**Disc Golf Course Development Guide**

**Benefits of Disc Golf**

**Fitness**

The health benefits are one of the best features of playing disc golf. An article in *Midwest Living* explains that disc golf, “transforms an ordinary walk through the park into a full body workout. Players strengthen leg and arm muscles, improve flexibility, challenge the brain and get the heart pumping by walking, or even jogging, a mile or two” (McClintick 2005).

Dr. Justin Menickelli, an Associate Professor of Heath, Physical Education and Recreation at Western Carolina University further explains the heath benefits of disc golf. “When we choose to walk rather than sit, we burn more calories and our hearts have to work a bit harder. If we keep walking, our bodies adapt to this kind of good stress and we become physically fitter. Ideally, a person should walk around 10,000 steps a day to maintain a healthy level of fitness. We found out that every time a person ventures outside to play disc golf, they take an average of 6064 steps; well on their way to reaching 10,000 steps” (Menickelli 2011).

A disc golf course for Lockhart would increase the recreational and fitness opportunities for Lockhart citizens, which promotes the health, safety and welfare of the entire community.

**Accessibility**

Recreational opportunities for a municipality ought to be accessible to all people, regardless of sex, age, or economic status. Disc golf achieves this standard of accessibility. The *Midwest Living* article explains, “’You see a whole range of people doing it,’ says Mike Jensen, a Bismarck, North Dakota, player who got hooked on the sport four years ago. He loves the freedom. ‘You don’t need a tee time, and you don’t need to pay for it.’ You also don’t need experience or training to start, which is why it appeals to so many people (McClintick 2005).

**Community**

An additional positive impact of a disc golf course on a municipality is the sense of community that the course can provide. The Disc Golf Association explains, “The sport attracts positive and dedicated disc golf players and disc golf clubs who bring a beneficial element to the area. The players tend to take an active role in the course and the surrounding areas, making sure the course is in good shape and taken care of. **‘We had a problem with vandalism in certain areas of the park, but after the disc golf course was built, the increased activity in the park really decreased vandalism’**, states Rich Dippel, Director of Parks and Recreation for South St. Paul, Minnesota. **‘It only takes a piece of park space that wasn't being used and makes it an important part of the park system’” (DGA 2011).**

**Minimal Maintenance**

One potential disadvantage of expanding recreational opportunities for a municipality is the increase in maintenance. Fortunately, disc golf courses require very little maintenance. An article from the Professional Disc Golf Association states, “It involves little maintenance other than routine park maintenance, such as trash removal and cutting grass. The director of the Kershaw County Parks Department, which maintains a course in Camden, South Carolina, comments the course “is not a big maintenance problem, it really takes care of itself’” (Siniscalchi 2011).

For the little maintenance that is required, an article from *Parks and Recreation Magazine* offers a solution, “For existing courses, one effective way to beautify and maintain holes is to develop an “Adopt-a-hole” program. Usually private parties will adopt a hole and work to upkeep landscaping, add benches and perform periodic clean up” (Kennedy 2011).

**Environmentally Friendly**

The Lockhart 2020 Comprehensive Plan includes in its Community Vision a commitment to sustainability (Lockhart 2011). A disc golf course at City Park fulfills this commitment. The Disc Golf Association elaborates, “There is no clear-cutting of trees, grading of land, costly fertilizer, or mowing maintenance necessary. Courses have been installed on old landfills, around reservoirs where there is a hundred year-flood buffer” (DGA 2011).

**Potential Problems and Mitigation**

**Pedestrian Safety**

One of the most important concerns for any disc golf course is safety in regard to errant discs. When a course is within a public park, there is always the potential for a disc to accidently be thrown into a populated area.

The best way to mitigate the problem of errant discs is to design a course that directs the line of play away from peak day-use areas, including picnic tables and playgrounds (DGA 2011). The Lockhart course design by Gaillardia Geoconsultants designed the course with these obstacles in mind. Holes 1 through 6 are the only holes that are adjacent to the peak day-use areas. These holes are directed away from the playscapes and picnic tables. Also, the hole yardage on these holes is shorter than the rest of the course, with clear sightlines which reduces the risk of errant discs. Finally, players ought to know that they must be very careful to avoid pedestrians. The rule-of-thumb is that pedestrians always have the right of way. Included on the main sign for the course should be a warning message about errant discs and pedestrian safety.

**Natural Landscape Preservation**

The second major concern is the protection of historical natural features. Natural obstacles are an advantage for disc golf courses because they make the course more challenging and rewarding for the player. However, several parks, such as Lockhart City Park, have natural features that are considered historical. For Lockhart, these features are the large trees that populate the park.

To preserve the integrity of these trees, Gaillardia Geoconsultants designed the holes to direct the line of play away from the major trees. The significant historical trees are located between holes 11 and 12, and southeast of the pond adjacent to 18. The tree by hole 12 is located next to the tee box, which protects it from errant discs. The tree by hole 18 is located close to the pond, which is a natural incentive to avoid the area. Also, this tree is several feet away from hole 18’s target, which is an adequate buffer for the protection of the historical tree.

**Environmental Impact**

The final potential problem of a disc golf course is litter resulting from increased pedestrian traffic. To mitigate this problem, trashcans should be readily available throughout the course. The Lockhart City Park already has several trashcans within the park. Increasing the number of trashcans would significantly reduce the appearance of litter.

**Marketing**

As a new Lockhart City Park feature, the disc golf course will need to be established in the community as a provider of fun, low-cost recreation for all ages. Information about the course will be featured on our website, which will be linked from the Lockhart website in order to draw community members to the course. Our site puts the course on display through both our aesthetic and technical maps. Additionally, it may be helpful to contact the Texas State Disc Golf Club, who have recently played in a number of national tournaments and have expressed interest in creating new tournaments in the central Texas area.

**Player Interviews**

**Interview 1:**

**1. In what city do you currently reside?**

Austin, Tx

**2. How long have you played disc golf?**

About 3 years

**3. In what cities have you played disc golf?**

Round Rock, TX ; Austin, TX ; Dripping Springs, TX ; Twin Falls, ID ; Missoula, MT ; Anchorage, AK

**4. Do you regularly travel to cities other than your home to play disc golf?**

Yup.

**5. What is the farthest you have traveled to play disc golf?**

Specifically for disc golf, I've traveled about 25 miles to Dripping Springs.

**6. If a disc golf course were built in Lockhart, would consider playing there?**

Depends on the quality of the course. Lockhart isn't too far away so if the course is well designed and fun to play I'd probably make the trip.

**7. To you, what are the most important elements/features of a well designed course?**

Variety of shots (long vs. short, enclosed vs. open, etc), shade (it's hot in TX), and elevation change (when possible). Plus, it has to be 18 holes or more.

**8. Any other comments you have about the possibility of a disc golf course in Lockhart?**

**Interview 2:**

**1. In what city do you currently reside?**

San Marcos, TX

**2. How long have you played disc golf?**

I've played since 1995.

**3. In what cities have you played disc golf?**

Austin, TX; San Marcos, TX; Kyle, TX; Houston, TX; Wichita Falls, TX; Blanco, TX; Denton, TX; Elgin, TX; Boulder, CO; Denver, CO; Ft. Collins, CO; Portland, OR; Fredricksburg, VA

**4. Do you regularly travel to cities other than your home to play disc golf?**

Whenever I can, but I don't have a car so I rely on friends and my bike.

**5. What is the farthest you have traveled to play disc golf?**

I usually travel first and find disc golf nearby. I traveled to Blanco, TX for beer and disc golf specifically.

**6. If a disc golf course were built in Lockhart, would consider playing there?**

Heck yeah! BBQ and disc golf sound like heaven.

**7. To you, what are the most important elements/features of a well designed course?**

Challenge, left and right hand shots, variance in distance, make one or two easy shots on the back nine because my arm gets tired trash cans, some people like permanent tee boxes and some like alternate long and short tee boxes.

**8. Any other comments you have about the possibility of a disc golf course in Lockhart?**

None at the moment

**Interview 3:**

**1. In what city do you currently reside?**

San Marcos

**2. How long have you played disc golf?**

1 year

**3. In what cities have you played disc golf?**

Austin, Leander, Cedar Park, San Marcos, Kyle

**4. Do you regularly travel to cities other than your home to play disc golf?**

Yes

**5. What is the farthest you have traveled to play disc golf?**

Leander, 50 miles

**6. If a disc golf course were built in Lockhart, would consider playing there?**

Yes, definetley

**7. To you, what are the most important elements/features of a well designed course?**

good angles, enough obstacles but not too many, a mix of easy and hard holes, easy to walk even if hilly, enough space to play golf (no roads around or lots of parking lots)

**8. Any other comments you have about the possibility of a disc golf course in Lockhart?**

**Interview 4:**

“I love disc golf because it provides me with moments of zen mixed with camaraderie. If my life is all mixed up and my mother or girlfriend are complaining about this or that, then I can go out to the course and gather myself in a calm manner. I like to play with my friends but more often than not end up playing by myself and meeting new friends out on the disc golf course. I've met computer geniuses, business owners, deaf players, semi-pro female players, couples and entire families with strollers in tow out on the course. Disk golf provides an emotional outlet but also a spiritual outlet, which gives me a greater appreciation for public parks and natural places. Just like regular parks, disc golf courses attract a mixture of people, some who will care for the park and volunteer and some who will throw their trash down on the ground. On the whole, I think the disc golf people whom I have met will volunteer to work in the park and generally commit to respecting the shared space and far out weigh the negative people.

In designing a course there are considerations for following the natural landscape, which is a large part of why we come out there, but also making it accessible to the public. I like a challenging course as much as anyone but if it is too challenging it might discourage some from playing there. There will be people who drink beer, water and sodas that play so there needs to be adequate trash cans but also those trash cans will need to be regularly emptied. Disc golf in public parks has to be a negotiated arrangement with with the parks and rec department of the city and therefore a community project.

Of the many sports I enjoy, I would say that disc golf is in the top three. It's fun, challenging, cheap once you get a disc, and always a great way to bring people to the parks.”

**Course Design Guidelines**

The following design guidelines are provided by the Professional Disc Golf Association.



**Disc Golf Course Design Goals**

1. Satisfy the design requirements of the people and organizations who approve use of the land and fund the equipment for the course.
2. Design course to be safe for both players and non-players who may pass near or through the course.
3. Design course with the potential for multiple configurations to serve not only beginners but players with advanced skills; consistent with the budget and design needs expressed in Goal A above.
4. Design a well balanced course with a wide range of hole lengths and a good mixture of holes requiring controlled left, right and straight throws.
5. Utilize elevation changes and available foliage as well as possible. Take care to minimize potential damage to foliage and reduce the chances for erosion.

**Course Design Elements**

1. SPACE:

The first decision is to determine what type of course you would like to develop and whether enough space is available for that type of course. The amount of space available can sometimes depend on whether brush and trees can be removed to create fairways. Ideally, a well balanced course has a mixture of holes that go completely thru the woods, partially thru woods and mostly in the open. Typically, fairways in the woods range from 20-40 feet wide. This usually means that some larger trees sometimes need to be removed to create fair flight paths. Most new courses are being developed with two sets of tees to better serve the different skill levels of players in the community, even if both sets aren’t installed right away due to budget constraints. Four levels of player skills (Gold, Blue, White and Red) have been defined with design guidelines for each level (see Course Design Guidelines for PDGA Skill Levels & Divisions). Public courses are usually designed with a combination of Blue & Red or White & Red tees to meet the needs of most players. Well developed disc golf markets and private facilities can sometimes justify installing a few of the longest, most challenging courses that include Gold tees for the highest level of players, although it still makes sense to install a set of shorter tees for White or Red level players. A full length Championship course can require more than one acre per hole depending on foliage density (more trees, less acreage required). However, a small recreational course can sometimes fit 2-3 holes per acre depending on terrain. (Read the document on Acreage Guidelines for more detailed information at www.pdga.com/cd\_start.php)

1. HOLE COUNT:

Most courses are either 9 or 18 holes. There are several with 12, 24 or 27 holes. Tradition appears to dictate that the number of holes be divisible by 3. It's better to install a well designed, dual tee 12-hole course than it is to install a cramped, less safe 18-hole course on the same piece of land.

1. LENGTH:

Most courses should have at least one configuration for beginners and casual recreational players that rarely averages more than 250 feet per hole (75 meters). This works out to a maximum of 4500 ft (1350m) for an 18-hole course or 2250 feet (675m) for a 9-holer. The preferred length range is 3600-4300 feet (1080-1290m) for the shortest setup on a typical 18-hole public course. This is an average length of 200-240 feet per hole (60-73m). No hole should be shorter than 120 feet (35m) even on courses for Red level players, but 150 feet (45m) is the "normal" low-end limit. Longer configurations are achieved by installing alternate tees and/or target positions on several holes. Typical 18-hole course setups for amateur White level players range from 4500-6000 feet (1350-1800m). Course setups longer than 6000 feet (1800m) are primarily for better players at the Blue or Gold level, and for tournament play. There is no maximum length allowed for a hole. The longest holes in the world are about 1200 feet (366m). See document: Course Design Guidelines for PDGA Skill Levels & Divisions

1. HOLE NOTES:

There should be a preferred flight path to a hole. Ideally, there should be more than one flight path (including rollers) to play several of the holes. There should not be too many obstructions within 30 ft (10m) of each target. An obstruction should not be so imposing that a player can't at least try to putt by stretching sideways, throwing from a low stance or throwing over the top of or through any obstacles near a target. No player throwing from the shortest (or only) tee on a hole should ever be "forced" to throw over water that is normally greater than 18" deep (50cm). Have an alternate flight path (usually to the left) that gives player the option to not cross water. Any normally dry trenches or bodies of water under 18" deep that are regularly in play should have safe paths down and out to be able to throw and/or retrieve discs safely.

1. TEES:

Hard surface tee pads of textured cement or asphalt are preferred. Preferred size is 5 ft wide by at least 12 ft long (1.8x3m). Maximum size is 6 ft wide by 20 ft long with the back end flaring out to 10 feet wide. If you need to conserve materials, make tee pads shorter on short or downhill holes and longer on long holes. For example, a hard surfaced tee pad at the top of a hill on a short hole might only need to be 8 ft long because players will just stand at the front edge of the tee to make their throws. Non-hard surface tee areas should be even surfaced and not contain protruding rocks or roots. Tee areas should be level from left to right. They should not slope too sharply from front to back. The front edge of tee area must be indicated by the front edge of a tee board buried flush in the ground or by the imaginary line between two stakes that mark the front edge. Beyond the front of each tee pad should be adequate room for follow-thru so a player doesn't risk twisting an ankle, falling off a ledge or whacking their arm on a tree or sign. If possible, provide adequate level ground for a run-up behind each tee pad, especially on longer holes. Avoid major obstructions that severely block flight path up to 20 feet in front of tee. On courses with alternate tees on some holes, the tees in the shorter positions should always be better or at least equal in quality to those in longer positions. For example, avoid designs where the long tee pads are cement and short tee pads are grass or dirt. The tee color for each set of tees should match one of the four recognized player skill levels that set of tees was designed for: Gold, Blue, White or Red. Sometimes there is no room for two tees on every hole. Just make sure to mark each tee on single tee holes with both colors. Course managers are encouraged to move toward these color guidelines when the opportunity presents itself for new installations, redesigns or course upgrades when their current color(s) do not match the PDGA guidelines.

1. TARGETS:

Any well marked object, post or basket can serve as a target. Make sure targets do not have any sharp edges to injure players or damage discs. Locally fabricated targets for sale or to be installed on public land must not violate any basket manufacturer's patents.

1. SIGNS:

Install a rules sign prominently before the first tee, plus post a rules sheet on an information board (if there is one). Signs or marker arrows near each target should indicate the direction to next tee (as needed). Signs should indicate Out-of-bounds boundaries and any other areas players should avoid. The shortest tee on each hole should have permanent signs indicating the hole number, length, teeing direction (if needed) and recreational par. Signs on shortest tees should always be equal to or better than those at longer positions on each hole.

1. PAR:

Par should be set for each tee/basket position combination on a hole based on the player skill level they were designed for. The document Course Design Guidelines for PDGA Skill Levels & Divisions provides some assistance for determining these values. The hole length should be adjusted up or down if it has a significant upslope or down-slope based on a 3-to-1 factor (i.e. 30 feet adjustment for every 10 feet elevation change). So players know what standard has been used for par, it should be indicated on scorecards and tee signs as Blue Par or Red Par, which hopefully matches the tee color(s) used. When less precise estimates are used to determine par, the older method is to use the terms Expert or Pro Par for longer tees and Standard or Amateur Par for shorter tees.

1. LAYOUT:

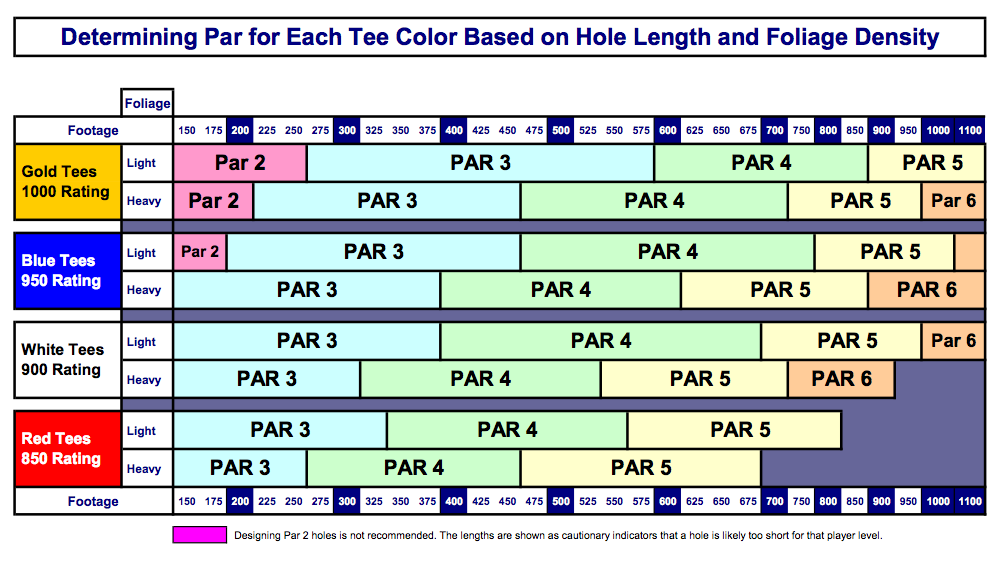
Fairways should not cross one another and should be far enough apart so errant throws aren't constantly in the wrong fairway. Fairways should not cross or be too close to public streets, sidewalks and other busy areas where non-players congregate. Avoid hazardous areas such as swamps and thorny or poisonous foliage. Tees and targets should be far enough from the targets and fairways of other holes. The tee for the first hole should be the closest to the regular parking area. The target for the last hole should not be too far from the parking area and relatively close to the first tee. If possible, try to locate at least one other hole in the middle of course near the parking area. Try to minimize the amount of walking between holes (still keeping safety in mind).

1. ADA COMPLIANCE:

Sections of most disc golf courses are accessible to many people with a disability. The normal challenges presented by the types of holes intrinsic to the sport plus the sometimes rough terrain utilized for courses make it unrealistic to accommodate everyone everywhere. Efforts should be made to try and provide a legitimate opportunity to play for those with disabilities, even if not all holes can be made accessible. In some cases, a several hole loop on part of the course may provide that opportunity.

**Determining Par**

The PDGA guide for determining par should be followed and can be found using Figure 1.

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**Figure 1.** Guide to determining par.

**Disc Golf Course Budget**

The estimated cost for developing a disc golf course ranges from $350 per hole to $1,000 per hole. According to the Professional Disc Golf Association, “A barebones installation with light duty baskets, natural tees and simple wooden signs and do-it-yourself design (not recommended) can be installed for about $350 per hole” (PDGA 2011). This type of installation represents the bare-minimum for the course design. The cost per hole increases as the materials used on the design increase in quality. “A full service community course with a heavy duty basket, dual cement tee pads, nice dual tee signs and two sleeves for basket placements on each hole could run up to $1000 per hole which includes a basic design fee on a property with little clearing to be done” (PDGA 2011).

City Park does not require land clearing. The cost for a disc golf course in this park is solely dependent upon the materials used. The following budget is an average budget provided by the Disc Golf Association (DGA 2011).

**Disc Golf Association Course Development Economic Summary**

|  |  |
| --- | --- |
| **Disc Pole Holes** |  |
|  |  |
| \*Disc Pole Holes | $322.00 x 18 = $5796.00 |
| \*Locking Collar Assembly | $11.50 x18 = $207.00 |
| \*Anchor Assembly | $22.00 x 18 = $396.00 |
| \*Concrete (Approx. 1 cu.ft. Per. Hole): | $4.00 x 18 = $72.00 |
| \*Total Basket Costs | **$6,471.00** |
|  |  |
| **Tee Pads** |  |
|  |  |
| \*Concrete (Approximately 34, 60 lb. bags): | $68.00 x 18 = $1,224.00 |
| \*Forms | $12.00 x 18 = $216.00 |
| \*Total Tee Pad Costs | **$1,440.00** |
|  |  |
| (Each concrete pad is approximately 5 feet wide by 10 feet long and 4 inches thick) |  |
|  |  |
| **Tee Signs** |  |
|  |  |
| \*Standard Tee Signs | $60.00 x 18 = $1,080.00 |
| \*Concrete (Approx. 1 cuf. Per. Hole): | $4.00 x 18 = $72.00 |
| \*Total Tee Sign Costs: | **$1,152.00** |
|  |  |
| **Message Board and Trash Cans** |  |
|  |  |
| \*Message Board (estimated): | $200.00 |
| \*Trash Cans (estimated): | $30 x 18 = $540.00 |
| \*Total Message Board and Trash Can Costs: | **$740.00** |
|  |  |
| **Installation Labor Estimates:** |  |
|  |  |
| \*Baskets: 4 hours each (estimated): | 4 hrs. x 18 = 72 hrs. |
| \*Tee Pads: 8 hours each (estimated): | 8 hrs. x 18 = 144 hrs. |
| \*Signage: 1 hour each (estimated): | 1 hrs. x 18 = 18 hrs. |
| \*Total Installation labor Hours: | **234 hrs. x $20 per hr = $4,680.00** |
|  |  |
| **Summary Totals** |  |
|  |  |
| \*Total Basket Costs | $6,471.00 |
| \*Concrete Tee Pads (estimated): | $1,440.00 |
| \*Total Tee Sign Costs: | $1,512.00 |
| \*Total Message Board and Trash Can costs: | $740.00 |
| \*Total Installation Labor Hours: | $4,680.00 |
|  |  |
| **Total Estimated Costs** | **$14,483.00** |

**Budget Alternatives**

Several alternatives to this budget are available. The City of Lockhart can purchase equipment at a more affordable rate, utilize more affordable materials for construction, and raise revenue to offset some of expenses for developing the disc golf course.

**Disc Golf Baskets**

The first variable is the basket. There are two main companies that sell disc golf baskets are Innova and Disc Golf Association. The Innova Discatcher Pro Permanent Disc Golf Target ranges from $399.99 (Palos Sports 2011) to $449.95 (Amazon 2011). The Innova basket is available at a variety of online retailers. Disc Golf Association offers a variety of baskets. These options are shown in figure 2 below.



**Figure 2:** Disc Golf Association Mach Series Disc Pole Holes.

The first permanent disc golf basket is the DGA Mach New II Permanent Disc Golf Basket, which costs $257. The DGA Mach V Permanent Disc Golf Basket costs $322. The DGA Mach III Permanent Disc Golf Basket costs $384. These baskets represent the “no frills” option. Upgrades can be made, such as Powder Coating to change the color of the basket. The Mach New II is advertised for recreational courses, such as college campuses and summer camps. The Mach V is heavier duty and is advertised for those courses made with PDGA tournaments in mind (Disc Golf Association 2011). The DGA Economic Summary above is based on the Mach V design, therefore downgrading to the Mach New II would save $65 per basket, totaling $1170 in savings for all 18 baskets.

**Tee Pads**

The second alternative is the type of material used for the tee pads. The Disc Golf Association recommends concrete for Tee Pads. The DGA Economic Summary is based on the average cost of concrete. Reviewing construction retailers, such as Home Depot, shows these averages to be an accurate reflection of current market prices. Alternative materials used for tee pads are grass, dirt, decomposed granite, and mulch (DGA 2011). Grass and dirt are available in situ at no additional expense. Based on the DGA Economic Summary, using these two options would save $1,224. Decomposed Granite is another option, see Figure 3. Local sources, such as Geogrowers, based in Austin, Texas, charge $32 per cubic yard (Geogrowers 2011).



**Figure 3:** Decomposed Granite.

Mulch is the final option. Mulch is viable because it allows traction for the players. Additionally, mulch is permeable and is not susceptible to cracking and foundation concerns. Home Depot has several varieties of mulch, see Table 1 (Home Depot 2011). Utilizing mulch would be more expensive than concrete at $3,573 for all 18 holes at the median price of $3.97 per bag. Alternatively, the City of Lockhart could use a wood chipper and make mulch from other landscaping activities in the city.

**Table 1: Home Depot Mulch Prices**

|  |  |
| --- | --- |
| Scotts 2 cu. Ft. Earthgro Red Mulch | $3.97 |
| Scotts 2 cu. Ft. Nature Scapes Advanced Sierra Red Mulch | $4.97 |
| Atlantic 2 cu. Ft. Cedar Mulch | $2.99 |

The City of Lockhart could also use alternative means for tee box forms (*see Table 1).* The DGA Economic Summary estimates the average of a form to be $12, totaling $216.00 for all 18 holes. The City of Lockhart could cut this expense if recycled or reused materials, such as old railroad ties were utilized instead.

**Basket Sponsorship**

The final budget alternative is basket sponsorship. Sponsorship of a basket involves local businesses donating a certain amount of money and in return receiving advertising at a disc golf basket. Camp Dakota, located in Oregon, offers basket sponsorship for the camp’s disc golf course. For $200, the camp guarantees an advertisement for the sponsor at the beginning of the hole for 10 years (Camp Dakota 2011). The City of Lockhart could establish a similar program at the Lockhart Disc Golf Course. Local businesses could include the local BBQ vendors, or other various businesses located in Lockhart. If Lockhart were to follow the Camp Dakota example and charge $200 per hole for sponsorship, the City could bring in up to $3600 to develop the course. The advertisements would also benefit the city by increasing patronage of local businesses.

**Maintenance and Construction**

Disc Golf is often advertised as a community sport. This sentiment can also be expressed in the maintenance and construction of the course. Volunteers, such as a local disc golf club, or a Boy Scout troop can participate in the building of the course and in the maintenance of it post-development. For example, in California, members of Boy Scout Troop 93 assisted a member of the troop in constructing a disc golf course for his Eagle Scout project, see Figure 4 below (Geske 2011).



**Figure 4. Boy Scout Troop 93 Building a Disc Golf Course**

In Lockhart, the local Boy Scout Troop is troop 109. Troop 109 might be interested in building all or a portion of the course as a volunteer project, or for an Eagle Scout Project (Troop 109 2011). The construction includes installation of baskets, construction of tee pads, and assembly of course signs. If the troop built the entire course, the City of Lockhart would save, $4,680 for maintenance and construction (*see Table 2*).

**Table 2. Summary of Budget Alternatives**

|  |  |
| --- | --- |
| **Alternative** | **Savings** |
| Mach New II Basket (versus Mach V) | $1,170 |
| In situ Grass or Dirt (versus concrete) | $1,224 |
| Recycled Tee Box Forms (versus purchased forms) | $216 |
| Basket Sponsorship | $3,600 |
| Construction and Maintenance | $4,680 |
| **Total Potential Savings** | **$10,890** |

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