
GOLF COURSE ARCHITECTURAL ASSESSMENT

EXECUTIVE SUMMARY

The City of Duluth, Minnesota owns two (2) twenty-seven hole golf courses – Lester Park and Enger Park. The following is a summary of an on-site assessment conducted on July 25 and 26, 2018 by Kevin Norby of Herfort Norby Golf Course Architects.

Based on our observations and review of the golf course, the primary issues regarding course conditioning and regarding deferred capital investment at Lester and Enger Golf Courses are:

- 1) An inadequate supply of irrigation water will require the excavation of a new irrigation pond and installation of a new irrigation system.
- 2) The ability to store and deliver water via the current irrigation pump station
- 3) Drainage issues and the re-grassing of fairways
- 4) The removal and reconstruction of the bunkers
- 5) Clubhouse enhancements to address safety and health code issues

For purposes of prioritizing future projects, we have categorized improvements into critical, competitive and comprehensive. Those items listed as critical are, in our opinion, those improvements which are in greatest need of being addressed and would play the most significant role in reducing repairs and on-going maintenance and in increasing revenue through increased daily fee rounds. Those improvements which are identified as Competitive are those which we feel would make the course more playable and would aid in improving the overall condition of the course more competitive in the local golf market. Comprehensive improvements are those which will need to be completed at some time in the future but are not in need of immediate attention to avert additional damage or improve the overall playability of the golf course.

Item	Enger Park	Lester Park
Critical	4,440,000	4,112,000
Competitive	1,418,000	1,780,000
Comprehensive	5,781,500	4,770,000
Subtotal	11,639,500	10,662,000
Planning and Contingencies	2,327,900	2,232,400
Total	13,867,400	12,794,400

The detailed analysis of each golf course is presented below.

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ENGER GOLF COURSE

Enger Golf Course was originally built in 1927 and was later expanded to 27-holes in 1992. The course has tree-lined fairways but, unlike Lester Golf Course, much of the course is built on rocky, well-drained soils. The Front and Middle Nines are preferred by season pass holders and local golfers primarily because they are easier and have wide concave fairways as compared to the Back Nine. Holes 3-5 on the Back Nine have better conditions and are beautiful holes with dramatic elevation changes and views. Holes 1,2,6-9 on the Back Nine are flatter and have poor drainage and marginal conditions. All three nines are of similar length ranging from 3,214 yards to 3,359 yards from the back tees and from 2,500 to 2,800 from the forward tees. All three nines have four sets of tees – blue, white, gold and red.



Photo 1: Dramatic views and elevation changes - hole 3 Back Nine.

Overall, the course is in quite a poor condition. Like Lester Golf Course, some of this can be attributed to the challenges of growing turf in a short growing season. However, most of the poor conditioning on the Front and Middle Nines is due to a result of lack of irrigation water and the poor condition of the irrigation system. On the Back Nine, holes 1,2,4-8 have extremely poor turf conditions due to the more organic, poorly drained soils and a lack of irrigation.

The Golf Course:

Irrigation System

A new irrigation system was installed at Enger Park in 1988 at the same time the course was expanded to 27-holes. At that time, that system was a state-of-the-art golf course irrigation system with nearly 1,300 sprinklers and head-to-head coverage of tees, greens, fairways, and roughs. The existing system utilizes a variety of heads including Toro 670, 690 and 700 series.

Heads are spaced at 65 to 70 feet around the greens and 80 feet in fairways and rough areas. Heads today are designed with a spacing of 65 to 70 feet.

The current control system consists of a 30-year-old Toro Vari-time II central control panel which no longer functions properly. New parts for this equipment are no longer available and used replacement parts are nearly impossible to locate. The existing central control along with the field satellite controllers should be replaced immediately to avoid interruptions in the operation of the irrigation system and to allow the golf course staff to monitor and manage to water of the entire golf course.

Historically, water from five wells and water from two creeks supplied water for irrigation to two irrigation ponds located on hole 8 on the Middle Nine (hole 17) and hole 5 on the Front Nine. Prior to 2012, Coffee Creek supplied runoff to a pond on hole 5 but this pond was abandoned after the dike failed during a large storm. The pond was never rebuilt. Prior to 2016, Buckingham Creek supplied water to the pond on the right side of hole 17. However, in recent years, the Minnesota Department of Natural Resources (DNR) has placed restrictions on the water supplied via Buckingham Creek and has diverted water from the creek around the irrigation pond thereby significantly reducing the City's availability for irrigation water. According to Director of Agronomy Dale Wesselman, the DNR has asked that the City excavate a new pond for irrigation and permanently cease irrigating with water from the designated trout stream.



Photo 3: The course has historically used natural runoff and well water to irrigate the golf course. Only two wells are working, and stream runoff is no longer available. Hole 8 on the Middle Nine.

Historically, the course had two irrigation pumping stations. The pump station which was located on hole 5 near Coffee Creek, which was capable of pumping approximately 500 gallons per minute, was abandoned when the pond levee failed in 2012. The remaining pump station

located on hole 8 near Buckingham Creek, consists of a 60-horse vertical turbine with a variable frequency drive (VFD) and a smaller 25 horse pump which together are capable of pumping approximately to 850 gallons per minute. Typically, an 18-hole course in the upper mid-west would require 1,000 gpm while a 27-hole course would require 1,300 to 1,500 gpm. The remaining pump station is in very poor condition with excessive rust and leaks. As noted in the May 2015 Irrigation Water Use and Storage Study by Irrigation Technologies, the irrigation pump station is “well past its useful life cycle and catastrophic failure could occur at any time. Pump station replacement is the only option and should be considered a top priority”.

Although the system was at one time quite good, the system is not being utilized to its capacity because the course has a severe shortage of water and because of the poor condition of the piping and control system. In fact, during dry periods, the golf course staff can only irrigate critical areas such as putting greens and, as a result, fairways, and roughs are allowed to decline.



Photo 2: The irrigation pumps at Enger Golf Course are only capable of pumping 850 gpm.

Immediate improvements should include excavation of a new irrigation pond and installation of a new irrigation system including replacement of the pump station, central control, and field satellites. In addition, the water supply needs to be increased to provide for a minimum of 1,200 gallons per minute. This can be done by a combination of drilling new wells and increasing the use of City water. A new irrigation system will provide improved coverage and control so that water can be placed more efficiently where it is needed. It is estimated that a new 18-hole double-row system will cost between \$1.2 million and \$1.4 million depending on soil conditions, pipe sizing and the total number of heads. A complete 27-hole system will likely cost \$2.1 million.

Putting Greens

Since Enger Park was constructed over a period of nearly 80 years, there is a wide variety of green styles and green soil profiles. At the time of this review, the greens appeared to be in good condition. A few greens, such as No.4 on the Front Nine, have problems with ice dams but overall, they appear agronomically sound and have few issues. However, it should be noted that, depending on maintenance history and the quality of the original construction, the normal life expectancy of a sand based green is roughly 25-30 years. The greens at Enger Park now vary from 30 to 90 years. Long term, all of the greens on the course will need to be reconstructed to provide consistent playing conditions and to improve winter hardiness. In the coming years as the greens become increasingly more challenging to manage they will need to be reconstructed. At this time we would not see a reconstruction of the putting greens as a high priority or “critical” issue. To reconstruct all twenty-seven greens would likely cost \$1.4 to 1.6 million.

Fairway & Roughs

The fairway and roughs at Enger Park are comprised of a blend of annual bluegrass (*Poa annua*), creeping bentgrass (*Agrostis palustris*) and Kentucky bluegrass (*Poa pratensis*). Annual bluegrass, which makes up much of the turf is essentially a weed which favors low lying areas with wet soils and areas which are over-watered. Annual bluegrass is problematic as it is not shaded tolerant, heat tolerant or winter hardy.

The preferred grass for fairways and roughs at Enger Park would be Kentucky Bluegrass. To provide a more up-scale playing surface while providing for a more resilient playing surface, fairways could be grassed with Creeping Bentgrass. Bentgrass is somewhat more tolerate of wet conditions and can be maintained with lower fertilizer levels than Kentucky Bluegrass but requires increased fungicide treatments to protect against diseases such as snow mold and Pythium.



Photo 4: Poor turf conditions due to lack of water, poor drainage & compaction.

Overall, the fairways and rough turf conditions at Enger Park would be considered quite poor. On the Front and Middle Nines, fairways are dry and turf conditions suffer due to lack of irrigation. On the Back Nine, portions of the holes are dry and under irrigated while other low-lying areas are un-even and extremely bumpy due to poor soil conditions and lack of drainage. These “washboard” fairways and pockets of standing water lead to persistent issues with ice damage and poor turf quality.

Our recommendation would be to correct drainage and to re-grass the fairways in order to improve turf conditions, playability, and on-going maintenance. Because the Front Nine is better drained and in slightly better condition than the Middle and Back Nines, we have listed the regrassing of the Front Nine as “Competitive” rather than “Critical”. However, it should be noted that, ideally, all of this work would be done at the same time to create consistent playing conditions throughout all 27-holes. This work would be done by using a specialized piece of equipment such as a Blecovator or a Rotodarian to till and loosen the top few inches of soil. The affected areas would then be regraded to increase surface drainage followed by the installation of sub-surface drainage pipe and re-grassing. It should be noted that, although it is possible to regrade and re-grass the fairways without replacing the irrigation system, ideally this would all be done at the same time.

Sand Bunkers

The greenside bunkers on the Front and Middle Nines at Enger Park Golf Course were renovated in 2011. No work was done to the fairway bunkers or any bunkers on the Back Nine. The bunkers that were renovated had new sand and bunker liners installed in an attempt to minimize future contamination. Unfortunately, the underlying problem of erosion into the

bunkers was not addressed so the edges continue to collapse, and the new sand is becoming contaminated. The bunkers are quite large and require a significant amount of time and expense to maintain. In addition, many of the bunkers are poorly located so as to unfairly impact the entry-level or high handicap golfer.



Photo 5: Large bunkers require excessive maintenance due to size and erosion.

It is our recommendation that the fairway bunkers and the bunkers on the Back Nine be renovated to reduce their size and to reduce regular maintenance and repair. In addition, a significant number of bunkers on the Front and Middle Nines should be removed or relocated to improve pace of play and playability.

Cart Paths

Cart paths at Enger Park generally run from green to tee and are constructed of gravel or asphalt. Many of the cart paths, particularly on the Back Nine, are in very poor condition due to poor subgrade preparation, damage from tree roots and frost heaving. Damaged cart paths should be removed and reconstructed with a granular base and a minimum of 2.5 inches of bituminous wear course. Given the sandy soils on the front and Middle Nines, it may prove cost effective to construct concrete cart paths with wire mesh and without a granular base in lieu of asphalt. Prior to paving cart paths, it is important that any drainage issues or fairway regrading be completed.



Photo 6: Existing cart paths are in poor shape. Many paths are not paved.

Teeing Grounds

The tees at Enger Park are generally of sufficient size given the current level of play. However, many of the tees are uneven and poorly shaped so that a portion of the teeing area is not usable.

In addition, a number of new forward tees should be constructed to improve playability for the women, seniors, and juniors. We normally like to see the forward tees play 2,250 to 2,350 yards per nine holes. At 2,500 to 2,800 yards, the forward tees at Enger Park are far too long to be enjoyable for most entry-level golfers or women. In rebuilding the tees, attention should be paid to meeting new requirements for American Disabilities Act (ADA) for golf courses.

Immediate improvements should include the construction of forward tees to make the course more playable and more enjoyable for a wider range of golfers. Although we would not see the leveling of the existing tees as a “critical” item, in order to minimize future increased cost and disruption to play or course closures, it would make sense to do that work at the same time as the installation of a new irrigation system or the re-grassing of the golf course.

Practice Facilities

The driving range at Enger is located across the road from the clubhouse and golf course. This leads to some concern over safety as golfers try to cross the busy road. Although the width of the range tee is adequate, the length of the range and width of the landing area is too short. This is compounded by the fact that the driving range is not irrigated and, as a result, this leads to increased labor by golf staff to pick balls from the surrounding wooded areas.

Our recommendation would be to improve turf quality by improving irrigation on the tee and in the landing area. This will also allow for contour mowing of fairway landing areas and target greens and provide for a more visually appealing experience. In addition, a 10-20' chain link fence should be erected at the east and south ends to minimize the expense of lost balls and hand picking. Long term improvements should include renovation of the existing practice green and short-game area and the expansion of the driving range tee.



Photo 7: Driving range has no irrigation and small tee resulting in poor turf and lost balls.

Clubhouse & Maintenance Facilities

The clubhouse at Enger Park is one story, a wood-framed structure which was constructed in the 1930s shortly after the course opened. It has been added on to on several occasions. Without a more in-depth assessment, it is difficult to determine the condition of the structure including plumbing, electrical, insulation, etc. Any significant remodeling of the structure, however, will likely require updates to meet current codes for American Disabilities Act (ADA), fire safety and health department. Immediate improvements should include improvements to food service, plumbing & bathroom facilities, electrical, flooring, and HVAC. Those code upgrades will likely cost in excess of \$500,000.

Future improvements should include a major remodel or the construction of a new clubhouse. It is estimated that a new clubhouse of similar size would likely cost at least \$2.5 to \$3.0 million depending on utility infrastructure costs and desired finishes. If expanded to allow for large events or underground cart storage, a new clubhouse could cost in excess of \$5 million.



Photo 8: Enger Clubhouse and asphalt cart staging area.

The maintenance facility at Enger Park consists of a pole barn structure with a concrete floor. The building is small and barely adequate to meet storage and operational needs for an eighteen-hole golf course. Short term improvements should include updates to the wash pad, storage bins, and fuel containment traps. Additional long-range improvements should include the construction of a new building capable of providing heated office, bathrooms and shop space as well as sufficient storage space to protect the City's investment in mowers, fertilizer, and equipment.



Photo 9: Enger Golf Course maintenance facility.

RECOMMENDATIONS

For purposes of prioritizing future projects, we have categorized improvements into critical, competitive and comprehensive. Those items listed as critical are, in our opinion, those improvements which are in greatest need of being addressed and would play the most significant role in reducing repairs and on-going maintenance and in increasing revenue through increased daily fee rounds. Those improvements which are identified as Competitive are those which we feel would make the course more playable and would aid in improving the overall condition of the course more competitive in the local golf market. Comprehensive improvements are those which will need to be completed at some time in the future but are not in need of immediate attention to avert additional damage or improve the overall playability of the golf course.

<u>Critical:</u>	
1. Install new irrigation central control.	\$125,000
2. Excavate new irrigation pond w/ lining and grading of spoils.	440,000
3. Upgrade irrigation pump station w/ fill line, power & pump house.	195,000
4. Install new irrigation system (27-holes)	2,100,000
5. Improve fairway drainage and re-grass Back Nine.	390,000
6. Improve fairway drainage and re-grass Middle Nine.	360,000
7. Renovate 11 fairway and greenside bunkers on Back Nine.	110,000
8. Renovate/remove 8 bunkers on Front and Middle Nine.	85,000
9. Construct new forward tees to improve playability.	135,000
10. Remodel clubhouse (bathrooms, food service, plumbing, etc.)	500,000
Total	\$4,440,000

<u>Competitive:</u>	
1. Fairway drainage and re-grass Front Nine.	\$360,000
2. Repair existing cart paths & new cart paths on Front & Middle Nines.	**360,000
3. Repair existing cart paths & new cart paths on Back Nine.	**208,000
4. Reconstruct & level tee complexes on Front and Middle Nines.	**450,000
5. Remove trees and repair drainage on hole 4 Middle Nine green.	*40,000
	\$1,418,000

<u>Comprehensive:</u>	
1. Renovate greenside bunkers on Front and Middle Nines.	304,000
2. Reconstruct and level existing tee complexes on Back Nine.	**225,000
3. Expand driving range tee with mix and synthetic tee line.	162,500
4. Renovate practice green and short-game area	150,000
5. Improve course entry signage and tee signage.	40,000
6. Reconstruct 27 putting greens and practice greens.	**1,500,000
7. Construct new clubhouse	2,500,000
8. Expand maintenance facility including wash pad and material bins.	900,000
Total Comprehensive	5,781,500
Total All Three Projects	\$11,639,500
Final design, permitting	1,163,950
Contingency (10%)	1,163,950
Grand Total	\$13,867,400

*Non-critical improvements which will likely need to be addressed in the next 5 years.

**Non-critical improvements which will likely need to be addressed in the next 10 years.

COST OF RENOVATION

Based on our preliminary assessment of Enger Golf Course, if only the “critical improvements” were implemented, the cost of the renovation would be \$4.4 million. To complete the “competitive improvements” would add another \$1.4 million. If the City should choose to implement all the improvements including the “comprehensive improvements” including clubhouse and maintenance facility upgrades, the total cost could likely exceed \$11 million. Since at this time no detailed plans have been prepared, our recommendation would be to include an additional 20 percent to cover final design, permitting and a contingency bringing the grand total to \$13,867,400.

PHASING & DISRUPTION TO PLAY

Generally, when completing a golf course renovation project, we try to minimize disruption to play. However, when the project is extensive enough, it is often necessary and beneficial to close all or part of the golf course to allow the contractor to quickly and efficiently complete the work.

At both Lester and Enger, some of the improvements such as the installation of an irrigation control system and reconstruction of bunkers or tee are not particularly disruptive. However, the re-grading of fairways and installation of the irrigation system are more disruptive and would require the closure of holes.

Since the City of Duluth has two 27-hole golf courses, our recommendation would be to close one course and to make the required improvements to that course while continuing to play the other course. This will reduce labor and operational costs during that time and will provide for some economy of scale pricing by allowing the contractor to work quickly and efficiently without having to work around golfers. This will also allow the course to open with a new improved look. It will be important prior to beginning construction that a well-defined schedule and scope of work are defined and that a qualified golf course contractor who understands golf course construction and sequencing is utilized.

LESTER PARK GOLF COURSE

The original nine-hole golf course at Lester Park was built in 1932 and was designed by Andy Anderson, a Duluth native. A second nine holes were built a year later in 1933. The parkland-style course has tree-lined fairways with domed greens and relatively narrow fairways. The Front and Back Nines play to 6,371 yards from the back tees and 5,595 yards from the front tees. The third nine, known as the Lake Nine, was designed by Dick Phelps and opened in 1990. At 3,417 yards, the Lake Nine is considerably longer has more extensive bunkering than the Front and Back Nines.



Photo 1: Entry signage at the golf course.

The Front Nine is considered a favorite among season pass holders and local golfers - presumably because it is easier due to its shorter length, flatter fairways, and relatively few bunkers. The Back Nine is also popular for those wishing to play eighteen holes. The putting surfaces are domed and slope generally from back to front. All three nines have just three sets of tees – blue, white and red.

Overall, the course is in quite a poor condition. Some of this can be attributed to a short growing season. However, most of the poor conditioning is a result of an irrigation system that does not function properly and a lack of inadequate surface drainage which has resulted in numerous areas of poor turf quality, winter ice damage, golf cart, and mower ruts and compaction. At the time of this review, the greens appeared to be in good condition.



Photo 2: Poor conditions throughout the course from lack of irrigation.

The Golf Course:

Irrigation System

The existing irrigation system was installed in 1990 and consists of a series of pipes, satellites controllers, sprinkler heads, valves and a pumping system that delivers water to the golf course from a pond located on the right side of hole 17. The existing irrigation pond is shallow and only about 30,000 square feet in size and incapable of meeting the needs of even an 18-hole golf course. Originally, the irrigation system utilized five (5) wells that provided water to the irrigation pond but those wells have dried up and the pond is now filled with treated City water. The golf course budgets \$4,600 annually for City water. The irrigation pump consists of a 50 horse vertical turbine and a smaller 25 horse vertical turbine pump which together are capable of pumping approximately 750 gallons per minute. Neither pump has a variable frequency drive (VFD). Although the larger 50 hp pump was rebuilt in 2018, the pump system should be updated with new larger pumps and variable frequency drives to provide 1,200 to 1,500 gpm for the 27-hole course.

The life expectancy of a PVC pipe irrigation system is 25-30 years. The system at Lester Golf Course is now 28 years old so the golf course staff is beginning to experience a high number of leaks which requires a significant time commitment to repair and maintain. More importantly, the system lacks a sufficient supply of water so, most of the time, the maintenance staff can only irrigate critical areas. In the heat of the summer, only the greens are watered.



Photo 3: Pump station is undersized and lacks adequate water supply.



Photo 4: Irrigation pond on hole 17 should be enlarged and tied together With ponds on holes 11 and 12 to increase storage capacity.

The control system consists of a 30 year old Toro Vari-time II central control panel. New parts for this equipment are no longer available and used replacement parts are nearly impossible to locate. The existing central control along with the field satellite controllers should be replaced immediately to avoid interruptions in the operation of the irrigation system. A new Toro Osmac or Rainbird Stratus computerized central control would allow for the more efficient use of water and should result in a noticeable improvement in turf quality.



Photo 5: Outdated and obsolete Toro Vari-time II irrigation controller

Immediate improvements should include replacement of the irrigation central control and field satellites. In addition, the irrigation pump station should be improved or replaced and the pond should be expanded and tied into the other ponds to increase storage capacity. The supply of water should be increased by drilling new wells, increasing the capture of natural run-off and/or increasing the use of City water. More long-range improvements should include replacement of the entire irrigation system including piping, valves and irrigation heads. A new irrigation system will provide improved coverage and control so that water can be placed more precisely where it is needed. It is estimated that a new 18-hole double-row system will cost between \$1.3 million and \$1.4 million depending on soil conditions, pipe sizing and the total number of heads. A complete 27-hole system will likely cost \$2.0 million.

Putting Greens

Since Lester Park was constructed over a period of nearly 90 years, there is a wide variety of green styles and green soil profiles. Overall the greens appear agronomically sound and have few issues other than some ice dams. There are a few greens, such as hole 1, that have an excessive slope and prove challenging for golfers. Long term, all of the greens on the course could be reconstructed to provide consistent playing conditions and to improve hardness but we would not see a reconstruction of the putting greens as one of the higher priority issues at this time. To reconstruct all twenty seven greens would likely cost \$1.4 to 1.6 million.

Fairway & Roughs

Like many older golf courses in Minnesota and throughout the upper Midwest, the existing fairways, tees, and roughs at Lester Park are comprised of a blend of annual bluegrass (*Poa annua*), creeping bentgrass (*Agrostis palustris*) and Kentucky bluegrass (*Poa pratensis*). Annual bluegrass is essentially a weed which aggressively establishes itself at the lower cutting heights found on golf courses. It particularly favors low lying areas with wet soils and areas which are over-watered. Unfortunately, annual bluegrass is not shade tolerant, heat tolerant or winter hardy.

The preferred grass for fairways and roughs at Lester Park would be Kentucky Bluegrass. However, as an alternate to provide a more up-scale playing surface, fairways could be grassed with Creeping Bentgrass. Bentgrass is somewhat more tolerate of wet conditions and can be maintained with lower fertilizer levels than Kentucky Bluegrass but it also requires increased fungicide treatments to protect against diseases such as snow mold and Pythium.



Photo 6: Sunbaked dead turf and cracked ground in fairways from lack of water.

Overall, the fairway and rough turf conditions at Lester Park might be described as “fair”. Fairways are, in many areas, very flat and the heavy clay soils do not allow for drainage. In addition, numerous fairways, such as those on holes 1,2,5,9 and 10) are extremely bumpy which makes mowing and operating a golf cart challenging and unpleasant.

Our recommendation would be to correct drainage in the fairways and roughs and to re-grass those areas in order to improve turf quality, playability, and on-going maintenance. This should be done by using a specialized piece of equipment such as a Blecovator or a Rotodarian to till and loosen the top few inches of soil and then regrade, install sub-surface drainage pipe and re-grass.

Sand Bunkers

Sand bunkers impact nearly every aspect of the golf course including the visual quality of the course, maintenance, pace of play and strategy. They are also an important tool in differentiating one course from other competing courses in the market.

Bunkers are often one of the highest maintenance issues on a golf course. Over the past 20-30 years, the bunkers at Lester Park have become so large that the capes or edges have nearly vertical faces on which it is difficult to maintain sand. As they grow, the native soils and rock erode into the bunker and the sand becomes contaminated so that it can no longer drain properly.

In addition, because of the effect which technology has had on golf equipment, many of the bunkers at Lester Park are no longer properly positioned to challenge the low handicap golfer. Instead, they now un-necessarily penalize the high-handicap and shorter hitter.



Photo 7: Excessively large bunkers with eroded edges, contaminated sand, and poor drainage.

It is our recommendation that a comprehensive bunker renovation is undertaken to 1.) reduce regular maintenance and repair, 2.) provide visual framing and interest and 3.) define the holes strategically. This will involve removing some bunkers, rebuilding some bunkers and potentially relocating or building some new bunkers. By redesigning and reconstructing the existing bunkers, it is our belief that the City of Duluth can provide a more enjoyable golfing experience for golfers of all ages and all abilities while, at the same time, minimizing the time and expense of repairing unexpected washouts. The reconstruction of the bunkers should not simply include removal and replacement of the sand but instead, include completely reshaping the bunkers to reduce their size and control erosion.

Cart Paths

Cart paths at Lester Park generally run from green to tee and are constructed of gravel or asphalt with a granular base. Many of the cart paths are in poor condition due to damage from tree roots, frost damage, and normal deterioration. Damaged cart paths should be removed and reconstructed with a minimum of 5 inches of gravel base and 2.5 inches of pavement. Priority can be given to repaving cart paths in low lying areas and poorly-drained areas in an effort to minimize damage to the golf course and loss of revenue from course closures.



Photo 8: Deteriorated cart paths should be repaired and repaved.

Teeing Grounds

The tees at Lester Park are generally of sufficient size given the current level of play. However, many of the tees are uneven and oddly shaped so that a portion of the teeing area is not usable.

In addition, a number of new forward tees should be constructed. We normally like to see the forward tees play 2,250 to 2,350 yards per nine holes. At 2,700 to 2,800 yards, the forward tees at Lester Park are entirely too long to be enjoyable for most women, junior or seniors.

Practice Facilities

The driving range at Lester Park Golf Course is ideally located just south of the clubhouse and parking lot. The length and width are adequate and the teeing area appears sufficient to handle large events or a significant increase in daily use. The driving range tee is irrigated but the landing area and rough are not irrigated. This results in some lost balls into the surrounding trees.

Our recommendation would be to improve irrigation on the tee and in the landing areas. This will improve turf quality and allow for contour mowing of fairway landing areas and target greens. Since the range faces south, a unique opportunity exists to construct a heated year-round practice facility which could provide for a significant increase in revenue.



Photo 9: Tee on the driving range is large but lacks adequate irrigation.

Clubhouse & Maintenance Facilities

The clubhouse at Lester Park is one story, a wood-framed structure which was constructed in the 1930s shortly after the course opened. It has been added on to on a number of occasions and has significant issues with plumbing and functionality. Any significant remodeling of the structure to improve operations or services will likely trigger updates to meet current codes for American Disabilities Act (ADA), fire safety and health department. Immediate improvements should include improvements to food service, plumbing & bathroom facilities, electrical, flooring, and HVAC. Those code upgrades will likely cost in excess of \$500,000.

Future improvements should include a major remodel or the construction of a new clubhouse with underground storage for golf carts. It is estimated that a new clubhouse of similar size would likely cost in excess of \$2M to \$2.5 million depending on utility infrastructure costs and desired finishes. If the clubhouse were expanded to allow for large events or underground cart storage, a new clubhouse could cost in excess of \$5 million.



Photo 10: Clubhouse is small and in need of code updates.

The maintenance facility at Lester Park is a pole barn structure of approximately 4,000 sf. It has a concrete floor and a heated office and shop. It has no running water in the winter. The building is small but barely adequate to meet the storage and operational needs of a 27-hole golf course. Long range improvements should include the construction of a new building or an additional building which will provide for additional equipment and fertilizer storage. A year round supply of potable water should be provided to allow golf course staff to work throughout the year. Improvements should be made to the fuel containment area and wash pad so meet current environmental and best management practices. New storage bins for materials should be constructed to allow a supply of bunker sand, topsoil, and topdressing sand to be purchased in bulk and stored on site.



Photo 11: Maintenance facility at Lester Park Golf Course.

The asphalt parking lot is in poor condition and should have the old bituminous surfacing removed and be repaved. Best management practices will likely require the construction of a new storm water detention pond to address State and local storm water management requirements.



Photo 12: Parking lot has deteriorated and is in need of repaving.

RECOMMENDATIONS.

For purposes of prioritizing future projects, we have categorized improvements into critical, competitive and comprehensive. Those items listed as critical are, in our opinion, those improvements which are in greatest need of being addressed and would play the most significant role in reducing repairs and on-going maintenance and in increasing revenue through increased daily fee rounds. Those improvements which are identified as Competitive are those which we feel would make the course more playable and would aid in improving the overall condition of the course more competitive in the local golf market. Comprehensive improvements are those which will need to be completed at some time in the future but are not in need of immediate attention to avert additional damage or improve the overall playability of the golf course.

<u>Critical:</u>	
1. Install new irrigation central control	\$125,000
2. Improve fairway drainage and re-grass holes 1-5,7,10,11,14.	444,000
3. Enlarge irrigation pond on hole 17 (assume no pond liner).	128,000
4. Upgrade irrigation pump station w/ fill line, power & pump house.	195,000
5. Install new irrigation system on holes 1-18 and driving range.	1,400,000
6. Install new irrigation system on Lake Nine.	700,000
7. Renovate bunkers on holes 1-18.	295,000
8. Renovate bunkers on Lake Nine.	190,000
9. Construct new forward tees to improve playability.	135,000
10. Remodel clubhouse (bathrooms, food service, plumbing, etc.)	500,000
Total	\$4,112,000

<u>Competitive:</u>	
1. Repair existing cart paths and install new cart paths on holes 1-18	**416,000
2. Repair existing cart paths and install new cart paths on Lake Nine.	**104,000
3. Improve fairway drainage and re-grass holes 6,9,12,13,15-18.	315,000
4. Improve fairway drainage and re-grass Lake Nine.	350,000
5. Reconstruct and level tee complexes on holes 1-18.	**360,000
6. Reconstruct and level tees complexes on Lake Nine.	**180,000
7. Rebuild green on hole 1 Front Nine to increase pin positions.	*55,000
Total	\$1,780,000

<u>Comprehensive:</u>	
1. Improve course signage at Hwy 61 and tee signage.	\$40,000
2. Reconstruct 26 putting greens and practice greens.	**1,500,000
3. Renovate practice green and short-game area	160,000
4. Repave parking lot.	*170,000
5. Construct new clubhouse	2,000,000
6. Expand maintenance facility with wash pad and material bins.	900,000
Total Comprehensive	4,770,000
Subtotal all Three Phases	10,662,000
The final design, permitting	1,066,200
Contingency (10%)	1,066,200
Grand Total	\$12,794,400

*Non-critical improvements which will likely need to be addressed in the next 5 years.

**Non-critical improvements which will likely need to be addressed in the next 10 years.

COST OF RENOVATION

Based on our preliminary assessment of the site, if only the “critical improvements” were implemented, the cost of a modest renovation would range cost \$4.1 million. To complete the “competitive improvements” would add another \$1.8 million. If the City should choose to implement all the improvements including the “comprehensive improvements” such as the clubhouse and maintenance facility, the total cost could approach \$11 million. Since at this time no detailed plans have been prepared, our recommendation would be to include an additional 20 percent to cover final design, permitting and a contingency bringing the grand total to \$12,794,400.