household Trends in the Nine-County Region
and the Porter Primary Trade Area, 2016-2025**

	2016	2020	2025	Annual Average			
				2016-2020		2016-2025	
				Numerical	Percent	Numerical	Percent
Two-County							
Population	242,497	237,079	240,921	-1,350	-0.6%	-180	-0.1%
Households	102,515	100,396	102,443	-530	-0.5%	-10	0.0%
Giants Ridge Golf PTA							
Population	61,354	61,366	61,382	0	0.0%	0	0.0%
Households	27,943	27,999	28,069	10	0.0%	10	0.0%
Giants Ridge Golf PTA as a percent of the Two-County							
Population	25.3%	25.9%	25.5%	0.0%		0.0%	
Households	27.3%	27.9%	27.4%	-1.9%		-100.0%	

Source: U.S. Bureau of the Census, Sitewise, & THK Associates, Inc.

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B. NATIONAL GOLF MARKET CHARACTERISTICS

Overall Golf Market Characteristics

Research conducted by the National Golf Foundation indicates that the golf industry has been declining in recent years due to decreasing participation rates and the effects of the recent recession. In addition, over building of golf courses within the industry has caused many courses to struggle in gaining traction. Furthermore, financing is extremely difficult to obtain.

Standard Golf Term Definitions

In order to gain a better understanding of the current operating conditions of the local golf industry, an inventory of golf courses in the Giants Ridge Golf Club's PTA was completed. The golf courses within the PTA were surveyed to obtain information concerning critical operational elements in the region. The ownership and operation of golf courses in the region are additional considerations that are critical in determining which type of golf courses are in demand. Courses are classified into four categories, defined as follows;

Daily-Fee Golf Courses - A daily fee golf course is one that is privately owned but has public play.

Municipal Golf Courses - A municipal golf course is owned or operated by a government entity and is open to the general public.

Private Golf Courses - There are two operating characteristics unique to a truly private golf facility. First, it is owned privately either by individuals or corporations. Second, membership in the club is limited and there are typically large initiation fees or property purchases required to join.

Semi-private Golf Courses - These are similar to private country clubs in that memberships are offered; however, limited public play is allowed on the golf course. Two further distinctions to be made in assessing the current facilities in the region are the playability and character of the course. The definitions for par and the common designations for golf courses are shown below.

Par - The par for a hole is defined by the number of strokes needed to reach the green from the tee. Once the green is reached, it is assumed that it will take two strokes to finish the hole. Thus, a par-3 course will consist completely of greens that can be reached with one stroke from the tee.

Regulation -- The first golf course built in Scotland sets the standards for identifying what is considered regulation in a golf course. Par for a regulation golf course is between 69 and 73 with 72 considered the norm. This also presumes that yardage from the back tees will approach 7,000 yards.

Executive -- an executive course is typically a course with par of 68 or less. It is an abbreviated course that will likely include fewer holes of par 4 or par 5 lengths.

Par 3 -- as the name suggests, par 3 courses consist of all holes being par 3's; thus, an 18-hole course has a total par of 54.

C. GOLF PARTICIPATION RATES

Based on the aforementioned population growth projections, THK has projected this population growth by age cohort and gender distribution as shown in the following tables. These population projections by age and gender will be used further in this analysis to determine the number of potential golfers in the Giants Ridge PTA.

In order to accurately gauge demand, the participation rate for each age group and gender cohort needs to be established. In the next table, male and female golfer participation rates broken down by age are shown. Furthermore, factors for both serious golfers (those who play more than eight times annually) and occasional golfers (those who play less than eight times annually) are shown.

The overall golf participation rate for those aged five and above in the United States is 11.0%; 18.5% for males and 4.1% for females. The "West North Central" region has an overall golf participation rate of 9.4%, with the male participation rate of 8.3% and female participation rate of 3.5%. The state of Minnesota, the figures we will use, has an overall participation of 19.2%; 17.0% for males and to 7.1% for females. Males and females are significantly more active in Minnesota than the rest of the U.S. when it comes to golfing.

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Table III-3: Golf Participation Rates by Age and Gender, 2015

United States				Male			Female			Total		
Age Range	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total
0-4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5-11	2.1%	3.9%	6.0%	0.4%	0.9%	1.3%	0.6%	2.6%	3.2%	0.6%	2.6%	3.2%
12-17	5.9%	7.5%	13.4%	0.7%	0.8%	1.5%	4.0%	3.9%	7.9%	4.0%	3.9%	7.9%
18-29	8.7%	9.1%	17.8%	1.0%	2.6%	3.6%	4.4%	6.2%	10.6%	4.4%	6.2%	10.6%
30-39	12.0%	11.1%	23.1%	1.7%	3.7%	5.4%	5.8%	8.0%	13.8%	5.8%	8.0%	13.8%
40-49	10.6%	8.6%	19.2%	1.7%	3.0%	4.7%	5.3%	5.9%	11.2%	5.3%	5.9%	11.2%
50-59	9.9%	6.4%	16.3%	2.2%	2.3%	4.5%	5.6%	4.2%	9.8%	5.6%	4.2%	9.8%
60-64	10.5%	5.2%	15.7%	2.7%	1.7%	4.4%	6.1%	3.4%	9.5%	6.1%	3.4%	9.5%
65+	9.1%	3.3%	12.4%	1.9%	1.2%	3.1%	4.7%	1.9%	6.6%	4.7%	1.9%	6.6%
Total	9.8%	0.0%	9.8%	1.5%	2.6%	4.1%	5.4%	5.7%	11.1%	5.4%	5.7%	11.1%

West North Central				Male			Female			Total		
Age Range	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total
0-4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5-11	1.8%	3.3%	5.1%	0.3%	0.8%	1.1%	0.5%	2.2%	2.7%	0.5%	2.2%	2.7%
12-17	5.0%	6.4%	11.4%	0.6%	0.7%	1.3%	3.4%	3.3%	6.7%	3.4%	3.3%	6.7%
18-29	7.4%	7.7%	15.1%	0.9%	2.2%	3.1%	3.7%	5.3%	9.0%	3.7%	5.3%	9.0%
30-39	10.2%	9.4%	19.6%	1.4%	3.1%	4.6%	4.9%	6.8%	11.7%	4.9%	6.8%	11.7%
40-49	9.0%	7.3%	16.3%	1.4%	2.6%	4.0%	4.5%	5.0%	9.5%	4.5%	5.0%	9.5%
50-59	8.4%	5.4%	13.9%	1.9%	2.0%	3.8%	4.8%	3.6%	8.3%	4.8%	3.6%	8.3%
60-64	8.9%	4.4%	13.3%	2.3%	1.4%	3.7%	5.2%	2.9%	8.1%	5.2%	2.9%	8.1%
65+	7.7%	2.8%	10.5%	1.6%	1.0%	2.6%	4.0%	1.6%	5.6%	4.0%	1.6%	5.6%
Total	8.3%	0.0%	8.3%	1.3%	2.2%	3.5%	4.6%	4.8%	9.4%	4.6%	4.8%	9.4%

Minnesota				Male			Female			Total		
Age Range	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total
0-4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5-11	3.6%	6.7%	10.4%	0.7%	1.6%	2.2%	1.0%	4.5%	5.5%	1.0%	4.5%	5.5%
12-17	10.2%	13.0%	23.2%	1.2%	1.4%	2.6%	6.9%	6.7%	13.7%	6.9%	6.7%	13.7%
18-29	15.1%	15.7%	30.8%	1.7%	4.5%	6.2%	7.6%	10.7%	18.3%	7.6%	10.7%	18.3%
30-39	20.8%	19.2%	40.0%	2.9%	6.4%	9.3%	10.0%	13.8%	23.9%	10.0%	13.8%	23.9%
40-49	18.3%	14.9%	33.2%	2.9%	5.2%	8.1%	9.2%	10.2%	19.4%	9.2%	10.2%	19.4%
50-59	17.1%	11.1%	28.2%	3.8%	4.0%	7.8%	9.7%	7.3%	17.0%	9.7%	7.3%	17.0%
60-64	18.2%	9.0%	27.2%	4.7%	2.9%	7.6%	10.6%	5.9%	16.4%	10.6%	5.9%	16.4%
65+	15.7%	5.7%	21.5%	3.3%	2.1%	5.4%	8.1%	3.3%	11.4%	8.1%	3.3%	11.4%
Total	17.0%	0.0%	17.0%	2.6%	4.5%	7.1%	9.3%	9.9%	19.2%	9.3%	9.9%	19.2%

*Serious Golfers golf at least eight times per year

*Occasional Golfers golf less than eight times per year

Source: THK Associates, Inc.

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Table III-4: Age and Gender Distribution in Giants Ridge Primary Trade Area, 2016-2025

2015	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
0-4	1,653	5.4%	1,872	6.1%	3,525	5.7%
5-11	2,205	7.2%	2,111	6.9%	4,316	7.0%
12-17	1,978	6.5%	1,921	6.3%	3,900	6.4%
18-29	4,286	14.0%	3,826	12.4%	8,112	13.2%
30-39	3,386	11.1%	3,185	10.4%	6,571	10.7%
40-49	3,425	11.2%	3,284	10.7%	6,709	10.9%
50-59	4,708	15.4%	4,744	15.4%	9,452	15.4%
60-64	2,743	9.0%	2,584	8.4%	5,328	8.7%
65+	6,230	20.4%	7,211	23.5%	13,442	21.9%
Total	30,616	100.0%	30,738	100.0%	61,354	100.0%

2020	Male		Female		Male	
	Number	Percent	Number	Percent	Number	Percent
0-4	1,605	5.2%	1,522	5.0%	3,126	5.1%
5-11	2,186	7.1%	2,034	6.6%	4,220	6.9%
12-17	1,991	6.5%	1,893	6.2%	3,884	6.3%
18-29	4,384	14.3%	4,081	13.3%	8,465	13.8%
30-39	3,316	10.8%	3,049	9.9%	6,366	10.4%
40-49	3,389	11.1%	3,215	10.5%	6,605	10.8%
50-59	3,811	12.4%	3,846	12.5%	7,656	12.5%
60-64	2,526	8.3%	2,593	8.4%	5,119	8.3%
65+	7,413	24.2%	8,512	27.7%	15,925	26.0%
Total	30,622	100.0%	30,745	100.0%	61,366	100.0%

2025	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
0-4	1,602	5.2%	1,519	4.9%	3,121	5.1%
5-11	2,028	6.6%	1,922	6.3%	3,951	6.4%
12-17	1,947	6.4%	1,823	5.9%	3,769	6.1%
18-29	4,307	14.1%	4,120	13.4%	8,427	13.7%
30-39	3,517	11.5%	3,155	10.3%	6,671	10.9%
40-49	3,380	11.0%	3,197	10.4%	6,577	10.7%
50-59	3,412	11.1%	3,286	10.7%	6,698	10.9%
60-64	2,034	6.6%	2,092	6.8%	4,126	6.7%
65+	8,404	27.4%	9,638	31.3%	18,042	29.4%
Total	30,630	100.0%	30,752	100.0%	61,382	100.0%

*Participation rates indicate the percentage of each population group that golfs at least eight times per year

** Participation rates indicate the percentage of each population group that golfs less than eighth times per year

Source: THK Associates, Inc.

D. NUMBER OF TRADE AREA GOLFERS

The next step in the analysis is to apply the participation rates to the PTA population using the age and gender breakdowns. For example, for 2015, there are 3,386 male residents between the age of 30 and 39 in the PTA. As was shown earlier, in Minnesota, 20.8% of this population group are serious participants in golf and 19.2% are occasional participants: $3,386 \times 20.8\% = 703$ serious golfers and $3,386 \times 19.2\% = 650$ occasional golfers. Thus, the total number of male golfers between the ages of 30-39 is 1,320. By repeating this process for each age and gender group, the number of golfers is calculated.

This exercise is important because the primary indicators for golf participation are age and gender, as they are for all recreational activities. Any variations in the demographic profile of the local area have important impacts on the demand for golf, because of the differences in golf participation rates among different age groups. The number of male and female golfers in the PTA in 2015 is shown below, while the table projects the number of golfers for 2020 and 2025. There are 9,760 total male and female golfers projected for 2015 within the trade area boundaries. In 2020, it is anticipated that 9,689 golfers will reside in the Giants Ridge Golf Club PTA, and by the year 2025, there should be 9,667 golfing residents.

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Table III-5: Number of Golfers by Age and Gender in the Giants Ridge PTA, 2015-2025

2015	Male			Female			Total		
	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total
0-4	-	-	-	-	-	-	-	-	-
5-11	80	149	229	15	33	47	95	182	276
12-17	202	257	459	23	27	50	225	283	508
18-29	645	675	1,320	66	172	238	711	847	1,558
30-39	703	650	1,353	94	204	297	797	854	1,651
40-49	628	510	1,138	97	170	267	725	680	1,405
50-59	806	521	1,328	181	189	369	987	710	1,697
60-64	498	247	745	121	76	197	619	323	942
65+	981	356	1,337	237	150	387	1,218	505	1,723
Total	4,544	3,364	7,908	833	1,020	1,853	5,376	4,384	9,760

2020	Male			Female			Total		
	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total
0-4	-	-	-	-	-	-	-	-	-
5-11	79	148	227	14	32	46	94	179	273
12-17	203	258	462	23	26	49	226	285	511
18-29	660	690	1,350	71	184	254	730	874	1,604
30-39	688	637	1,325	90	195	285	778	832	1,610
40-49	622	504	1,126	95	167	261	716	671	1,387
50-59	653	422	1,075	146	153	299	799	575	1,374
60-64	459	227	686	121	76	197	580	304	884
65+	1,167	423	1,590	280	177	456	1,447	600	2,047
Total	4,531	3,310	7,841	839	1,009	1,849	5,370	4,319	9,689

2025	Male			Female			Total		
	Serious	Occasional	Total	Serious	Occasional	Total	Serious	Occasional	Total
0-4	-	-	-	-	-	-	-	-	-
5-11	74	137	211	13	30	43	87	167	254
12-17	199	253	451	22	25	47	221	278	499
18-29	648	678	1,326	71	185	257	719	863	1,583
30-39	730	675	1,405	93	202	295	823	877	1,700
40-49	620	503	1,123	94	166	260	714	669	1,383
50-59	584	378	962	125	131	256	709	508	1,218
60-64	369	183	552	98	62	159	467	244	712
65+	1,323	480	1,803	317	200	517	1,640	680	2,320
Total	4,547	3,286	7,833	833	1,001	1,834	5,380	4,287	9,667

*Serious Golfers golf at least eight times per year

*Occasional Golfers golf less than eight times per year

Source: THK Associates, Inc

E. TRADE AREA GOLF ROUNDS IN DEMAND

Table III-6 shows the number of 18-hole equivalent rounds that the average golfer plays by age level. In the Minnesota area, it is estimated that the average golfer is currently playing 10.9 (18-hole equivalent) rounds, while seniors (65+) are averaging 25.2 (18-hole equivalent) rounds of golf per year. The number of rounds in the Minnesota area is expected to increase to 11 (18-hole equivalent) rounds for the average player in 2025.

THK then calculated the number of golf rounds played by each age group in the PTA area. The 18-hole equivalent rounds per golfer for each age are multiplied by the number of golfers in the trade area and are then adjusted for an 18-hole equivalent round. In 2015, residents of the trade area will demand 148,096 (18-hole equivalent) rounds of golf. Thirty-six percent of those rounds will come from golfers age 65 and up who will account for nearly 53,607 (18-hole equivalent) rounds of golf. By the year 2025, there will be a demand for 158,087 (18-hole equivalent) rounds of golf in the PTA.

The next step in the analysis is to determine the total demand for golf rounds. In 2015, golfers residing in the PTA will demand 148,069 (18-hole equivalent) rounds of golf, of which 29,619 (18-hole equivalent) rounds will be public and 118,477 (18-hole equivalent) rounds will be private. The facilities in the trade area are estimated to capture only 90% of the demand for private rounds and 90% of the demand for public rounds. Secondary support from outside the PTA will demand another 91,968 (18-hole equivalent) private and public rounds of golf (18-hole equivalent) as shown in Table III-8 below.

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Table III-6: Average Number of Rounds per Golfer in Minnesota

Age Range	2015			2015		
	(National)			Minnesota		
	Serious	Occasional	Total	Serious	Occasional	Total
0-4	-	-	-	-	-	-
5-11	10.9	1.5	6.8	7.0	1.1	4.1
12-17	23.9	2.2	14.2	14.4	1.3	8.6
18-29	21.9	2.0	13.0	13.2	1.2	7.9
30-39	23.2	2.1	13.8	14.0	1.3	8.3
40-49	26.7	2.4	15.9	16.1	1.5	9.6
50-59	43.6	3.9	25.9	26.3	2.4	15.6
60-64	68.9	6.3	41.0	41.6	3.8	24.8
65+	70.1	6.4	41.7	42.4	3.9	25.2
Total	27.7	2.8	18.1	16.7	1.7	10.9

Age Range	2020			2025		
	Minnesota			Minnesota		
	Serious	Occasional	Total	Serious	Occasional	Total
0-4	-	-	-	-	-	-
5-11	7.1	0.9	4.1	6.7	0.9	4.1
12-17	14.9	1.3	8.6	15.0	1.3	8.7
18-29	13.7	1.2	7.9	13.7	1.2	7.9
30-39	14.5	1.3	8.4	14.6	1.3	8.4
40-49	16.7	1.5	9.7	16.8	1.5	9.7
50-59	27.2	2.4	15.7	27.3	2.4	15.8
60-64	43.1	3.9	24.9	43.3	3.9	25.0
65+	43.8	3.9	25.3	44.0	3.9	25.4
Total	16.8	1.7	11.0	16.9	1.7	11.0

Source: National Golf Foundation Associates, Inc.

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Table III-7: 18-Hole Equivalent Rounds per Golfer by Age in the Giants Ridge PTA

2015	Serious Golf Rounds			Occasional Golf Rounds			Total 18-Hole Equivalent Rounds
	Rounds Per Golfer	Number of Golfers	18-Hole Equivalent Rounds	Rounds Per Golfer	Number of Golfers	18-Hole Equivalent Rounds	
Age Range							
5-11	7.0	95	661	1.1	182	196	857
12-17	14.4	225	3,243	1.3	283	376	3,619
18-29	13.2	711	9,389	1.2	847	1,029	10,417
30-39	14.0	797	11,153	1.3	854	1,102	12,254
40-49	16.1	725	11,668	1.5	680	1,011	12,678
50-59	26.3	987	25,956	2.4	710	1,719	27,675
60-64	41.6	619	25,751	3.8	323	1,237	26,988
65+	42.4	1,218	51,638	3.9	505	1,970	53,607
Total	25.9	5,376	139,458	2.0	4,384	8,638	148,096

2020	Serious Golf Rounds			Occasional Golf Rounds			Total 18-Hole Equivalent Rounds
	Rounds Per Golfer	Number of Golfers	18-Hole Equivalent Rounds	Rounds Per Golfer	Number of Golfers	18-Hole Equivalent Rounds	
Age Range							
5-11	7.1	94	668	0.9	179	169	837
12-17	14.9	226	3,372	1.3	285	380	3,752
18-29	13.7	730	9,971	1.2	874	1,067	11,038
30-39	14.5	778	11,275	1.3	832	1,078	12,354
40-49	16.7	716	11,955	1.5	671	1,002	12,957
50-59	27.2	799	21,729	2.4	575	1,399	23,127
60-64	43.1	580	24,970	3.9	304	1,169	26,139
65+	43.8	1,447	63,349	3.9	600	2,350	65,698
Total	27.4	5,370	147,289	2.0	4,319	8,614	155,902

2025	Serious Golf Rounds			Occasional Golf Rounds			Total 18-Hole Equivalent Rounds
	Rounds Per Golfer	Number of Golfers	18-Hole Equivalent Rounds	Rounds Per Golfer	Number of Golfers	18-Hole Equivalent Rounds	
Age Range							
5-11	6.7	87	586	0.9	167	158	743
12-17	15.0	221	3,308	1.3	278	372	3,681
18-29	13.7	719	9,870	1.2	863	1,059	10,930
30-39	14.6	823	11,983	1.3	877	1,143	13,126
40-49	16.8	714	11,976	1.5	669	1,004	12,980
50-59	27.3	709	19,388	2.4	508	1,243	20,631
60-64	43.3	467	20,213	3.9	244	946	21,159
65+	44.0	1,640	72,161	3.9	680	2,676	74,837
Total	27.8	5,380	149,485	2.0	4,287	8,602	158,087

Source: National Golf Foundation and THK Associates, Inc.

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Table III-8: Demand for Golf Rounds in the Giants Ridge PTA, 2015-2025

Item	2015	2020	2025
PTA Rounds	148,096	155,902	158,087
*Private	29,619	31,180	31,617
Public	118,477	124,722	126,469
PTA Capture of Rounds	133,287	140,312	142,278
**Private	26,657	28,062	28,456
***Public	106,629	112,249	113,822
****Secondary Support	91,968	96,815	98,172
Private	6,664	7,016	7,114
Public	85,303	89,800	91,058
Total Rounds	225,254	237,127	240,450
Private	33,322	35,078	35,569
Public	191,933	202,049	204,880

*Assumes 75% of the demand is for public golf

**Assumes a capture rate of 90% of private resident rounds

***Assumes a capture rate of 90% of public resident rounds

****Assumes a secondary support of 25% for total private demand

*****Assumes a secondary support of 80% for total public demand

Source: THK Associates, Inc.

GOLF COURSE MARKET ANALYSIS

F. GOLF SUPPLY TRENDS IN THE GIANTS RIDGE GOLF CLUB PRIMARY TRADE AREA

In order to further isolate the operating conditions that exist in the club's PTA, THK has singled out the PTA's existing facilities. The Giants Ridge Golf Facilities' competition is located generally within a 35 mile radius of the club. As shown in Table III-9, within the PTA, THK inventoried a total of 15 golf courses and 162 holes, including the Giants Ridge Golf Facilities. The 15 golf courses are comprised of eight public courses, two resort courses (Giants Ridge), three Semi-Private courses and one private course. It is estimated that in 2015 there were a total of 129,300 18-hole rounds of golf played at public courses (58% of the total market) and a total of 65,6458 (18-hole equivalent) rounds played at semi-/private and resort courses.

The 26 facilities have the equivalent of 9, 18-hole golf courses. There are ten 18-hole equivalent public golf courses, one 18-hole equivalent semi-private golf courses, .5 18-hole equivalent private golf courses, and two 18-hole equivalent resort golf courses in the PTA.

GOLF COURSE MARKET ANALYSIS

Table III-9: Public and Private Courses in the Giants Ridge Regional Environs, 2015

#	Subject Course	Year Built	Length	Holes	Annual Rounds
Semi-Private					
1	Mesaba Country Club	1920	Regulation	18	13,958
2	Vermilion Fairways	1966	Regulation	9	22,000
3	Swan Lake CC	1929	Regulation	9	--
Total				36	35,958
Course Equivalent				2.0	
Public					
4	Hoyt Lakes Golf Course	1965	Regulation	9	23,000
5	Eveleth Municipal Golf Course	1930	Regulation	9	--
6	Virginia Golf Course	1936	Regulation	18	32,000
7	Wolfridge Golf Course	1999	Regulation	9	--
8	The Wilderness	2004	Regulation	18	--
9	Hibbing Municipal Golf Course	1920	Regulation	9	26,300
10	Ely Golf Club	1930	Regulation	9	24,000
11	Babbitt Golf Club	1963	Regulation	9	24,000
12	Three Brothers Vermilion	1992	Regulation	9	--
Total				99	129,300
Course Equivalent				5.5	
Resort					
13	The Legends at Giant Ridge	1997	Regulation	18	13,877
14	The Quarry at Giants Ridge	1987	Regulation	18	14,687
Total				18	14,687
Course Equivalent				1.0	
Private					
15	Eshquaguma Country Club	1919	Regulation	9	15,000
Total				9	15,000
Course Equivalent				0.5	
#	Subject Course			Holes	Annual Rounds
Total				162	194,945
Course Equivalent				9	21,661

Source: THK Associates, Inc.

G. PROFILE OF EXISTING GOLF COURSE FACILITIES

The table shows an inventory of public and private courses within the Giants Ridge Golf Facilities PTA and details the courses by name, address, year built, course type, yardage and par. All 26 courses vary in their five-year average rounds played from 26,000 at Hibbing Municipal Golf Course (9-holes) to 13,877 at The Legend at Giants Ridge Golf Course; however, the majority falls in the 20,000 annual rounds range.

Table III-11 profiles the golf courses by year constructed, showing that most of the 15 courses within the PTA were either built before the 1940s or between 1990 and 2015. Table III-12 shows that out of all of the courses, the majority of the 180 holes are either public or split between semi-private and resort. Public courses account for 55%, while private courses account for 5%, resort courses account for 20% and semi-private courses account for another 20% of the total golf courses in the PTA, for a total of 180 holes spread across 15 golf courses and 15 golf course facilities. A map of the competitive golf courses is shown in Figure-5.

GOLF COURSE MARKET ANALYSIS

Table III-10: Public and Private Golf Courses in the Giants Ridge Regional Environs, 2015

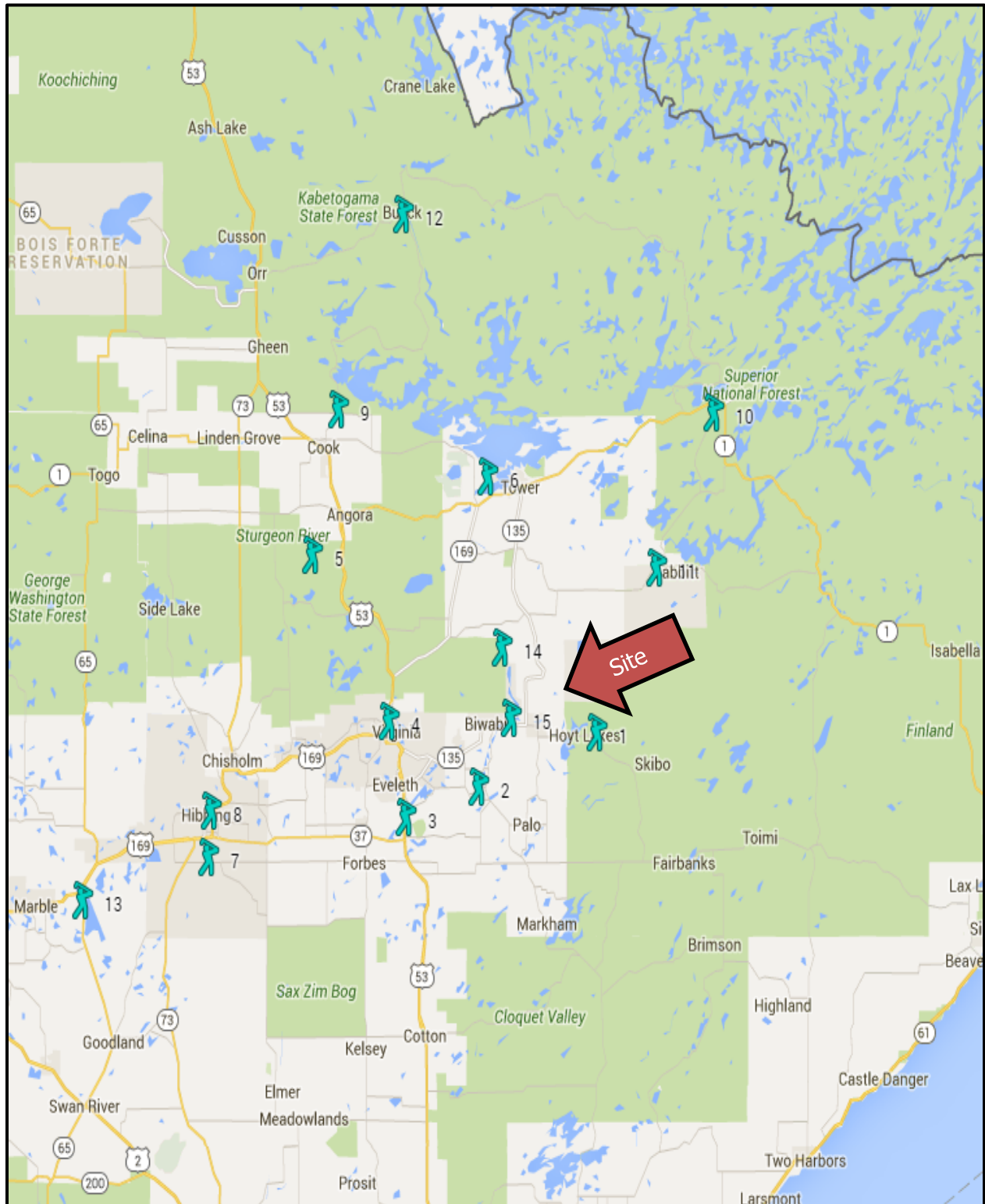
Golf Course	Year Open	Par	Fees			Yardage	Course Rating	Slope	Annual Rounds	
Address	Holes/Type	Mens	Low	-	High					
City, County	Ownership	Womens								
Mesa County										
1 Hoyt Lakes Golf Course	1965	36	\$17	-	\$24	Front	6516	71.5	124	23,000
Memorial Drive	9	36				Middle	--	--	--	
Hoyt Lakes, MN	Public					Back	--	--	--	
2 Eshquaguma Country Club	1919	36	N/A	-	N/A	Forward	4919	64.1	106	15,000
6469 White Pine Ln	9	36				Middle	5499	66.8	113	
Gilbert, MN	Private					Back	6467	71.2	121	
3 Eveleth Municipal Golf Course	1930	36	\$17	-	\$26	Forward	6324	70.2	124	--
Highway 53 South	9	36				Middle	--	--	--	
Eveleth, MN	Public					Back	--	--	--	
4 Virginia Golf Course	1936	71	\$16	-	\$24	Forward	6256	70.0	123	15,752
9th Avenue North	18	72				Middle	--	--	--	
Virginia , MN	Public					Back	--	--	--	
	--									
5 Wolfridge Golf Course	1999	72	\$26	-	\$39	Forward	2869	34.3	114	--
9501 Savage Road	9	72				Middle	2963	34.3	132	
Angora, MN	Public					Back	--	--	--	
6 The Wilderness Golf Course	2004	72	\$74	-	\$99	Forward	5324	71.7	129	--
1450 Bois Forte Rd	18	72				Middle	6772	73.2	137	
Tower, MN 55970	Public					Back	7207	75.3	142	
7 Mesaba Country Club	1920	72	\$33	-	\$33	Forward	5406	71.1	120	13,958
4151 E 51 St	18	74				Middle	6573	71.6	126	
Hibbing, MN	Semi-Private					Back	6792	72.6	129	
8 Hibbing Municipal Golf Course	1920	68	\$7	-	\$13	Forward	5314	64.6	64	26,000
16th St. & 7th Ave. E	9	68				Middle	--	--	--	
Hibbing, MN	Public					Back	--	--	--	
9 Vermillion Fairways	1966	36	\$15	-	\$44	Forward	2974	36.9	131	22,000
2407 Vermillion Dr	9	36				Middle	3245	38.1	132	
Cook, MN	Semi-Private					Back	--	--	--	
10 Ely Golf Club	1930	36	\$18	-	\$25	Forward	2701	35.8	119	24,000
901 S Central Ave	9	37				Middle	3143	35.5	118	
Battlement Mesa, CO 81635	Public					Back	3268	36.1	120	

GOLF COURSE MARKET ANALYSIS

Golf Course Address City, County	Year Open Holes/Type Ownership	Par	Fees			Yardage	Course Rating	Slope	Annual Rounds	
		Mens	Low	-	High					
		Womens								
11 Babbitt Golf Club 2806 Hwy 21 Babbitt, MN	1963	36	\$9	-	\$23	Forward	2824	35.7	116	24,000
	9	35				Middle	3022	34.0	114	
	Public				Back	3208	34.7	117		
12 Three Brothers Vermilion 5530 Crane Lake Rd Buyck, MN	1992	36	--	-	--	Forward	2852	33.6	116	--
	9					Middle	--	--	--	
	Public				Back	--	--	--		
Itasca County										
13 Swan Lake Country Club 31341 Filmore St. Pengilly, MN	1929	36	\$18	-	\$28	Forward	2752	35.8	112	--
	9	38				Middle	3235	34.5	116	
	Semi-Private				Back	--	--	--		
Giants Ridge Courses										
14 The Legends at Giants Ridge	1997	72				Forward	5084	70.3	126	13,877
	18	72				Middle	6528	71.9	129	
	Resort				Back	6930	73.7	133		
15 The Quarry at Giants Ridge 6325 Wynne Creek Dr Biwabik, MN	2003	72				Forward	5119	70.8	125	14,687
	18	72				Middle	6696	73.1	132	
	Resort				Back	7201	75.6	146		
Total	180									192,274
Source: THK Associates Inc.										

GOLF COURSE MARKET ANALYSIS

Figure 5- Existing Golf Facilities Within Primary Trade Area



GOLF COURSE MARKET ANALYSIS

Table III-11: Date of Construction for Golf Courses in Giants Ridge Regional Environs, 2015

Date of Construction	Number of Courses	Percent	Number of Holes	Percent
Unavailable	0	0.0%	0	0%
Before 1940	7	46.7%	9	3%
1940-1944	0	0.0%	0	0%
1945-1949	0	0.0%	0	0%
1950-1954	0	0.0%	9	3%
1955-1959	0	0.0%	36	11%
1960-1964	1	6.7%	18	5%
1965-1969	2	13.3%	0	0%
1970-1974	0	0.0%	18	5%
1975-1979	0	0.0%	0	0%
1980-1984	0	0.0%	0	0%
1985-1989	0	0.0%	27	8%
1990-1994	1	6.7%	63	18%
1995-1999	2	13.3%	72	21%
2000-2010	2	13.3%	90	26%
After 2010	0	0.0%	0	0%
Total	15	100%	342	100%
Source: THK Associates, Inc.				

GOLF COURSE MARKET ANALYSIS

Table III-12: Type of Golf Course by Length and Operation in the Giants Ridge Regional Environs, 2015

Type	Regulation	Executive	Par 3	Total Number of Courses	Percent	Number of Holes	Percent
Semi-Private							
9 Holes	2	0	0	2	67%	18	50%
18 Holes	1	0	0	1	33%	18	50%
Total	3	0	0	3	100%	36	100%
Public							
9 Holes	7	0	1	7	78%	63	64%
18 Holes	2	0	0	2	22%	36	36%
27 Holes	0	0	0	0	0%	0	0%
Total	9	0	1	9	100%	99	100%
Resort							
9 Holes	0	0	0	0	0%	0	0%
18 Holes	2	0	0	2	100%	36	100%
Total	2	0	0	2	100%	36	100%
Private							
9 Holes	1	0	0	1	7%	9	100%
18 Holes	0	0	0	0	0%	0	0%
Total	1	0	0	1	7%	9	100%
Total Courses							
9 Holes	10	0	1	10	67%	90	50%
18 Holes	5	0	0	5	33%	90	50%
27 Holes	0	0	0	0	0%	0	0%
Total	15	0	1	15.0	100%	180	100%
Total Number of Courses Holes							
Type	Regulation	Executive	Par 3				
Total Holes							
9 Holes	90	0	9	90			
18 Holes	90	0	0	90			
27 Holes	0	0	0	0			
Total	180	0	9	180			

Source: THK Associates, Inc.

GOLF COURSE MARKET ANALYSIS

H. PROJECTED ROUND PLAY AT THE GIANTS RIDGE GOLF FACILITIES

In Table III-13, THK has calculated total demand for memberships in the Giants Ridge Golf Club's PTA. THK's market analysis accounts for golf demand from permanent residents as well as secondary support. Secondary support is the amount of demand that is projected to come from outside the PTA. This amount of demand was based on where the Giants Ridge Golf golfers come from today. With a resort course at the high end of the price range, the majority of play is derived from the Minneapolis area and other locations outside the PTA. These figures are based on THK's experience with the Giants Ridge facility and interviews with management. With nine public competitors, but only 5.5 18-round courses, the generic capture rates for the Giants Ridge Golf Facilities were calculated at around 36.36%. However, based on the amount of play seen at the Giants Ridge Facilities, a capture rate of 15% was applied to future demand.

Table III-14 shows how these capture rates are applied to the projected demand for golf rounds in the PTA over the next decade. As shown in the following table, the Giants Ridge Golf Facilities should be able to expect a steady increase in demand over the next 10 years, assuming adequate and competitive facilities are offered. By 2025 the Club should function at 68% of its realistic capacity.

GOLF COURSE MARKET ANALYSIS

Table III-13: Projected Capture Rate for 18-Hole Equivalent Rounds at the Giants Ridge Golf Courses, 2015

Date of Construction

Number of Public Competitors	9
Proposed Competitors	0
Total Competitors	9
Giants Ridge	2
Total Public Golf Courses (18-Hole Equivalent)	6
Public Rounds Demanded in the Giants Ridge PTA	
18-Hole Equivalent Rounds Played at Giants Ridge	
Generic Capture rate	36.36%
Applied Capture rate	15.00%

Source: THK Associates, Inc.

GOLF COURSE MARKET ANALYSIS

TABLE III-14: Market Potentials for the Quarry and Legend Golf Courses

Year	2016	2017	2018	2019	2020
Demand for Public Golf Rounds	191,933	194,462	196,991	199,520	202,049
Capture Rate	15.00%	15.00%	15.00%	15.00%	15.00%
Total 18 Hole Public Round Demand at Subject Golf Course	28,790	29,169	29,549	29,928	30,307
Course Utilization*	64.0%	64.8%	65.7%	66.5%	67.3%

Year	2021	2022	2023	2024	2025
Demand for Public Golf Rounds	202,615	203,182	203,748	204,314	204,880
Capture Rate	15.00%	15.00%	15.00%	15.00%	15.00%
Total 18 Hole Public Round Demand at Subject Golf Course	30,392	30,477	30,562	30,647	30,732
Course Utilization*	67.5%	67.7%	67.9%	68.1%	68.3%

* Based on an 18-hole course utilization of 45,000 18 Hole Rounds

Source: THK Associates, Inc.

GIANTS RIDGE HOTEL MARKET ANALYSIS

IV. Giants Ridge Hotel Market Analysis

A. PROFILES OF LODGING FACILITIES WITHIN THE GIANTS RIDGE PTA

Table IV-1 on the following pages lists a comprehensive inventory of the 31 hotel and lodging facilities within the Giants Ridge PTA. There are a total of 1,156 rooms, including the facilities at Giants Ridge. Virtually 100% of the overnight stays at the Lodge, The Villas and the Green Gate, the Giants Ridge facilities, are derived from activities at Giants Ridge. The other facilities reported that the percentage of the total business derived from Giants Ridge visitors ranges from minimal to as high as 30%. Overall the percentage of business derived from Giants Ridge is nearly 20%. To acquire this data, management at each individual lodging/ hotel facility was interviewed regarding the estimated percentage of their business/ visitors that are attributable to Giants Ridge. The percentage of business/ visitors for each facility is detailed in Table IV-1 in the column labelled "% of Guests for Giants Ridge."

This inventory lists each hotel individually along with the year they were built, number of rooms per facility, a price range from low to high and the percentage of guests who stay at that facility and visit the Giants Ridge Facility. The room prices per night in the PTA range from \$50 at the Kokes Motel to \$531 at Burntside Lodge, and the average price range from \$88 to \$167 per night. In the entire PTA there are 1,143 total hotel units, with the 31 hotels and lodging facilities averaging 39 units each. The average age of the facilities in the region is roughly 45 years, the oldest being built in 1913 and newest in 2015. The average amount of visitation they saw for the Giants Ridge facility was 10% of guests and as expected higher numbers in facilities in cities closest to Giants Ridge. The facility outside of Giants Ridge which saw the most guests for Giants Ridge was the Holiday Inn Express and Suites Mt. Iron, with an estimated 30% of guests in attendance utilizing the Giants Ridge Facility. Finally, based on conversations with local officials and business owners, THK has concluded an average occupancy rate of 45% for hotel and lodging facilities within the PTA.

GIANTS RIDGE HOTEL MARKET ANALYSIS

Table IV-1: Lodging Inventory in Giants Ridge PTA, 2015

Name/ Address/ Phone	% of Guests for Giants Ridge	Year of Construction	Number of Rooms	Price Range Low - High
Virginia				
1 Lakshor Motor Inn 404 N 6th Ave 218.741.3360	20%	1965	16	\$55 - \$89
2 Coates Plaza Hotel 502 Chestnut St. 218.749.1000	10%	1950	70	\$60 - \$150
3 Pine View Inn 903 17th St N 866.263.0535	20%	1958	59	\$52 - \$125
4 AmericInn Lodge & Suites Virginia 5480 Mountain Iron Dr 218.741.7839	10%	n/a	45	\$120 - \$180
5 Holiday Inn Express & Suites Mt. Iron 8570 Rock Ridge Drive 218.741.7411	30%	2009	79	\$149 - \$155
6 Budget Host 1 Midway Dr 218.741.6145	5%	1970	23	\$60 - \$60
Eveleth				
7 Kokes Motel 714 Fayal Rd 218.744.4500	5%	1950	10	\$50 - \$60
8 Super 8 Eveleth 1080 Industrial Park Dr 218.744.1661	20%	n/a	55	\$90 - \$115
Aurora				
9 Forest Garden Motel 413 Main St 218.229.3676	25%	1958	7	\$50 - \$50

GIANTS RIDGE HOTEL MARKET ANALYSIS

Table IV-1: Lodging Inventory in Giants Ridge PTA, 2015 (Cont.)

Name/ Address/ Phone	% of Guests for Giants Ridge	Year of Construction	Number of Rooms	Price Range Low - High
Hoyt Lakes				
10 Country Inn of Hoyt Lakes 99 Kennedy Memorial Dr 218.225.3555	30%	1997	40	\$100 - \$140
Chisholm				
11 Chisholm Inn & Suites 501 Iron Dr 218.254.2000	10%	n/a	43	\$85 - \$120
Hibbing				
12 Hibbing Park 1402 East Howard St 218.262.3481	2%	n/a	117	\$55 - \$71
13 Mitchell-Tappan House B & B 2125 4th Ave E 218.262.3862	2%	2004	7	\$85 - \$110
14 Americas Best Value Inn 1411 E 40th St 218.263.8982	5%	1992	45	\$65 - \$90
15 Hampton Inn Hibbing 4225 9th Ave W 218.262.0000	5%	2015	78	\$119 - \$179
Tower				
16 Daisy Bay Resort 4070 Co Rd 77 218.753.4958	10%	1940	9	\$86 - \$143
17 Forest Lane Resort 1785 Everett Bay Rd 218.753.5503	5%	1953	21	\$80 - \$150
18 Everett Bay Lodge 1820 Everett Bay Rd 218.753.5115	n/a	n/a	10	n/a - n/a
19 Fortune Bay 1430 Bois Forte Rd 800.992.7529	15%	1995	173	\$75 - \$145
20 Pike Bay Lodge 9422 Hearthside Dr 218.753.2430	2%	2005	8	\$100 - \$350

GIANTS RIDGE HOTEL MARKET ANALYSIS

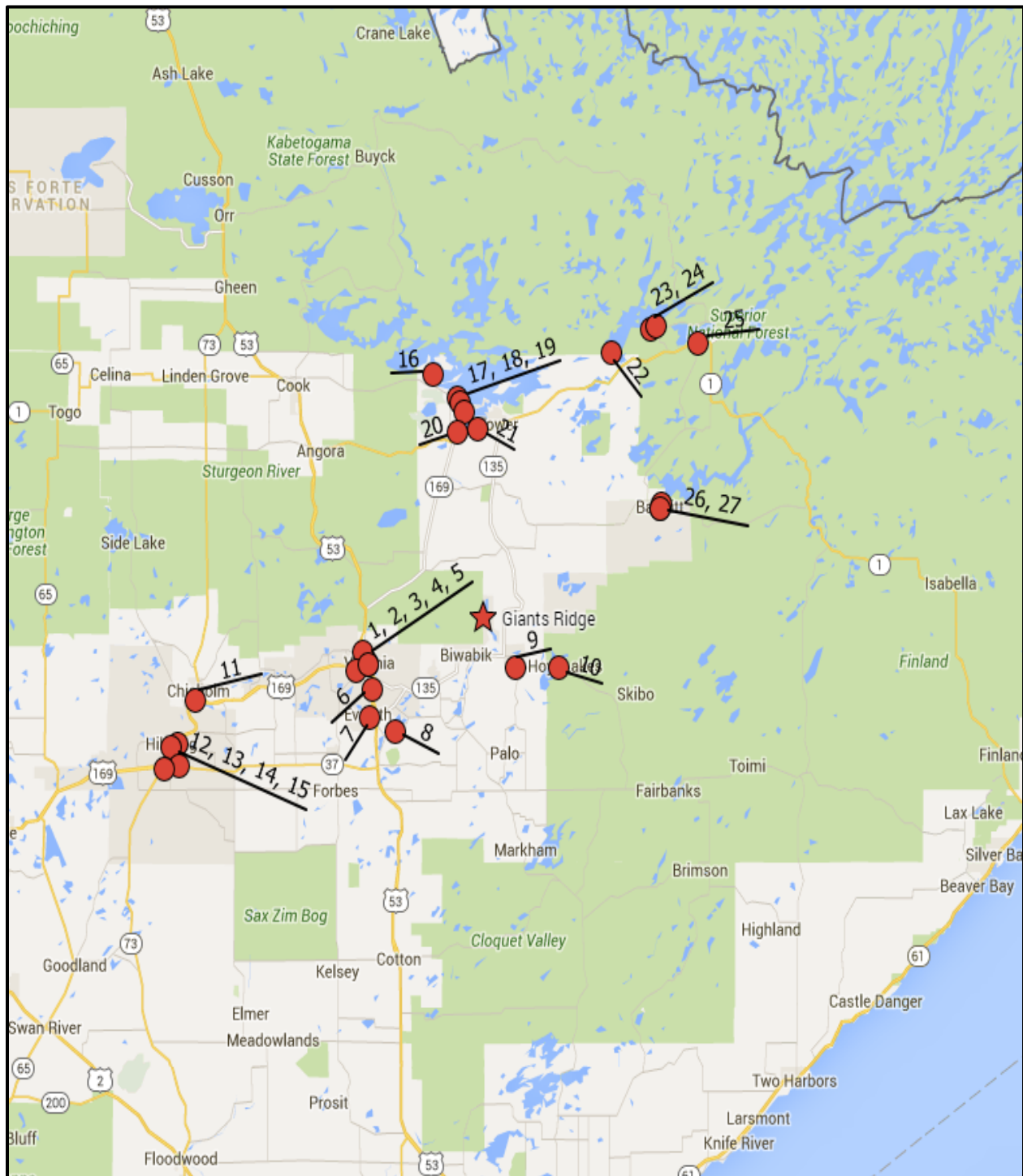
Table IV-1: Lodging Inventory in Giants Ridge PTA, 2015 (Cont.)

Name/ Address/ Phone	% of Guests for Giants Ridge	Year of Construction	Number of Rooms	Price Range Low - High
21 Glenmore Resort 1017 Glenmore Rd 218.753.1200	10%	1930	7	\$129 - \$200
Ely				
22 Tamarack Resort 3499 Tamarack Rd 218.365.6120	0%	1930	8	\$60 - \$200
23 Camp Van Vac 2714 Van Vac Ln 218.365.3782	n/a	1917	29	\$57 - \$214
24 Burntside Lodge 2755 Burnside Lodge Rd 218.365.3894	2%	1913	21	\$215 - \$531
25 Timber Wolf Lodge 9130 Escape Road 218.827.3512	0%	1940	12	\$114 - \$400
Babbitt				
26 Northern Lights Lodge & Resort 9089 Highway 21 N 218.827.2501	2%	1945	12	\$95 - \$185
27 Alder Place - The Inn 13 Alder Rd 218.827.2220	10%	n/a	10	\$38 - \$70
28 Junction Inn Suites & Conference Center 2681 Co Rd 70 218.827.7666	5%	2015	20	\$90 - \$140
Giants Ridge				
29 Lodge at Giants Ridge 6373 Wynne Creek Dr 218.865.7170	100%	1999	67	\$125 - \$230
30 Villas At Giants Ridge 6266 Gaints Ridge Rd 218.865.4155	100%	1999	52	\$120 - \$600
31 Green Gate at Giants Ridge 5748 Giants Ridge Rd 218.865.4155	100%	2006	3	\$200 - \$300
TOTAL EXISTING			1,156	\$38 - \$531
AVERAGE EXISTING	19%	1970	37	\$86 - \$164

Source: Hotel Operators and THK Associates, Inc.

GIANTS RIDGE HOTEL MARKET ANALYSIS

Figure 6- Map of Lodging Facilities Within Giants Ridge PTA



GIANTS RIDGE HOTEL MARKET ANALYSIS

B. PROJECTED GIANTS RIDGE LODGING REVENUE

The occupancy at the lodging facilities in the Giants Ridge environs is very seasonal with high occupancy in the summer and winter months. The spring and fall seasons have significantly lower occupancy. The new Chalet/Event Center is expected to increase hotel/lodging demand with the ability to attract meetings, weddings, and corporate events to Giants Ridge. While there is a central reservation system, not all hotels are participating. A strong effort to increase participation and marketing is critical to increasing hotel occupancy.

With an improved reservation system and marketing, THK Associates, Inc. in conjunction with the operators of the facilities at Giants Ridge estimate that the occupancy of lodging facilities can increase from 45.0% to 54.5% over the next twenty years. The new operators of the Lodge have seen steady improvement in occupancy. The operators of the Villas and the Lodge expect increases in occupancy from the Events Center as well.

Assuming that there are no additions to the bed base over the next twenty years the number of visitors to the area associated with Giants Ridge is projected to increase from 70,036 in 2016 to 84,822 in 2035, assuming an industry standard of 1.8 person per room. With a modest 2.5% inflation of the Average Daily Rate, currently at \$135, the room revenues associated with Giants Ridge is projected to grow from \$2,705,198 in 2016 to \$5,237,649 in 2025.

The projected rate of growth in room revenues over the next twenty years is 3.54%. This compares to the historical average annual rate of growth for room/lodging taxes collected by the Iron Range Tourism Bureau which reports that since 1992 room has grown at an annual rate of 4.19%

GIANTS RIDGE HOTEL MARKET ANALYSIS

Table IV-2: Projected Hotel/Lodging Occupancy and Giants Ridge Area Visitors

Year	Bed Base	Occupancy	Average Daily Rate	Total Estimated Room Revenues	Number of Visitors*	Giants Ridge Room Revenues	Visitors Related to Giants Ridge
2016	1,156	45.0%	\$135.00	\$25,632,855	341,771	\$2,705,198	70,036
2017	1,156	45.5%	\$138.38	\$26,565,606	345,569	\$2,803,637	70,814
2018	1,156	46.0%	\$141.83	\$27,528,974	349,366	\$2,905,307	71,593
2019	1,156	46.5%	\$145.38	\$28,523,907	353,164	\$3,010,309	72,371
2020	1,156	47.0%	\$149.01	\$29,551,381	356,961	\$3,118,744	73,149
2021	1,156	47.5%	\$152.74	\$30,612,402	360,759	\$3,230,721	73,927
2022	1,156	48.0%	\$156.56	\$31,708,003	364,556	\$3,346,346	74,705
2023	1,156	48.5%	\$160.47	\$32,839,253	368,354	\$3,465,734	75,483
2024	1,156	49.0%	\$164.48	\$34,007,247	372,151	\$3,589,000	76,262
2025	1,156	49.5%	\$168.60	\$35,213,116	375,949	\$3,716,263	77,040
2026	1,156	50.0%	\$172.81	\$36,458,024	379,746	\$3,847,646	77,818
2027	1,156	50.5%	\$177.13	\$37,743,169	383,543	\$3,983,276	78,596
2028	1,156	51.0%	\$181.56	\$39,069,786	387,341	\$4,123,282	79,374
2029	1,156	51.5%	\$186.10	\$40,439,143	391,138	\$4,267,799	80,153
2030	1,156	52.0%	\$190.75	\$41,852,550	394,936	\$4,416,965	80,931
2031	1,156	52.5%	\$195.52	\$43,311,353	398,733	\$4,570,921	81,709
2032	1,156	53.0%	\$200.41	\$44,816,938	402,531	\$4,729,815	82,487
2033	1,156	53.5%	\$205.42	\$46,370,733	406,328	\$4,893,797	83,265
2034	1,156	54.0%	\$210.55	\$47,974,207	410,126	\$5,063,022	84,043
2035	1,156	54.5%	\$215.82	\$49,628,873	413,923	\$5,237,649	84,822
Annual Rate of Growth		1.01%	2.50%	3.54%	1.01%	3.54%	1.01%

*number of visitors based on 1.8 person per room

Source: Hotel Operators and THK Associates, Inc.

Table IV-3: Historical Lodging Taxes Collected by the Iron Range Tourism Bureau, 1992 - 2015

																									Auunal Rate of Growth
Month	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
January	12,387.19	11,260.12	11,392.68	13,640.69	13,762.41	15,859.75	15,366.07	15,553.26	18,741.93	20,991.62	19,860.67	21,648.61	22,382.57	23,270.03	23,371.50	20,931.39	25,461.90	22,915.71	23,521.63	25,070.43	24,937.36	25,838.97	27,822.30	29,391.92	
February	12,675.17	12,934.41	13,062.77	16,221.10	15,999.05	18,389.46	17,560.72	17,398.11	21,735.33	22,963.15	20,593.59	20,298.88	23,940.60	30,579.97	22,394.50	21,358.44	28,683.38	24,005.85	23,025.92	27,485.63	27,566.42	25,996.03	29,060.89	25,226.82	
March	11,419.80	11,979.35	11,756.98	14,604.51	14,798.06	18,132.47	12,982.61	16,923.93	17,487.90	21,587.01	20,203.25	20,259.67	21,217.10	23,810.04	26,792.64	26,471.86	25,513.73	20,445.88	23,040.91	25,634.53	25,147.36	23,782.72	26,138.89	27,767.35	
April	8,073.88	11,184.72	10,212.09	9,880.59	10,930.86	13,028.70	11,729.47	12,506.12	14,501.54	12,016.14	13,595.54	12,191.40	13,333.17	15,966.04	16,291.94	14,029.60	19,905.45	13,365.10	16,078.70	17,484.30	20,902.11	21,179.33	21,856.69	20,483.69	
May	11,645.78	8,983.02	10,397.05	10,934.05	12,258.84	12,472.16	14,073.30	13,418.45	17,123.43	14,603.91	15,782.42	17,097.00	16,061.70	17,791.88	19,703.37	20,480.66	21,734.77	16,525.05	20,396.89	18,870.09	25,466.09	21,147.72	26,166.89	27,310.18	
June	10,138.13	15,073.97	16,578.70	13,900.57	18,930.86	21,378.01	21,564.49	23,460.59	27,951.13	28,328.61	25,849.29	26,247.53	29,905.17	33,937.68	32,079.65	32,613.90	30,020.10	28,786.88	29,389.35	29,152.01	33,958.01	33,301.12	36,123.77	38,518.47	
July	24,797.42	20,331.06	21,001.88	27,179.34	22,254.97	25,552.96	26,458.75	30,925.57	32,472.07	33,083.50	29,868.97	34,084.45	33,756.23	38,291.98	36,365.67	36,448.59	37,214.40	35,108.79	37,727.83	36,498.80	41,994.97	39,699.56	44,622.78	50,686.71	
August	17,512.24	17,282.64	18,149.13	20,626.99	21,966.07	24,428.55	24,693.92	27,333.40	31,851.59	32,125.00	30,125.24	33,806.35	33,614.57	35,366.52	35,851.90	35,056.94	34,460.18	33,561.89	34,472.38	34,080.63	41,882.73	41,563.75	43,040.54	43,497.45	
September	13,748.26	14,647.41	16,339.41	16,646.04	16,687.52	17,226.08	19,592.65	21,376.34	25,115.16	22,693.55	23,962.76	24,955.84	27,004.43	30,296.37	30,584.92	29,866.18	31,657.67	25,998.11	28,892.41	30,345.28	33,743.19	33,746.57	33,491.71	39,060.90	
October	9,731.38	10,597.48	12,690.01	11,772.37	12,219.56	13,383.42	14,254.56	15,043.27	16,565.01	15,501.23	17,578.56	15,402.94	18,126.02	18,790.84	20,754.44	19,458.75	20,195.64	19,256.15	18,336.15	23,676.18	24,172.40	24,657.96	27,550.90	31,851.50	
November	8,109.56	7,312.81	8,125.13	8,466.88	8,836.38	9,782.71	10,361.58	9,962.54	12,116.38	10,074.01	12,432.28	10,985.63	12,564.13	13,409.09	15,137.14	15,535.02	14,402.57	15,615.87	16,148.87	18,288.23	17,752.25	21,337.50	20,230.86	22,303.45	
December	9,819.32	12,032.72	12,293.20	12,653.65	14,620.20	13,715.71	14,694.28	14,855.58	19,115.29	18,211.51	17,504.48	18,047.67	20,860.80	22,123.05	24,128.48	24,276.24	21,667.52	17,885.55	23,657.32	25,701.12	27,177.56	25,496.88	26,187.15	29,533.48	
TOTAL	150,058.13	153,619.71	161,999.03	176,526.78	183,264.78	203,349.98	203,332.40	218,757.16	254,776.76	252,179.24	247,357.05	255,025.97	272,766.49	303,633.49	303,456.15	296,527.57	310,917.31	273,470.83	294,688.36	312,287.23	344,700.45	337,748.11	362,293.37	\$385,631.92	4.19%

Source: Iron Range Tourism Board

V. Ski Resort Market Analysis

A. SKI RESORT INVENTORY

The ski and related industry in Minnesota is very competitive and fluctuates greatly depending on inconsistent snowfall. Most ski areas have snowmaking equipment to establish and maintain a base. In the region surrounding Giants Ridge there are 11 ski areas. Only four would release data on visitors, due to competition and privacy concerns. Afton Alps, which was recently acquired by Vail Resorts, in St. Paul reports 250,000 annual visitors, followed by Hyland Hills with 165,000 visitors. The four reporting ski area average 158,333 skier visits annually. Mount Kato had the least visitors at 60,000. Lutsen, with 100,000 visitors, is the only ski hill with a high speed lift and Gondola. One of the limiting factors in Giants Ridge skier visits is its more remote location and lack of immediate bed base during the ski season.

Lift tickets for children range from \$23 to \$51 and average \$39 to \$43. Lift tickets for adults range from \$32 to \$82 and average \$48 to \$53.

SKI RESORT MARKET ANALYSIS

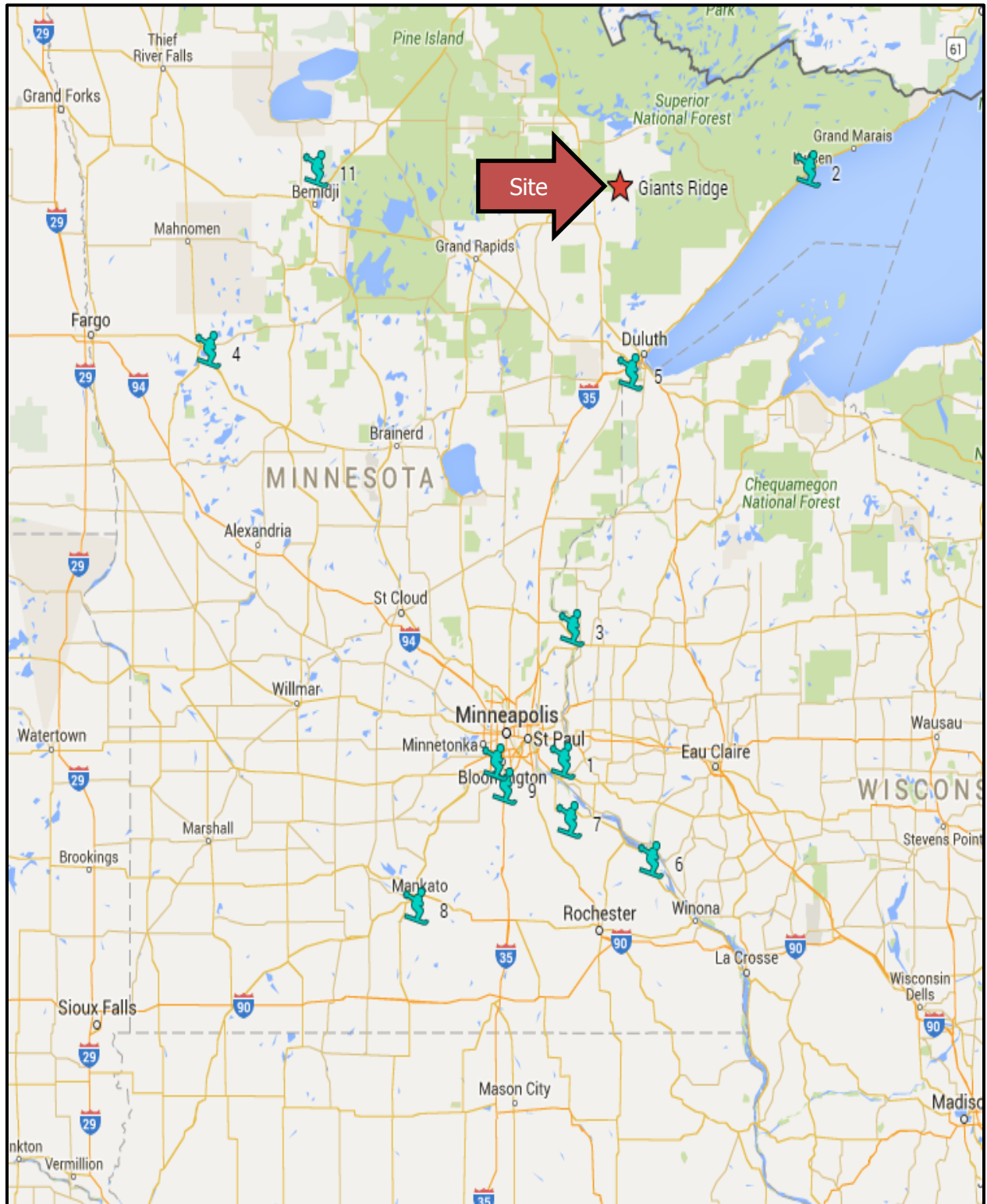
Table V-1: Representative Ski Areas tThat Compete with Giants Ridge

Resort Location	Yearly Visits	Acres	Gondolas	Lifts		Tow-Ropes/ Carpets	Runs	Vertical Feet	Child Lift Ticket	Adult Lift Ticket
				Traditional	High Speed				Low - High	Low - High
1 Afton Alps St. Paul, MN 651.436.5245	250,000	300	0	18	0	4	50	350	\$46 - \$51	\$51 - \$56
2 Lutsen Mountains Lutsen Township, MN 218.663.7281	75,000 Non-PH 25,000 Pass Holders	1,000	1	5	1	1	53	825	\$67 - \$67	\$82 - \$82
3 Wild Mountain Ski Area Water Park Amador Township, MN 651-465-6315	Wolud not disclose	100	0	4	0	4	26	300	\$34 - \$34	\$39 - \$39
4 Detroit Mountain Recreation Area Erie Township, MN 218.844.7669	Wolud not disclose	n/a	0	1	0	0	~8	n/a	\$23 - \$23	\$47 - \$47
5 Spirit Mountain Recreation Duluth, MN 218.628.2891	Wolud not disclose	175	0	5	1	2	21	700	\$32 - \$38	\$42 - \$48
6 Coffee Mill Ski & Snowboard Resort Wabasha, MN 651.565.2777	Wolud not disclose	n/a	0	2	0	1	14	425	\$46 - \$51	\$51 - \$56
7 Welch Village Ski and Snowboard Area Wek, MN 651.258.4567	Wolud not disclose	140	0	8	0	2	50	360	\$38 - \$44	\$46 - \$54
8 Mount Kato Ski Area Manakota, MN 507.625.3363	60,000	65	0	8	0	2	19	240	\$26 - \$33	\$32 - \$41
9 Buck Hill Burnsville, MN 952.435.7174	Wolud not disclose	n/a	0	3	0	5	16	306	\$26 - \$32	\$32 - \$44
10 Hyland Hills Ski Area Bloomington, MN 763.694.7800	165,000	35	0	3	0	5	14	175	\$46 - \$51	\$51 - \$56
11 Buena Vista Ski Area Bemidji, MN 218.243.2231	Wolud not disclose	n/a	0	4	0	2	18	230	\$46 - \$51	\$51 - \$56
Average	158,333	259	0	6	0	3	28	391	\$39 - \$43	\$48 - \$53

Source: Interviews with facility operators, Minnesota Ski Areas Association, and THK Associates, Inc.

SKI RESORT MARKET ANALYSIS

Figure 7- Ski Resort Map



B. PROJECTED SKI RESORT VISITS

Performance in terms of skier visits to Giants Ridge, the total number of recorded skier visits (exclusive of season pass holder visits), has decreased from 53,424 in 2006 to 33,868 in 2015. The drop in visits is attributed to competition, local employment lay-offs, poor snow fall, lack of immediate bed base at Giants Ridge and the lack of a high speed lift to compete with Lutsen Mountain and other areas.

Assuming normal snow conditions and the immediate impacts of the new Event Center/Chalet and improvements to the South Chalet, THK in combination with opinions gathered through interviews of Giants Ridge management, estimates that if a high speed lift is added to Giants Ridge the 2017 skier visits are projected to increase by an additional 25% (instructed by IRRRB/Giants Ridge Staff) as the facility will become a more attractive destination and be able to accommodate more visitors. With a high speed lift skier visits could be 55,703 by 2035 or approximately \$2.77 million in ski revenue that year.

The projections of skier visits growing to 55,703 over the next 20 years, with the installation of a high speed lift, is viewed by THK as conservative in light of skier visits being over 53,000 in 2006 prior to the recession and without a high speed lift. Furthermore, competing ski resorts like Afton Alps, Lutsen Mountains, Mount Kato and Hyland Hills all currently achieve skier visits well in excess of 55,000 (daily pass).

Table V-3 below further details the projected winter visitors to Giants Ridge based on activity type. Based on historical visitation numbers, THK has projected out for both a scenario with the current lift configuration and with the addition of a high speed lift. Without a high speed lift, Alpine Skier visits will continue to make up the majority of visitor shares, but will most likely fall to 70% of visitors as tubing cannibalizes its share of visitors. In the scenario the high speed lift is built, THK projects Alpine Skiing to most likely compose 80% of visitors, slightly higher than the ten year average.

In addition, Giants Ridge does not include visits by season pass holders in its total visitor count. However, based on a formula using regional statistics, the number of season pass visits for 2014/2015 was estimated to be as high as 41,640.

SKI RESORT MARKET ANALYSIS

Table V-2: Historical and Projected Skier Visits to Giants Ridge

Year	Daily Skier Visits*	Ski Revenues	Revenues per Skier
2011	44,067	\$1,311,932	\$29.77
2012	37,428	\$1,179,649	\$31.52
2013	40,154	\$1,248,845	\$31.10
2014	37,197	\$1,211,289	\$32.56
2015	33,868	\$906,566	\$26.77
Average	38,543	\$1,171,656	\$30.40

Current Lifts			
2016	37,255	\$1,160,815	\$31.16
2017	40,980	\$1,308,819	\$31.94
2018	41,390	\$1,354,955	\$32.74
2019	41,804	\$1,402,717	\$33.55
2020	42,222	\$1,452,163	\$34.39
2021	42,644	\$1,503,352	\$35.25
2022	43,071	\$1,556,345	\$36.13
2023	43,501	\$1,611,206	\$37.04
2024	43,936	\$1,668,001	\$37.96
2025	44,376	\$1,726,798	\$38.91
2026	44,820	\$1,787,667	\$39.89
2027	45,268	\$1,850,683	\$40.88
2028	45,720	\$1,915,919	\$41.91
2029	46,178	\$1,983,455	\$42.95
2030	46,639	\$2,053,372	\$44.03
2031	47,106	\$2,125,754	\$45.13
2032	47,577	\$2,200,686	\$46.26
2033	48,053	\$2,278,261	\$47.41
2034	48,533	\$2,358,569	\$48.60
2035	49,018	\$2,441,709	\$49.81
Average	44,505	\$1,787,062	\$39.80

With a new High Speed Lift			
2016	37,255	\$1,160,815	\$31.16
2017	46,569	\$1,487,294	\$31.94
2018	47,034	\$1,539,721	\$32.74
2019	47,505	\$1,593,997	\$33.55
2020	47,980	\$1,650,185	\$34.39
2021	48,459	\$1,708,354	\$35.25
2022	48,944	\$1,768,573	\$36.13
2023	49,433	\$1,830,916	\$37.04
2024	49,928	\$1,895,455	\$37.96
2025	50,427	\$1,962,270	\$38.91
2026	50,931	\$2,031,440	\$39.89
2027	51,441	\$2,103,049	\$40.88
2028	51,955	\$2,177,181	\$41.91
2029	52,475	\$2,253,927	\$42.95
2030	52,999	\$2,333,378	\$44.03
2031	53,529	\$2,415,629	\$45.13
2032	54,065	\$2,500,780	\$46.26
2033	54,605	\$2,588,933	\$47.41
2034	55,151	\$2,680,192	\$48.60
2035	55,703	\$2,774,669	\$49.81
Average	50,319	\$2,022,838	\$39.80

*Exclusive of Season Pass Holders

Source: Giants Ridge management interviews and THK Associates, Inc.

SKI RESORT MARKET ANALYSIS

Table V-3: Historical and Projected Giants Ridge Winter Sport Visitors by Sport

Year	Alpine Skiers	% of Total	Nordic Skier	% of Total	Tubing	% of Total	Daily Skier Visits*
2006	45,695	86%	7,729	14%	0	0%	53,424
2007	38,553	80%	9,361	20%	0	0%	47,914
2008	40,120	84%	7,601	16%	0	0%	47,721
2009	32,933	81%	7,642	19%	0	0%	40,575
2010	30,464	81%	7,185	19%	0	0%	37,649
2011	32,422	74%	7,734	18%	3,911	9%	44,067
2012	28,139	75%	6,694	18%	2,595	7%	37,428
2013	30,009	75%	7,262	18%	2,883	7%	40,154
2014	27,409	74%	6,521	18%	3,267	9%	37,197
2015	24,672	73%	5,597	17%	3,599	11%	33,868
Average	33,042	78%	7,333	18%	3,251	8%	42,000

With Current Lift Configuration							
Year	Alpine Skiers	% of Total	Nordic Skier	% of Total	Tubing	% of Total	Skier Visits*
2016	26,078	70%	6,333	17%	4,843	13%	37,255
2017	28,686	70%	6,967	17%	5,327	13%	40,980
2018	28,973	70%	7,036	17%	5,381	13%	41,390
2019	29,263	70%	7,107	17%	5,435	13%	41,804
2020	29,555	70%	7,178	17%	5,489	13%	42,222
2021	29,851	70%	7,250	17%	5,544	13%	42,644
2022	30,149	70%	7,322	17%	5,599	13%	43,071
2023	30,451	70%	7,395	17%	5,655	13%	43,501
2024	30,755	70%	7,469	17%	5,712	13%	43,936
2025	31,063	70%	7,544	17%	5,769	13%	44,376
2026	31,374	70%	7,619	17%	5,827	13%	44,820
2027	31,687	70%	7,696	17%	5,885	13%	45,268
2028	32,004	70%	7,772	17%	5,944	13%	45,720
2029	32,324	70%	7,850	17%	6,003	13%	46,178
2030	32,648	70%	7,929	17%	6,063	13%	46,639
2031	32,974	70%	8,008	17%	6,124	13%	47,106
2032	33,304	70%	8,088	17%	6,185	13%	47,577
2033	33,637	70%	8,169	17%	6,247	13%	48,053
2034	33,973	70%	8,251	17%	6,309	13%	48,533
2035	34,313	70%	8,333	17%	6,372	13%	49,018
Average	32,824	70%	7,971	17%	6,096	13%	46,891

With a new High Speed Lift							
Year	Alpine Skiers	% of Total	Nordic Skier	% of Total	Tubing	% of Total	Daily Skier Visits*
2016	29,804	80%	3,725	10%	3,725	10%	37,255
2017	37,255	80%	4,657	10%	4,657	10%	46,569
2018	37,627	80%	4,703	10%	4,703	10%	47,034
2019	38,004	80%	4,750	10%	4,750	10%	47,505
2020	38,384	80%	4,798	10%	4,798	10%	47,980
2021	38,767	80%	4,846	10%	4,846	10%	48,459
2022	39,155	80%	4,894	10%	4,894	10%	48,944
2023	39,547	80%	4,943	10%	4,943	10%	49,433
2024	39,942	80%	4,993	10%	4,993	10%	49,928
2025	40,342	80%	5,043	10%	5,043	10%	50,427
2026	40,745	80%	5,093	10%	5,093	10%	50,931
2027	41,152	80%	5,144	10%	5,144	10%	51,441
2028	41,564	80%	5,196	10%	5,196	10%	51,955
2029	41,980	80%	5,247	10%	5,247	10%	52,475
2030	42,399	80%	5,300	10%	5,300	10%	52,999
2031	42,823	80%	5,353	10%	5,353	10%	53,529
2032	43,252	80%	5,406	10%	5,406	10%	54,065
2033	43,684	80%	5,461	10%	5,461	10%	54,605
2034	44,121	80%	5,515	10%	5,515	10%	55,151
2035	44,562	80%	5,570	10%	5,570	10%	55,703
Average	42,628	80%	5,329	10%	5,329	10%	53,285

*Exclusive of Season Pass Holders

Source: Giants Ridge management interviews and THK Associates, Inc.

AREA AND FACILITIES DESCRIPTION

VI. Area and Facilities Description

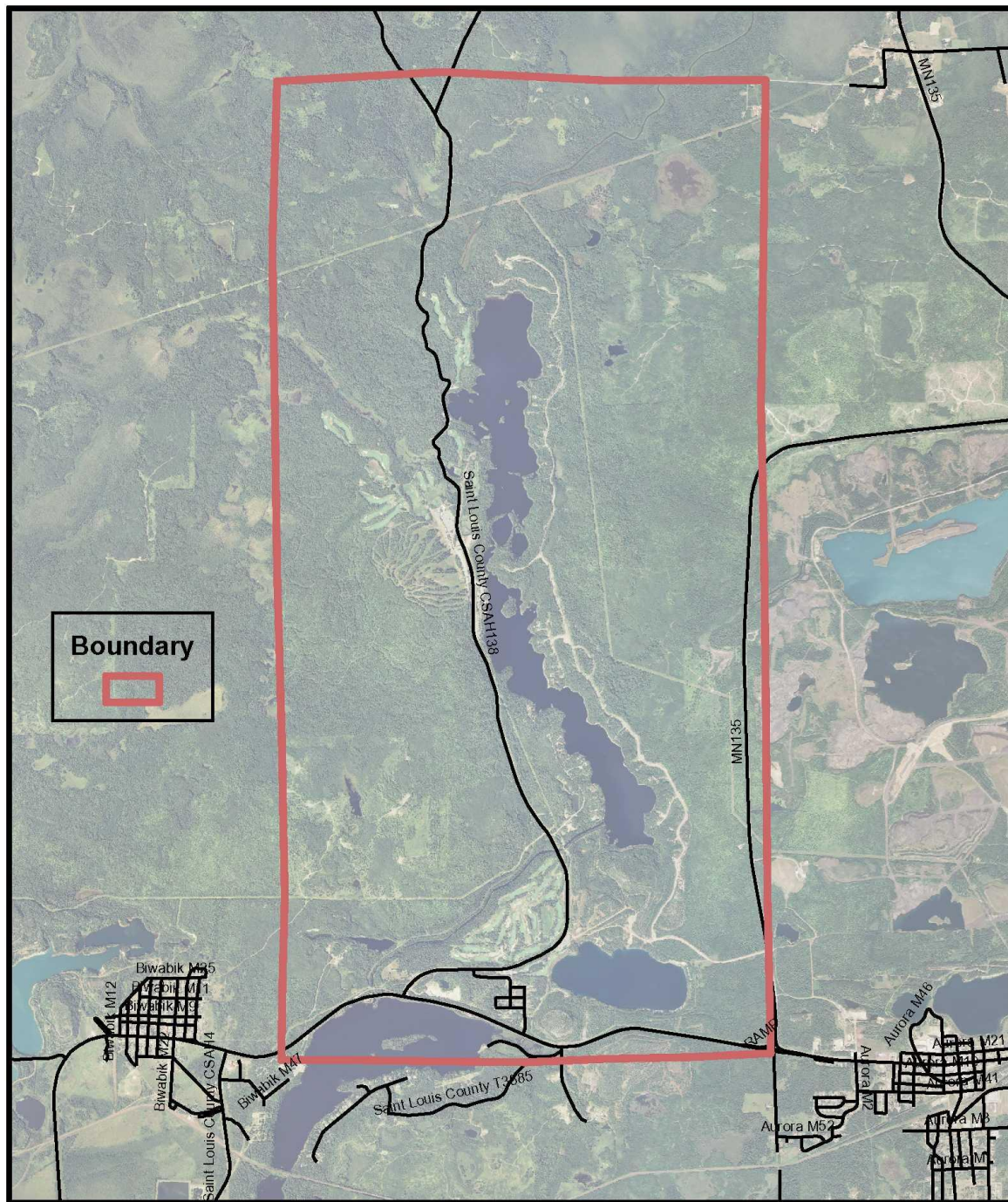
A. AREA DESCRIPTION

The Giants Ridge Resort is located just off Highway 135 near the Town of Biwabik in St. Louis County, Minnesota. The existing ski area, golf courses, 93 room lodge and other numerous surrounding lakes, along with the scenic beauty of the region has made Giants Ridge a popular destination for recreational enthusiasts. The second golf course at Giants Ridge will further complement the ski area and surrounding environs creating more opportunities for summer recreation and further enhancing the Giants Ridge development as a year-round resort.

Giants Ridge is accessible via Highway 53 and Highway 169. These major arterial are the main link between northeastern Minnesota population centers and connect to metropolitan areas such as Duluth and the Twin Cities. The Giants Ridge Resort is well known throughout the greater region and provides instant name and location recognition for the golf development. The second golf course located at Giants Ridge will further distinguish the resort from any other facility in the area due to the resort's established reputation as a recreational destination.

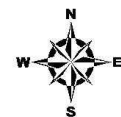
AREA AND FACILITIES DESCRIPTION

Figure 8- Giants Ridge Recreation Area Boundary Map



Giants Ridge Recreation Area Boundary Map

0 0.5 1 2 Miles



AREA AND FACILITIES DESCRIPTION

B. GIANTS RIDGE FACILITIES

The facilities at Giants Ridge include: The Legend Golf Course; the Quarry Golf Course; Ski Hill Operations; the South Chalet; the Event Center; the Pavilion; The Lodge at Giants Ridge; The Villas; The Woodlands/Residence Club; the Voyagers Retreat residential community; and the Glenn (three rental housing units).

The Legend Golf Course

The Legend Golf Course was built in 1997 and designed by Lanny Wadkins and Jeff Brauer. The course offers an 18-hole “world class” golf experience. The Legend was ranked as the #4 public golf course in Minnesota and one of the top 100 courses in the country in 2014/2014 by Golf Digest and Golf Magazine. The 18-hole course offers return 9’s, has a small snack/food service area, a 1,000 square foot pro shop and maintenance facility. The course is 6,930 yards from the championship tees. In fiscal year 2015 the Legend recorded 13,877, 18-hole rounds.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

The Quarry Golf Course

The Quarry Golf Course was built in 2003 and designed by Jeff Brauer. The course offers an 18-hole “world class” golf experience. The Quarry was ranked as the #1 public golf course in Minnesota and one of the top 100 courses in the country in 2014/2014 by Golf Digest and Golf Magazine. The 18-hole course offers return 9’s, has a small snack/food service area, a 1,000 square foot pro shop and maintenance facility. The course is 6,930 yards from the championship tees. In fiscal year 2015 the Quarry recorded 14,687, 18-hole rounds.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

Ski Hill

The Ski Hill encompasses 35 runs ranging from beginner to expert. The vertical relief is approximately 500 feet. The runs are served by two triple chair lifts, three double chair lifts and a J-Bar. All of the lifts are older and of slower speed, a complaint by many skiers. There are also 60 km of groomed cross country ski trails, a tubing park and snow shoe trails. While not part of Giants Ridge there are also nearby snowmobile trails throughout the State Park system. Total visits to the ski area in fiscal year 2015 were 33,868.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

South Chalet

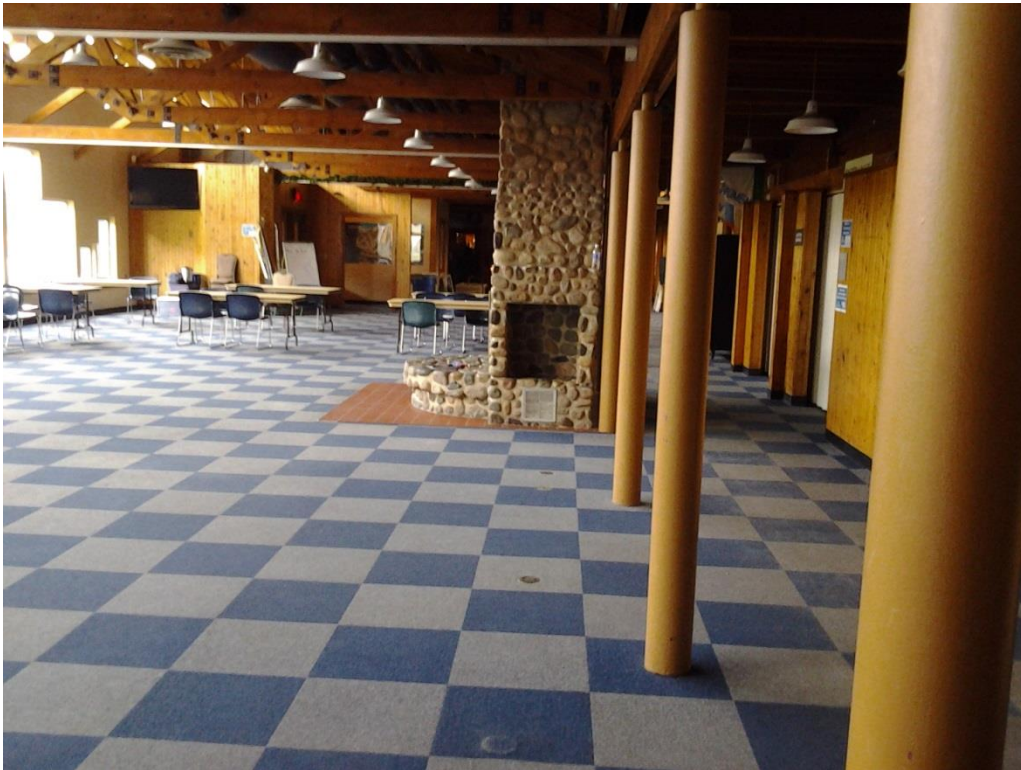
The South Chalet recently underwent a major renovation and conversion into a Nordic Center, Ski Patrol and Season Pass Locker and an upper level meeting room. For the 2015/2016 ski season food and beverage service will be offered until the completion of the new Event Center. Upon completion of the Event Center the existing food and beverage facilities will be removed and that area will be an outdoor gathering place between the Event Center and the South Ski Chalet. Upon completion the South Chalet will be 6,300 square feet.



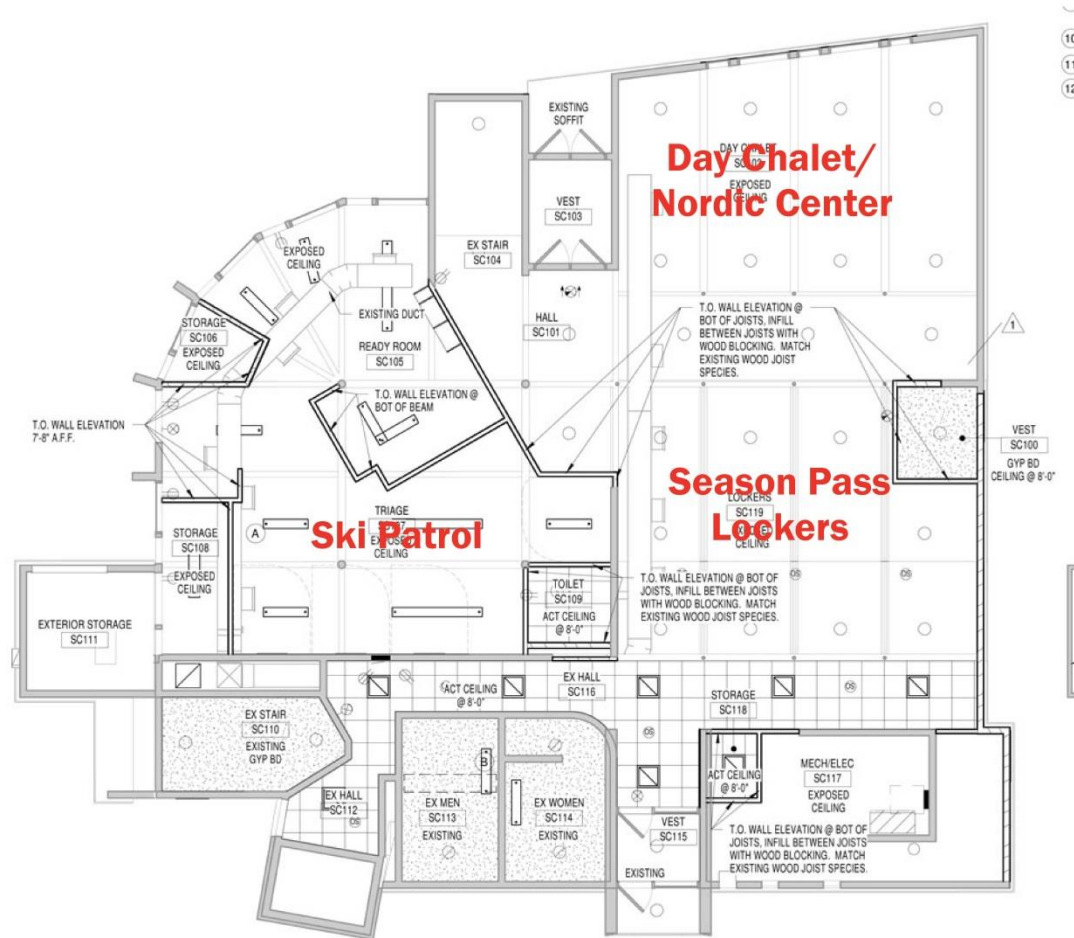
AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



South Chalet Renovation



AREA AND FACILITIES DESCRIPTION

Event Center/Main Chalet

A new Event Center or Main Chalet is under construction and will be completed by June of 2016. This facility will contain food and beverage services, bar, rentals of skis, bikes, tubes, etc., a ski school, retail shop, ticketing, restrooms and offices. The \$12.7 million dollar project is being funded by IRRRB and the State of Minnesota. Prior to the opening of the Event Center the exiting rental shop will be removed. The facility will not only serve the ski population but is already being aggressively marketed as a destination for weddings, corporate meetings and related activities. The facility is 33,858 square feet.



AREA AND FACILITIES DESCRIPTION





Photo Above: View from Mountain



Photo Above: View from Parking Lot



Photo Above: View from South, Looking North

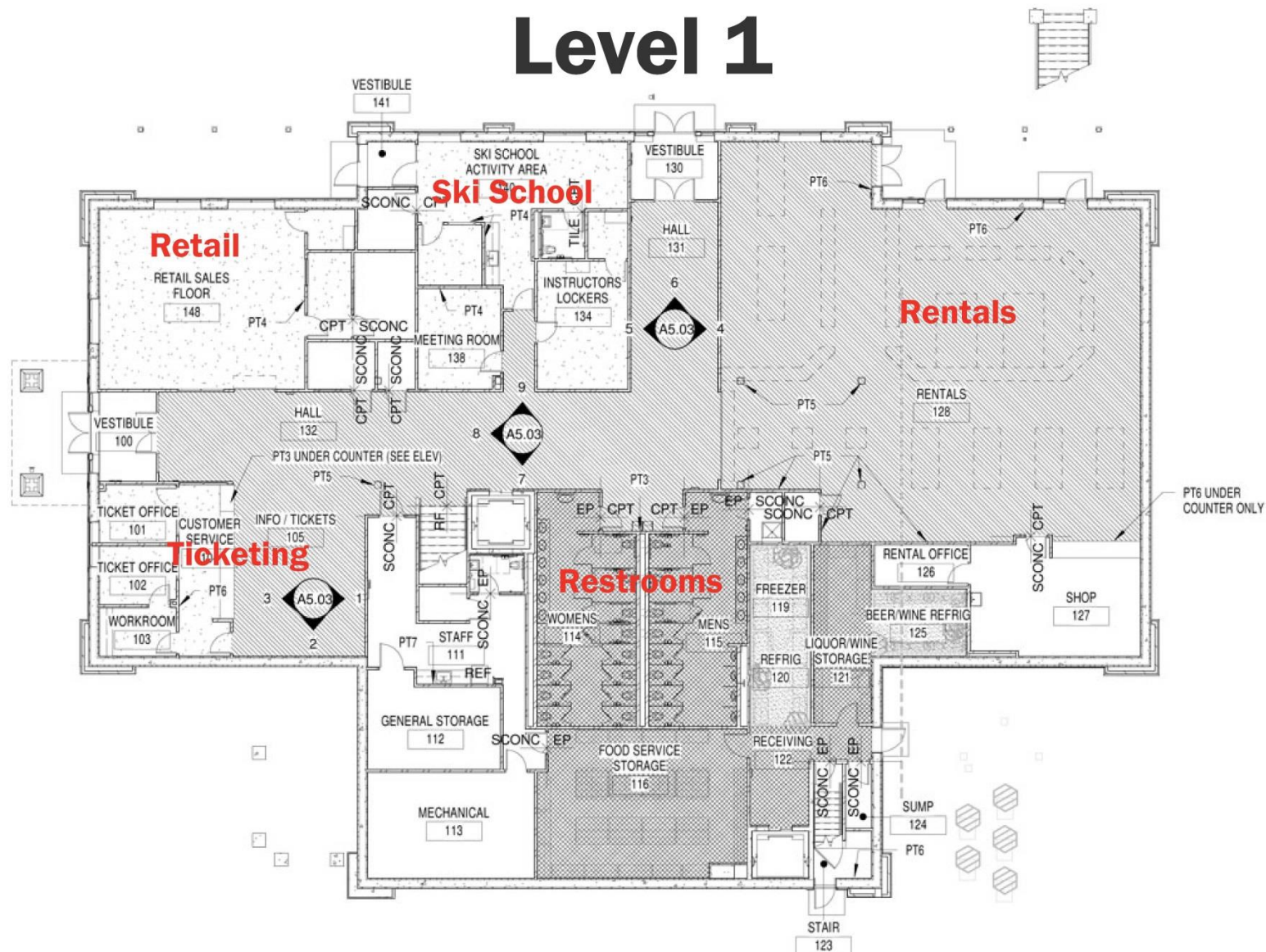


Photo Above: View from Sarajevo Lift

Site Plan



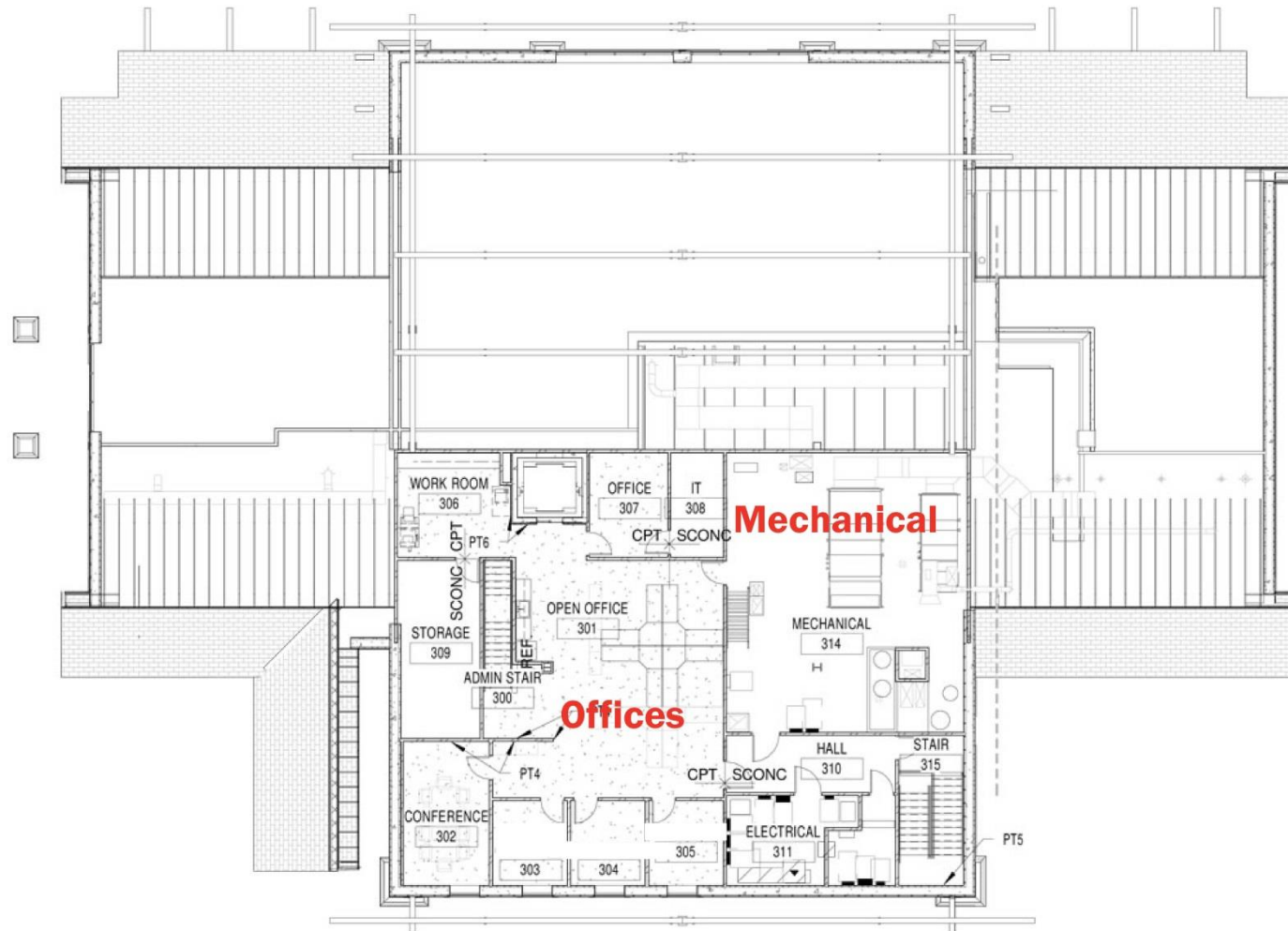
Level 1



Level 2



Level 3



AREA AND FACILITIES DESCRIPTION

Pavilion

A Pavilion was added in 2014/2015 to serve daily lockers, school ski teams, meetings space and related events. The space has also been rented for weddings and other activities. The size of the facility is 2,250 square feet.



AREA AND FACILITIES DESCRIPTION

The Lodge at Giants Ridge

The Lodge at Giants Ridge was built in 1999. The facility has undergone numerous management and ownership changes since that time. The original facility contained 82 rooms. Today the facility consists of 67 rooms/units which are owned by individuals, a bank and the current ownership management company as condominium hotel units. In addition to the hotel rooms there is a full service bar and restaurant, spa (concession agreement), indoor pool area and retail shop.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

The Woodlands/Residence Club

Originally there were 19 lots developed near the Lodge known as the Woodlands. Most of the lots have been sold but there are only five homes built. One owner purchased multiple lots to create open space between his home and other future construction. An additional 27 lots community adjacent to The Woodlands known as The Residence Club was recently developed and planned as 27 homes that would function as fractional ownership. One home was built and the fractional ownership concept failed. IRRRB will take possession of the remaining 26 lots in 2016.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

The Villas

The Villas are 52 townhome style units that are all individually ownership. All but a few of the units are offered as rental units for overnight accommodations to support the ski and golf operations. The Villas are a short distance from the ski hill and Legend Golf course. There are a total of 126 bedrooms and maximum capacity is for 374 guests at double occupancy, or 155 at single occupancy per bed.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

Voyagers Retreat

This single family residential community is located on the east side of Sabin and Wynne Lakes. The subdivision was developed in 2005. There are a total of 293 lots of which approximately 170 have been sold. To date there are 48 homes built. The homes are primarily second homes for the Minneapolis area. In the early years lots prices for lake-frontage were in the \$280,000 range. During the recession and currently lake-front lots are selling for as high as \$69,750 and non-lake front lots are in the \$19,000 to \$40,000 range. The property was originally developed by Mr. Taylor but the remaining lots are now owned by American Bank. In 2015 approximately 12 lots were sold. The bank expects building activity to resume in 2016.



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION



AREA AND FACILITIES DESCRIPTION

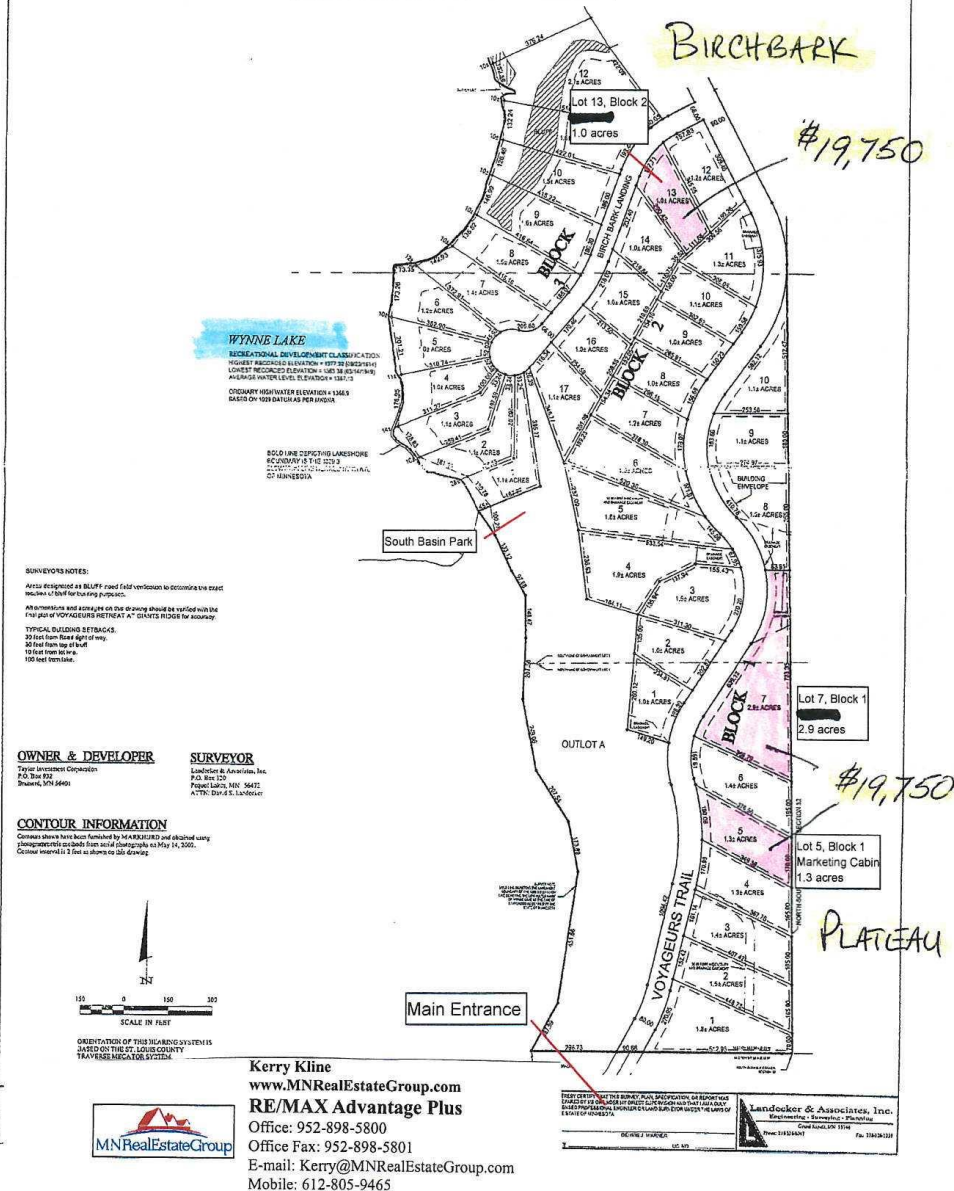


As of 1-30-12
Subject to change

VOYAGEURS RETREAT AT GIANTS RIDGE

SOUTHERLY PORTION - PHASE 1 OVERVIEW
GOVERNMENT LOTS 123, AND 4,
SECTION 22, TOWNSHIP 59 NORTH, RANGE 15 WEST,
ST. LOUIS COUNTY, MINNESOTA

All Other Lots Are Sold



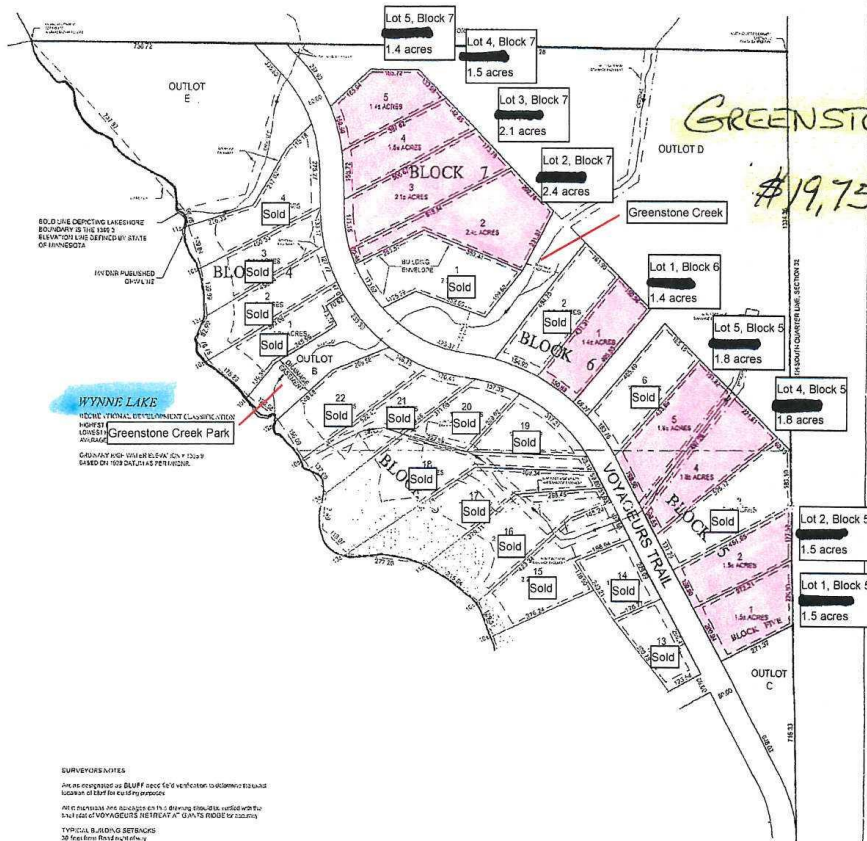
AREA AND FACILITIES DESCRIPTION



As of 1-30-12
Subject to change

VOYAGEURS RETREAT AT GIANTS RIDGE

NORTHERLY PORTION - PHASE 1 OVERVIEW
GOVERNMENT LOTS 1, 2, PART OF 3, AND 4,
SECTION 32, TOWNSHIP 59 NORTH, RANGE 15 WEST,
ST. LOUIS COUNTY MINNESOTA



#19,750

OWNER & DEVELOPER
Mn Real Estate Group
P.O. Box 975
Minneapolis, MN 55409

SURVEYOR
Landmark & Associates, Inc.
P.O. Box 100
Plymouth, MN 55441
ATTN: Patrick L. Laitinen

CONTOUR INFORMATION
Contours shown are 20' contours by standard method.
Where necessary, contours have been interpolated at 10' intervals.
Contour interval is 2' for areas shown in blue.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

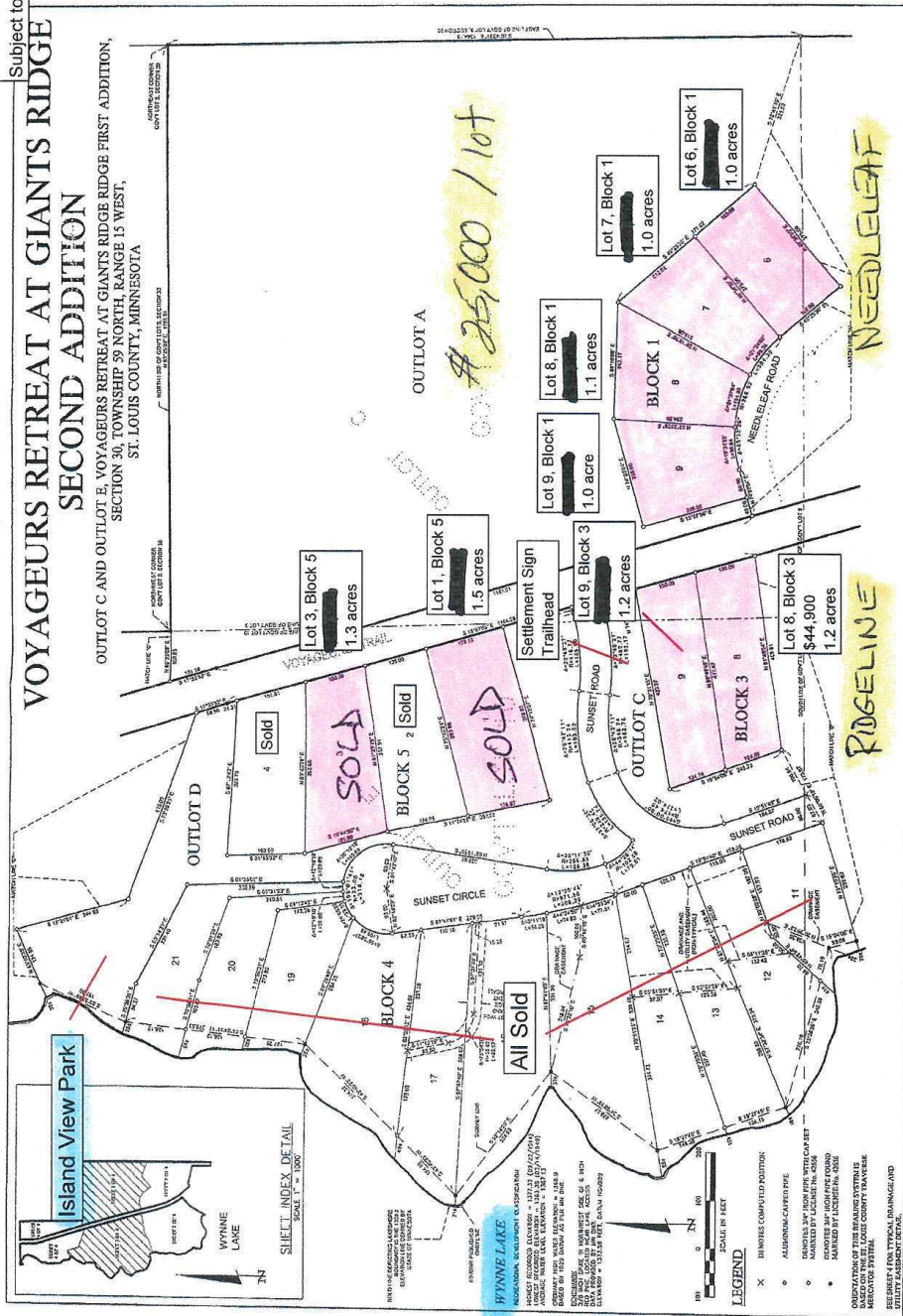
AREA AND FACILITIES DESCRIPTION

RE/MAX
ADVANTAGE PLUS

As of 1-30-12
Subject to change

VOYAGEURS RETREAT AT GIANTS RIDGE SECOND ADDITION

OUTLOT C AND OUTLOT E, VOYAGEURS RETREAT AT GIANTS RIDGE FIRST ADDITION,
SECTION 30, TOWNSHIP 59 NORTH, RANGE 15 WEST,
ST. LOUIS COUNTY, MINNESOTA



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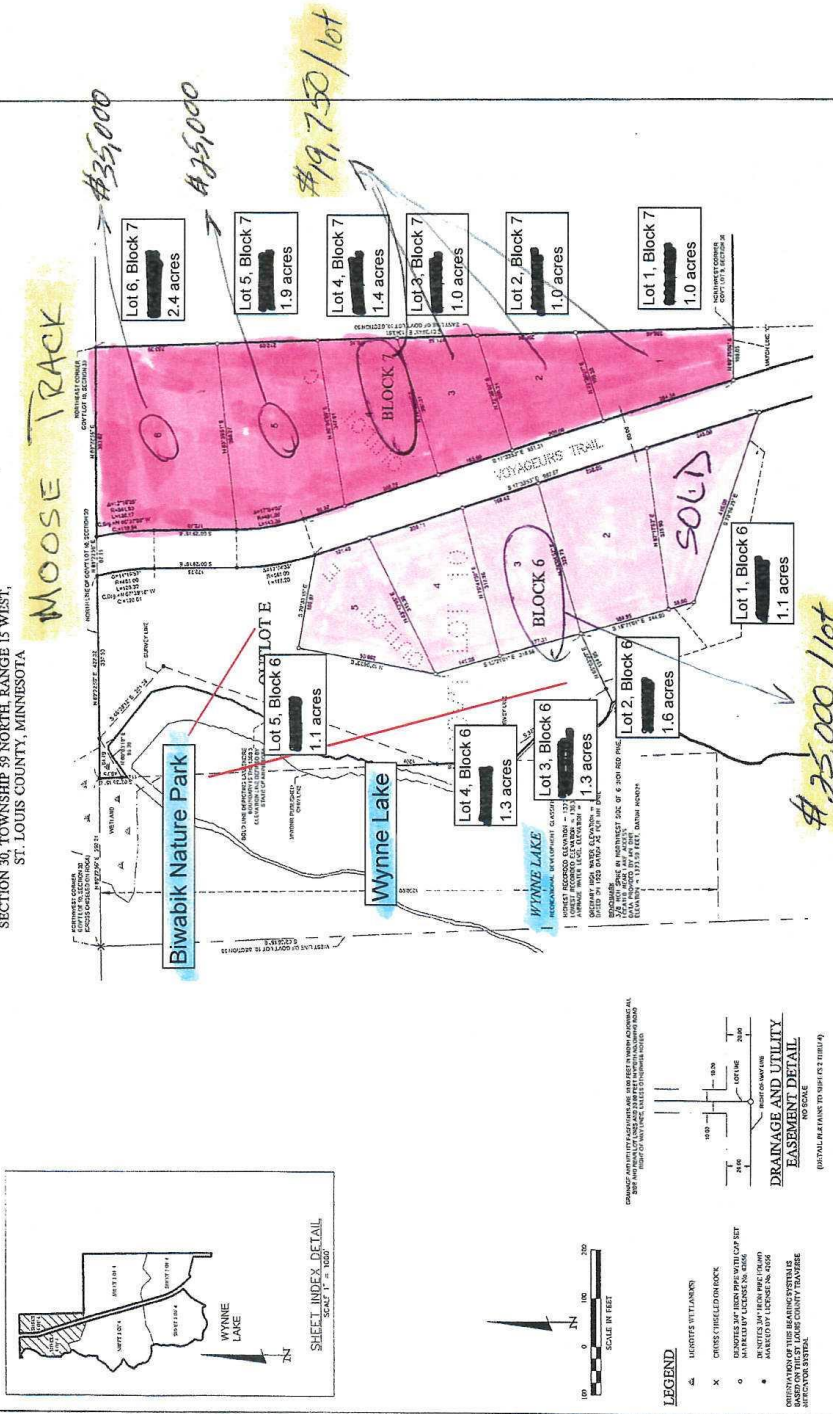
AREA AND FACILITIES DESCRIPTION

RE/MAX
ADVANTAGE PLUS

VOYAGEURS RETREAT AT GIANTS RIDGE SECOND ADDITION

OUTLOT C AND OUTLOT E, VOYAGEURS RETREAT AT GIANTS RIDGE FIRST ADDITION,
SECTION 30, TOWNSHIP 59 NORTH RANGE 15 WEST,
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As of 1-31-12
Subject to change



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RF/MAX
ADVANTAGE PLUS

VOYAGEURS RETREAT AT GIANTS RIDGE SECOND ADDITION

OUTLOT C AND OUTLOT E, VOYAGEURS RETREAT AT GIANTS
SECTION 30, TOWNSHIP 59 NORTH, RANGE 15
ST. LOUIS COUNTY, MINNESOTA

As of 1-30-12
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\$25,000/lot BUDGET LINE

NEEDLE LEAF

[illegible]

Sunset Park

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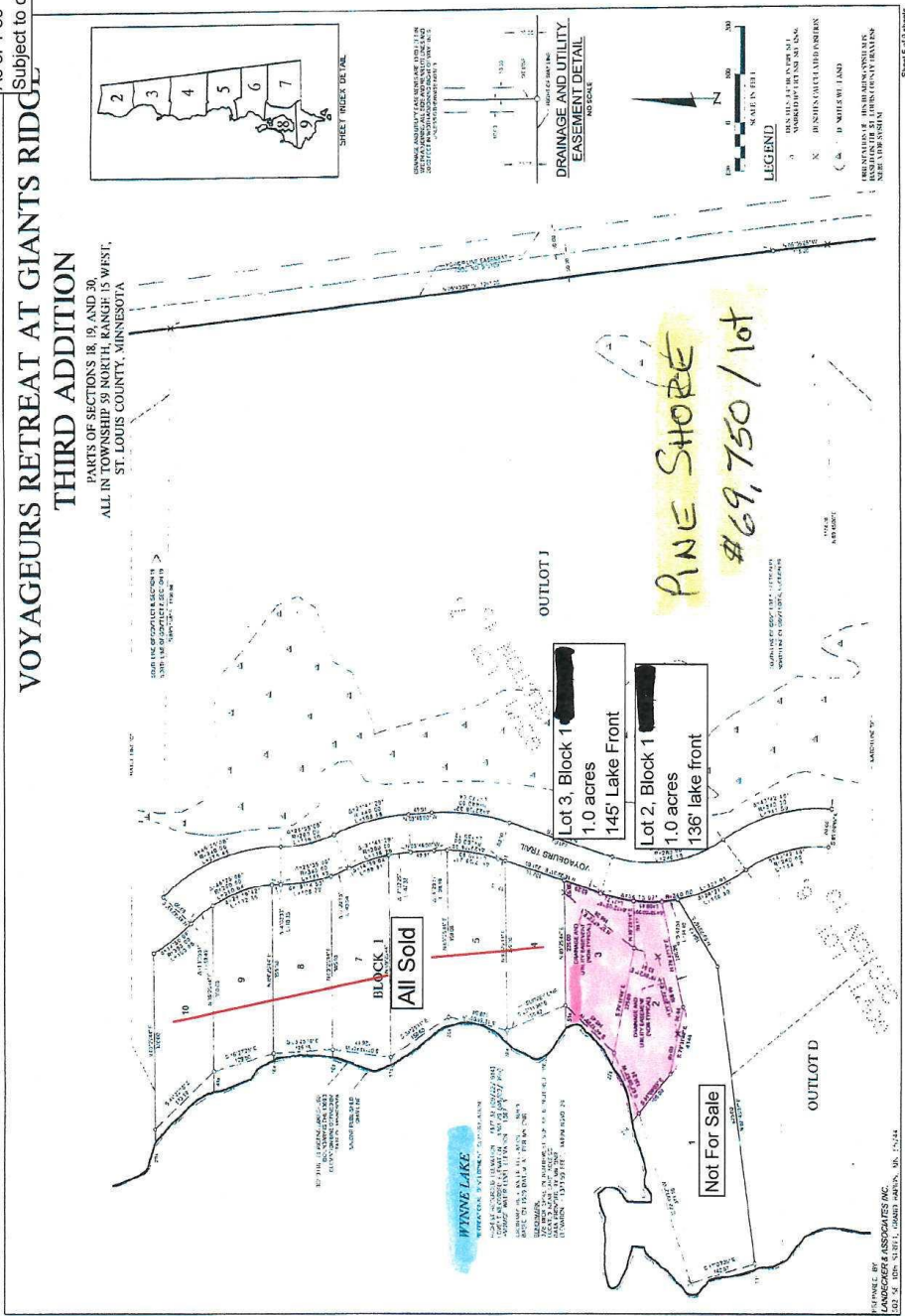
AREA AND FACILITIES DESCRIPTION



As of 1-30-12
Subject to change

VOYAGEURS RETREAT AT GIANTS RIDGE THIRD ADDITION

PARTS OF SECTIONS 18, 19, AND 30
ALL IN TOWNSHIP 39 NORTH, RANGE 15 WEST,
ST. LOUIS COUNTY, MINNESOTA

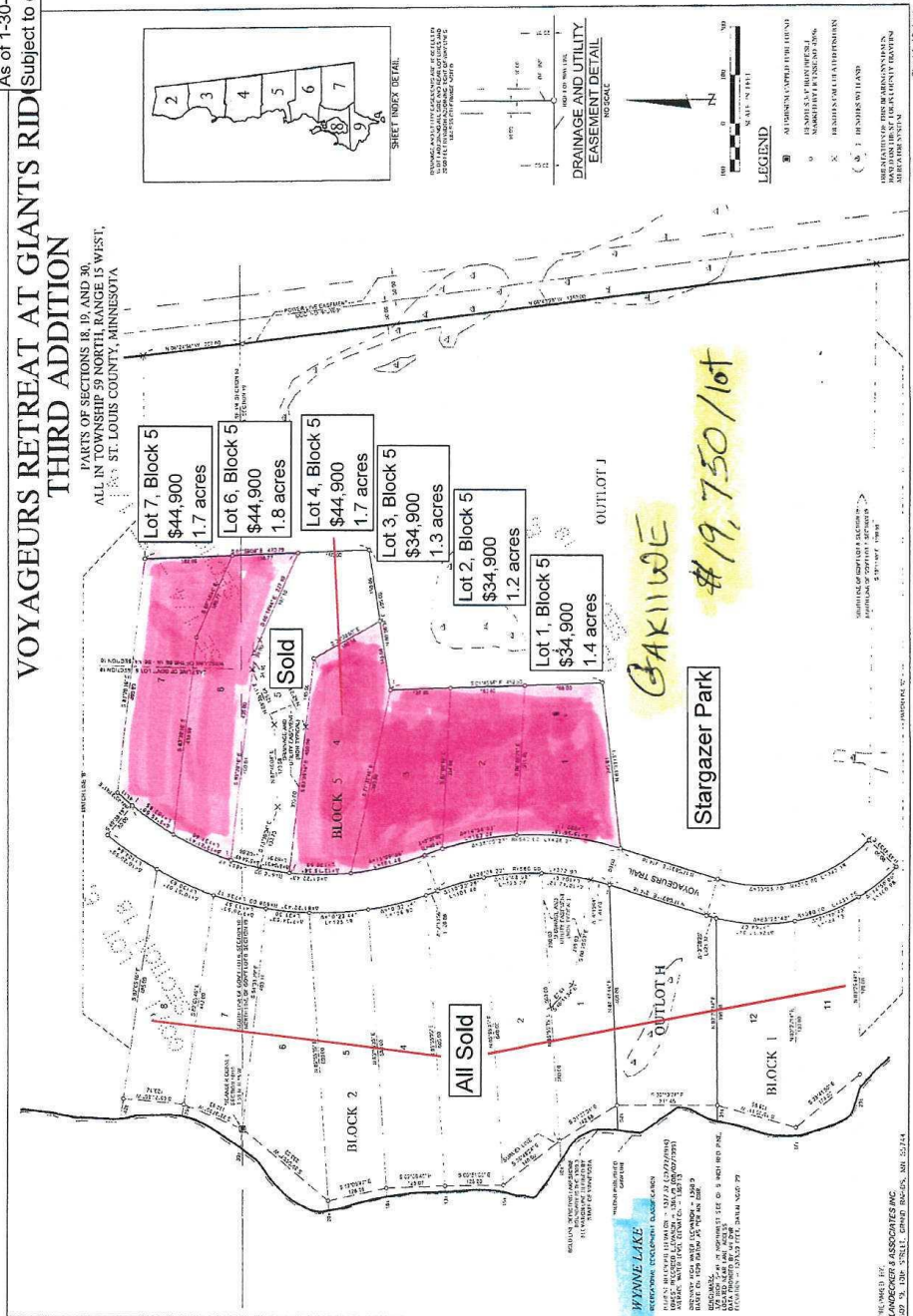


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VOYAGEURS RETREAT AT GIANTS RIDGE

PARTS OF SECTIONS 18, 19, AND 30,
ALL IN TOWNSHIP 59 NORTH, RANGE 15 WEST,
:  ST. LOUIS COUNTY, MINNESOTA



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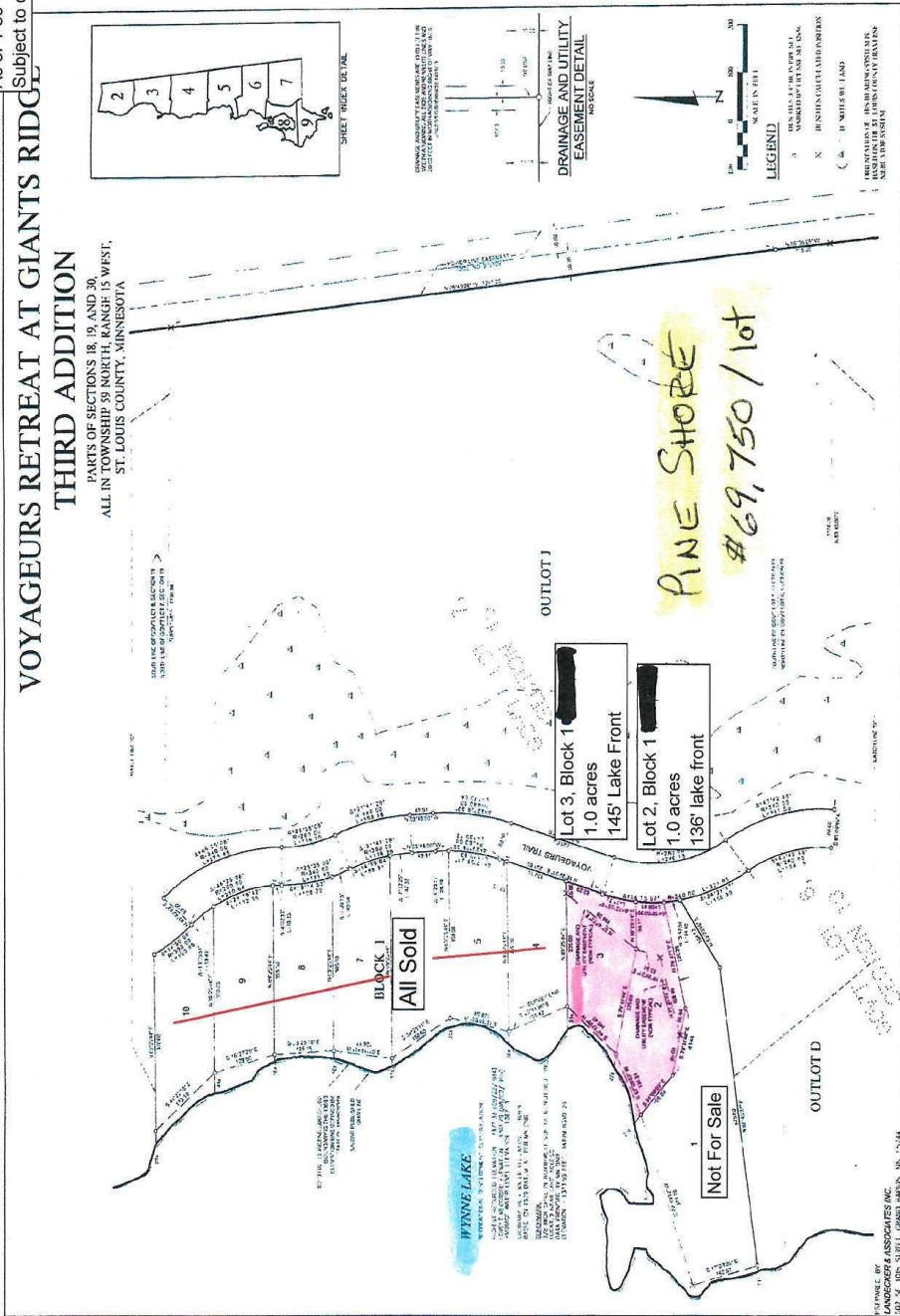
AREA AND FACILITIES DESCRIPTION



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VOYAGEURS RETREAT AT GIANTS RIDGE THIRD ADDITION

PARTS OF SECTIONS 18, 19, AND 30
ALL IN TOWNSHIP 59 NORTH, RANGE 15 WEST,
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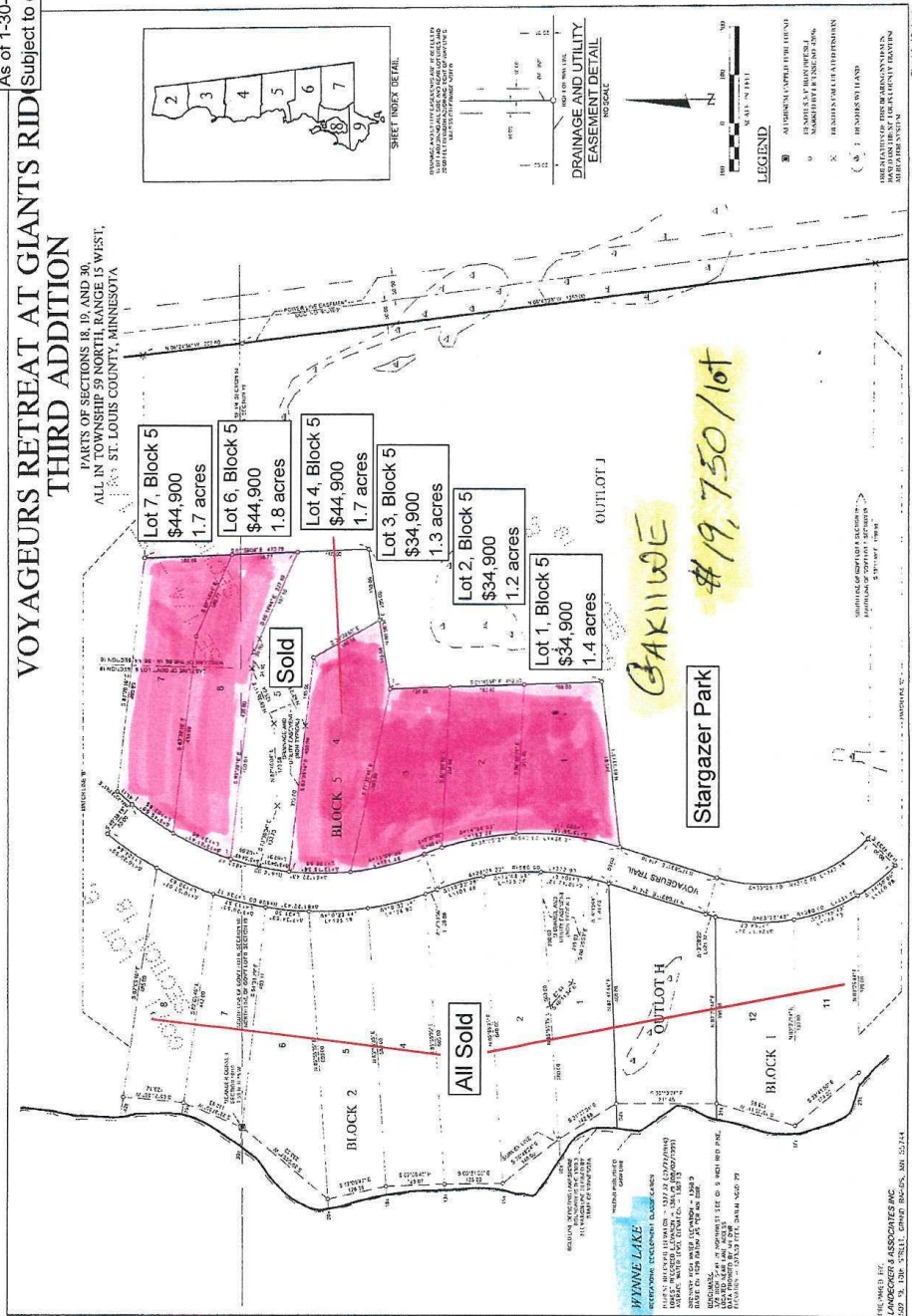
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VOYAGEURS RETREAT AT GIANTS RIDGE

PARTS OF SECTIONS 18, 19, AND 30,
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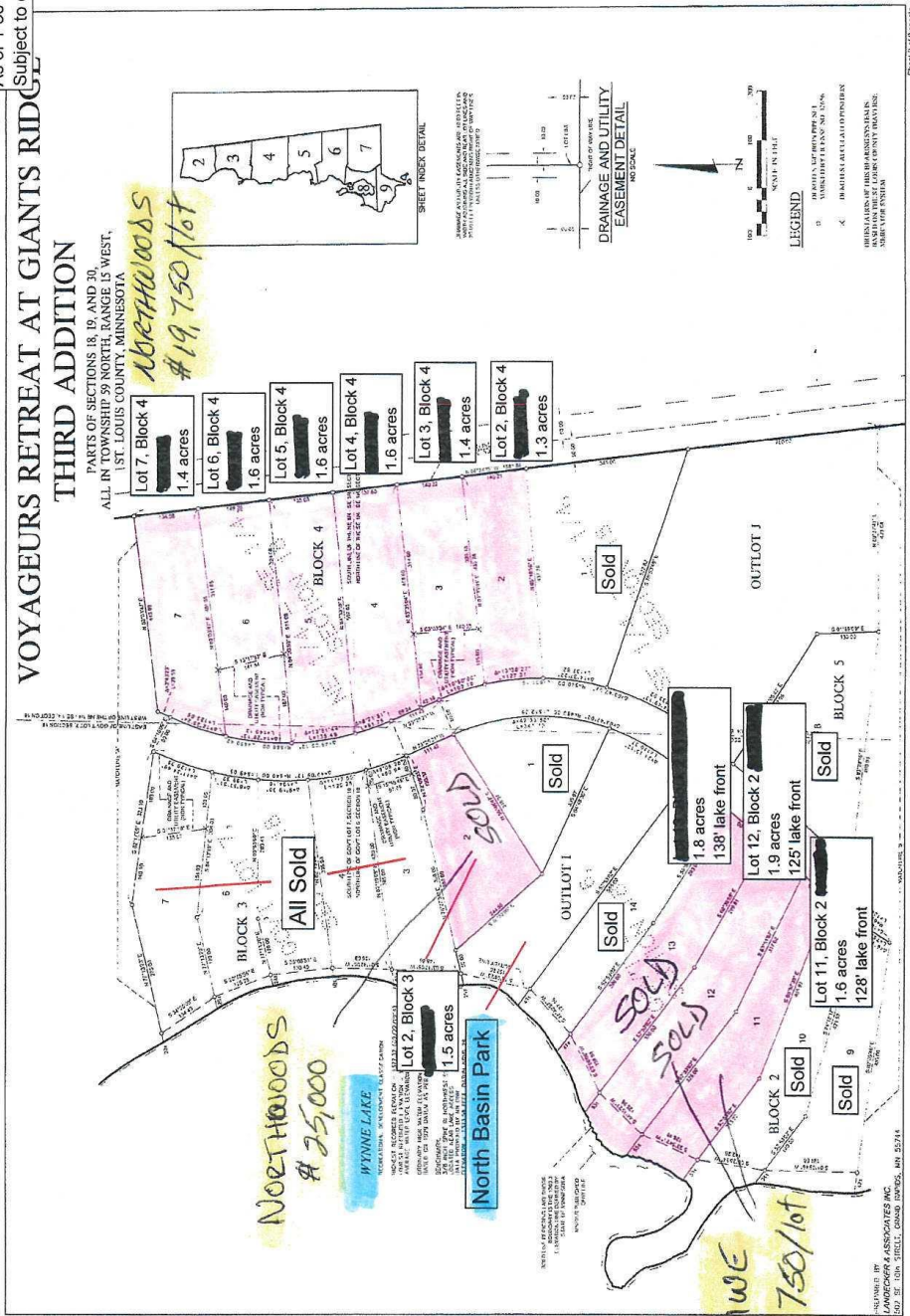
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VOYAGEURS RETREAT AT GIANTS RIDGE THIRD ADDITION

PARTS OF SECTIONS 18, 19, AND 30,
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1ST. LOUIS COUNTY, MINNESOTA



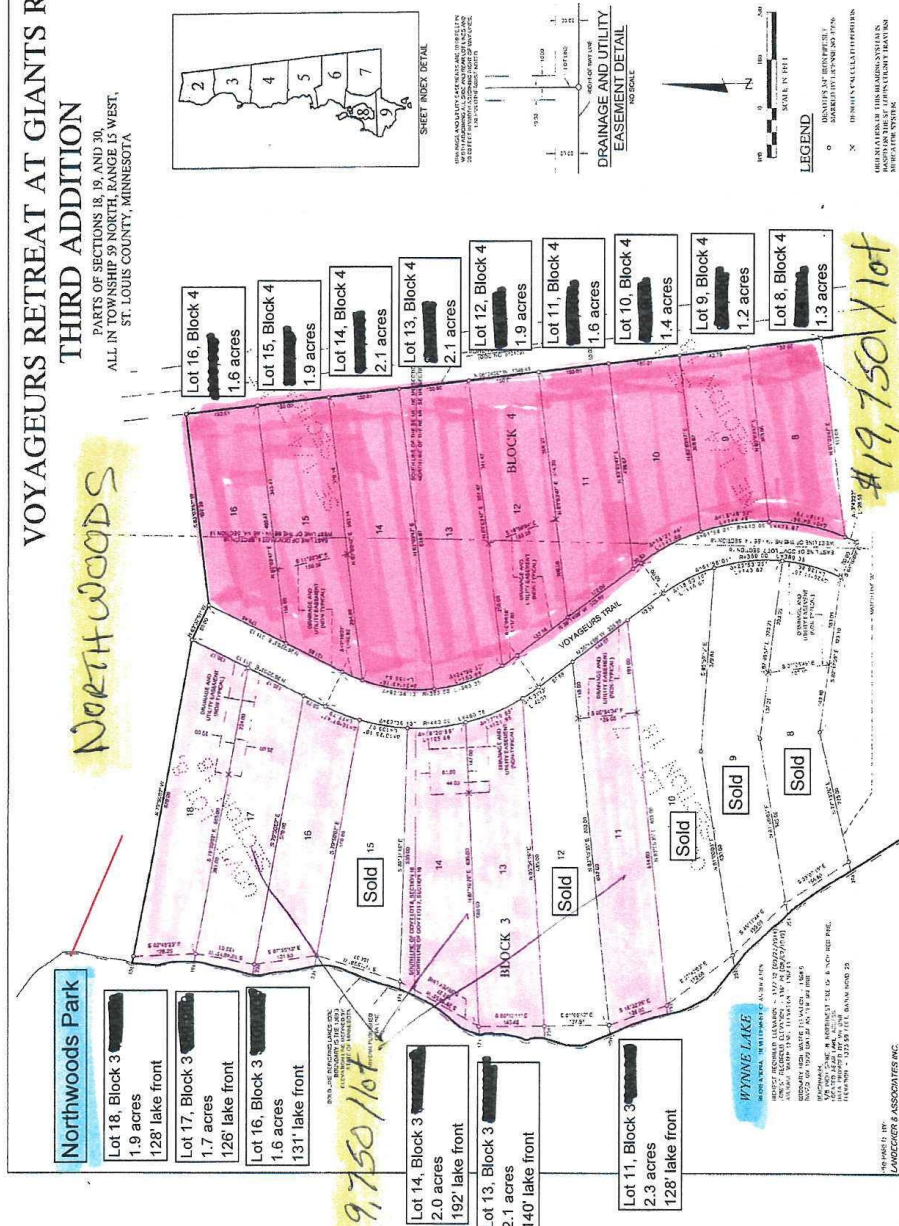
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VOYAGEURS RETREAT AT GIANTS RIDGE THIRD ADDITION

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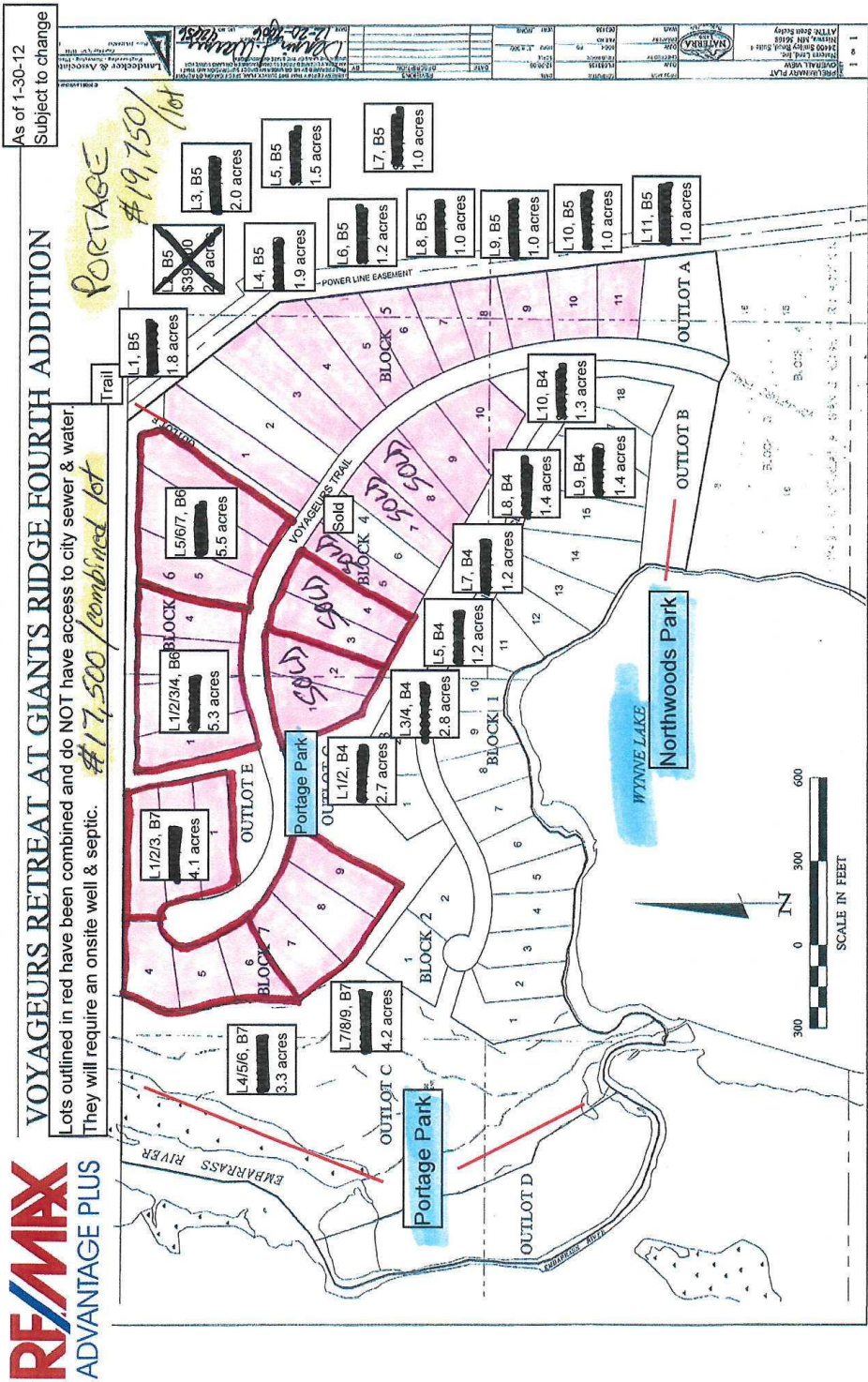


Sheet 2 of 9 sheets

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AREA AND FACILITIES DESCRIPTION

Green Gate at Giants Ridge

Green Gate at Giants Ridge contains three overnight rental units. One unit is a restored log cabin that has one bedroom and sleeps three. The fully restored main farmhouse has three bedrooms and can sleep up to six. The third building is a converted barn/silo that can sleep up to four in one bedroom and a family room. All three properties are located on a private 13 acre parcel near the entrance to Giants Ridge.

The Cabin



AREA AND FACILITIES DESCRIPTION

The Farm House



The Barn





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