

August 17, 2023

The Honorable Michael Jurkovich, Supervising Judge  
Madera County Superior Court  
Supervising Judge for Grand Jury  
200 S. G Street  
Madera, CA 93637

**Re: City of Madera Fails to Enforce the Golf Course Contract Requirements 2022-2023  
Madera County Grand Jury Final Report 2223-02; Published on June 16, 2023**

Dear Honorable Judge Jurkovich:

This letter is submitted on behalf of the Mayor and City Council of the City of Madera, the City Manager, and the Parks & Community Services Department, collectively referred to as "City" in this Response.

On Tuesday, June 20, 2023, the City of Madera ("City") received an email from the Madera County Grand Jury, which attached a copy of the Grand Jury's Report titled "City of Madera Fails to Enforce the Golf Course Contract Requirements" (hereafter "Report"). The report does not stipulate when it would be released to the public. As such, we view the release date as June 20, 2023.

Penal Code Section 933 (c) requires that the governing board of the public agency (here, the City Council) is required to respond not later than 90 days after the public release date. As required, the City respectfully submits the following responses to the Findings and Recommendations in the Report in the form required by the Penal Code.

Please be advised the City has taken the Grand Jury's Report seriously and has endeavored to address the Report comprehensively, as evidenced by this Response and by the attachments comprising 20 pages. Great care has been taken to ensure the City responds concisely yet with appropriate details as demonstrated by references to numerous documents which the City has researched, reviewed, and attached to this Response.

Based on the above, the following constitutes the City's Response to the Grand Jury's Findings and Recommendations relating to the Report.

## FINDINGS

**F1:** The MCGJ finds that the City's golf course Budget reports are misleading. This gives the City Council and the public a false understanding of the actual Net Surplus in the City Budget.

**Response 1:** The City disagrees partially with this finding. As written, it is unclear what the finding is in reference to. The City's adopted Fiscal Year 2022/23 Operating Budget clearly identifies the City's debt pertaining to the Golf Course on pages 182, 187, and 244 under the title "Golf Course Debt Service."

The City acknowledges that potential confusion may be introduced on Page 245 of the adopted Fiscal Year 2022/23 Operating Budget document where it indicates that the City will "Transfer In" \$298,804, allowing the City to service its debt. A transfer is required to service outstanding debt considering the revenue generated is less than debt, and this practice is common in government accounting practices. This means that the City transfers that amount from the General fund to ensure the debt payments are made. While this terminology is used in public finance, greater explanation may be warranted on how these standards apply to the City budget.

With that said, the City routinely highlights the outstanding golf course loan balance. For example, in the report to the City Council on March 17, 2021, pertaining to the Sixth Amendment, it states:

*"It is worth noting that there is outstanding debt for the golf course. The annual debt service for the golf course loan is approximately \$328k in calendar years 2021, 2022, and 2023. The annual debt decreases to roughly \$164k in 2024 at which time the debt will be retired. In addition, the golf course leases land from the Airport at an annual cost of \$60k."*

Moreover, the City's Fiscal Year 2022/23 Operating Budget, notes, in part:

*"The [golf course] fund does not typically cover its operating expenses with annual revenues. Due to a lack of revenue, the General Fund supports the Golf Course Fund with annual transfers-in" (Page 180)*

The City is noting that it "disagrees partially" because of the mandated method for response.

**F2:** The MCGJ finds that Lease Exhibit A and Exhibit B are obsolete.

**Response 2:** The City agrees with this finding. Said exhibits were part of the original 2009 Agreement between the City and Sierra Golf Management, Inc. (SGM); however, because the exhibits remain part of the official record and for transparency, they have not been omitted from more recent updates. It is not a typical business practice to delete exhibits from existing agreements as this would create a void in the record.

**F3:** The MCGJ finds that the record-keeping requirements of the Lease are not being met.

**Response 3:** The City partially agrees with the finding. The City has records pertaining to Capital Projects and revenues to the City, but lacks records pertaining to the United States Golf Association.

**F4:** The MCGJ finds that the City appointed the Parks Director to coordinate with Sierra for this golf course planning and oversight role.

**Response 4:** The City agrees with this finding. The City's Director of Parks & Community Services is responsible for coordination and oversight of the Municipal Golf Course.

**F5:** The MCGJ finds that the City has failed to exercise reasonable oversight and enforcement over the golf course maintenance and capital improvements.

**Response 5:** The City partially disagrees with the finding. The finding, as written, provides insufficient information to either agree or disagree, as the term, "reasonable oversight and enforcement" is unclear.

While not mentioned in Finding 5, the narrative of the Report alludes to sand. The respondent is assuming that this finding is relative to said item. If so, Section 16 of the 2009 Agreement notes that SGM shall be responsible for providing sand; whereas Section 5.6 of the Sixth Amendment notes:

*"[S]aid capital improvements shall include repairing of drainage and renovation of 11 bunkers on the course. Said costs includes [sic], but is not limited to materials, equipment, and labor."*

Thus, while additional clarity may be desired, it is clear that the renovation of the bunkers for drainage improvement was deemed an appropriate expense.

More recently, the City did not mandate that the \$15,000 connection be made to the Madera Irrigation District line as required by the 6<sup>th</sup> Amendment. This item was determined to be redundant and would not add water capacity by the City, Sierra Golf Management, Inc. (SGM), and/or Madera Irrigation District, thus said funds were reappropriated to other more pressing water infrastructure. Said reallocation of the \$15,000 to add water capacity was approved by the City Council on June 21, 2023, as part of the 9<sup>th</sup> Amendment to the Agreement.

In terms of capital improvements, Section 34.6 of the original 2009 Agreement indicates:

*All records provided for in this section are to be maintained and made available throughout the performance of this Agreement and for a period of not less than five (5) years, additionally any and all such records which pertain to actual disputes, litigation, appeals or claims shall be maintained and made available for a period of not less than five (5) years after final resolution of such disputes, litigation, appeals or claims.*

Said records are available for public viewing.

**F6:** The MCGJ finds that the Lease requires that logos and name “Madera Municipal Golf Course” must always be used for all signage, announcements, menus, events, websites, etc. The MCGJ finds that the logos and word “Municipal” have been often omitted from required usage.

**Response 6:** The City agrees with this finding. The City will address this with SGM.

**F7:** The MCGJ finds that use of the golf course kitchen for catering from the golf course, is offered on both Sierra and Sugar Pine websites. Catering from the golf course is Prohibited and is a breach of the Lease.

**Response 7:** The City agrees with this finding. It is noted that Section 7.13 of Agreement states:

*“...Unless agreed upon in writing, Sierra agrees to limit it's services under this agreement to the facilities at the Golf Course and will not under the auspices of this agreement provide catering services off.”*

As part of 9<sup>th</sup> Amendment, adopted by the City Council on June 21, 2023, this section was amended to read:

*“Sentence 2 of Paragraph No 2 is deleted in its entirety and replaced with “Should SPS [Sugar Pine Smokehouse] vacate the clubhouse, the City, and SGM will work together to procure a new operator””*

Thus, as part of the 9<sup>th</sup> Amendment, the prohibition against catering for off-site events was removed.

**F8:** The MCGJ finds that in 2021-23 the City gave Sierra unnecessary financial concessions due to the Covid-19 pandemic.

**Response 8:** The City disagrees with this finding. This finding neglects to recognize the immense uncertainty caused by the COVID-19 pandemic. In a report to the City Council on April 15, 2020, at the onset of the pandemic, City staff noted:

*“The City and SGM were close to finalizing these terms last month when the COVID-19 pandemic began to emerge in the United States. The COVID-19 pandemic has had a negative impact on local economies, leaving SGM uncertain of long-term effects this may have on operations and reduction to revenues. SGM indicated to the City that they could not move forward with the terms of a new agreement due to the unknown variables at this time.”*

At the time, the City’s agreement with SGM was set to sunset on April 30, 2020, and the City was not in a position to resume responsibility for the operations and maintenance of the golf course. As noted in Response 1, the City was responsible for servicing debt and a comprehensive review of the City’s adopted 2019/20 Operating Budget, and subsequent budgets, support the City’s position that it is unable to resume responsibility without

reallocating substantial monies from other funds. For example, as an alternative, the City could have reallocated monies from other funds, such as General Fund dollars from the Fire or Police Departments, but this would have been irresponsible and would have altered the City's service delivery model that the community has come to expect.

In addition, the respondent disagrees with the underlying inference that this reduction was somehow inappropriate. The respondent questions the basis of this finding, as this statement does not provide:

- Any evidence
- Indication of a study or reference to underlying data that defines "unnecessary"
- A reasonable alternative

A review of the record clearly demonstrates that the pandemic was a global crisis with significant economic impacts. In a report to the City Council on March 18, 2020, over one month prior to Amendment 5, the City proclaimed a local emergency due to the imminent threat of COVID-19. This declaration was consistent with National, State, and County states of emergency.

The report continues by noting that:

*"[T]he exact modes of transmission, the factors facilitating human-to-human transmission, the extent of asymptomatic viral shedding, the groups most at risk of serious illness, the attack rate, and the case fatality rate all remain active areas of investigation."*

In short, the City was not in a position to resume responsibility given the uncertainty of the pandemic. The purpose of the concessions was an attempt to maintain the golf course in operating condition.

**F9:** The MCGJ finds that Lease section 4.4 unnecessarily excludes the City from receiving any revenue from the described activities.

**Response 9:** The City disagrees with this finding. The observation that the City excluded itself from receiving any revenue from the described activities is accurate; however, the respondent disagrees with the underlying inference that this fee practice is somehow inappropriate. Moreover, staff that was involved during the original 2009 Agreement have separated from the City, thus any direct response to counter with rationale would be speculative. Under the established structure, the City receives a Base Rent, compensating for additional activities.

**F10:** The MCGJ finds that there are no United States Golf Association [USGA] reports as required by the Lease.

**Response 10:** The City agrees with this finding. After additional research, SGM acknowledged that they have not contracted with USGA since the agreement was ratified in 2009. Since then, USGA visited the golf course on July 21, 2023. USGA provided a written report which was presented to the City Council on August 2, 2023. This report is attached as Attachment 1.

**RECOMMENDATIONS:**

**R1:** The MCGJ recommends that the City Finance Director correct and clarify all budget entries by December 31, 2023.

**Response 1:** This recommendation has been implemented. The respondent is under the assumption that this recommendation pertains to the payment from the Golf Course to the Airport. If so, this recommendation has been addressed.

Staff became aware that the Golf Course Fund does not contain appropriations in the Fiscal Year 2022/23 Annual Operating budget to cover the rent payment to the Airport Fund. The payment of \$64,083 is made to the Airport Fund as it is the legal owner of a portion of the property on which the golf course resides. To remedy this, at its June 21, 2023, City Council meeting, the Council approved an appropriation through a budget amendment.

**R2:** The MCGJ recommends that the City of Madera immediately rewrite a new contract for the lease, management, and operation of the Madera Municipal Golf Course.

**Response 2:** This recommendation has been implemented. At its June 21, 2023, the day after the Grand Jury submitted its Report to the City, the City Council approved a five-year contract extension. In accordance with the Brown Act, the documents considered by City Council were published on June 17, 2023, days prior to the Grand Jury Report. While the City acknowledges that a contract absent items the Grand Jury considers obsolete may not be ideal, the contract is a legally binding document. Regardless, the City and SGM have discussed updating the contract.

**R3:** The MCGJ recommends "Detailed" records of Capital Improvements and Maintenance expenditures and the USGA advice reports, be kept by the City for public viewing and for at least five years or as required by law.

**Response 3:** This recommendation has been partially implemented and will be ongoing. The City has a long-standing policy relating to the retention of records in conformance with state law; however, the City understands the MCGJ request for greater detail. Moreover, the City prides itself in aiming to be transparent in governance and management of the City. This includes adhering to requests for public documents when requested by the community and all other Public Records requests, per the Public Records Act.

In terms of USGA advice reports, the initial report was made available to the public on August 2, 2023.

**R4:** The MCGJ recommends that Parks Director or other City Representative immediately begin to monitor and exercise oversight over the golf course Capital Improvement and Maintenance expenditures.

**Response 4:** This recommendation has been implemented and will be ongoing. Moreover, the 9<sup>th</sup> Amendment established a Golf Course Committee comprised of:

1. One City Council member
2. Director of Parks & Community Services
3. SGM Representative
4. Service Organization Representative
5. Golfer/At -large Community member
6. Food and Beverage Director/Representative
7. At-large Community member (added during the City Council meeting on June 21, 2023)

The Committee is expected to provide oversight on capital improvements and maintenance. In addition, the 9<sup>th</sup> Amendment requires that the City collect capital improvement funding and reimburse SGM for eligible activities. This is in contrast to the historic practice where SGM would submit receipts to the City.

**R5:** The MCGJ recommends that the City immediately specify the Maintenance and Capital Improvement categories as defined by USGA to eliminate confusion as to what Sierra is paying and/or has paid for golf course Capital Improvements and Maintenance.

**Response 5:** This recommendation has been implemented. USGA visited the golf course on July 21, 2023 and prepared a list of recommendations. The report was presented to the City Council on August 2, 2023 and will be shared with the Golf Course Advisory Committee at their upcoming meeting.

**R6:** The MCGJ recommends that the City immediately enforce the Lease provisions requiring the word 'Municipal' and all other name and logo requirements.

**Response 6:** This recommendation has been implemented and will be on-going.

**R7:** The MCGJ recommends that the City immediately review its position on catering. When making any decision, the City should determine its original purpose for prohibiting off-site food service and catering. City should enforce the agreement or allow the use.

**Response 7:** This recommendation has been implemented. The recently approved 9<sup>th</sup> amendment permits off-site catering. This item was reviewed during recent negotiations and the City cannot determine why said prohibition was originally included.

**R8:** The MCGJ recommends that the City immediately negotiate for concessions it made during Covid-19. The City should consider increasing its share of revenue by participating in all of Sierra's income excluded from the City in Lease Section 4.4.

**Response 8:** This recommendation has been implemented. On June 21, 2023, the City Council approved the 9<sup>th</sup> Amendment which outlines how much SGM pays the City to operate the Golf Course. As part of the 9<sup>th</sup> Amendment, the amount that SGM remits to the City for base rent and per round of golf exceeds what it paid prior to the COVID-19 Pandemic.

**R9:** The MCGJ recommends that a new Lease be drafted immediately deleting all obsolete terms which unnecessarily exclude the City from City revenue.

**Response 9:** This recommendation has been partially implemented. Given that the recommendation does not identify specifics, the City does not have adequate information to ascertain what obsolete terms this is regarding. Per Finding 2, it is apparent that the Madera County Grand Jury considers Exhibits A and B from the original 2009 Agreement obsolete; however, drafting a new agreement to strike two exhibits appears excessive. In addition, on June 21, 2023, the City Council approved the 9<sup>th</sup> Amendment, a five-year extension. Notwithstanding this, both parties have discussed preparing a consolidated agreement.

**R10:** The MCGJ recommends that the City should immediately make the USGA mandatory annual reports available for public review.

**Response 10:** This recommendation has been implemented. This report was presented to the City Council on August 2, 2023 and is attached.

We thank the Grand Jury for its service to the community. Please let us know if you or the Grand Jury need additional information.

Sincerely,



Arnoldo Rodriguez  
City Manager  
City of Madera

c: Foreperson, Madera County Grand Jury, PO Box 584, Madera, CA 93639

**Attachments:**

1. Report to the City Council dated August 2, 2023, including report from the USGA



**Attachment: Report to the City Council dated August 2, 2023, including  
United States Golf Association report**



## REPORT TO CITY COUNCIL

Approved by:

Council Meeting of: August 2, 2023

Agenda Number: \_\_\_\_\_

*Joseph Hebert*

Joseph Hebert, Parks & Community Services Director

*Arnoldo Rodriguez*

Arnoldo Rodriguez, City Manager

### SUBJECT:

Informational report on USGA Site visit to the Madera Municipal Golf Course

### RECOMMENDATION:

This report is submitted for informational purposes only and there is no action requested from the City Council (Council)

### SUMMARY:

During the June 21, 2023 Council meeting staff presented the Ninth Amendment to the Madera Municipal Golf Course Operation and Management Lease Agreement with SGM Inc. dba Sierra Golf Management, Inc. There is a provision in the original 2009 contract requiring an annual audit be conducted by the United States Golf Association (USGA); however, the report had not been previously prepared.

The staff is providing this report to inform Council that the USGA annual audit provision has been satisfied.

### DISCUSSION:

On July 21, 2023, the USGA conducted its first audit of the Madera Municipal Golf Course. The audit findings were generally favorable. The course is over 30 years old and in good shape, except for several items requiring upgrades or general maintenance.

Recommendations made by USGA are presented below:

1. Upgrade Irrigation System

2. Increase Weed Control
3. Putting Greens – increase sand dilution and decrease surface patch.
4. Bunker renovation
5. Upgrade to hybrid Bermudagrass

The establishment of a seven (7) member golf committee was approved by Council during the July 19, 2023, meeting. The USGA recommendations will be scheduled for discussion during the Committee's upcoming.

**FINANCIAL IMPACT:**

Funding for Golf Course Capital improvement projects will be generated by revenues outlined within contract amendment nine.

**ALTERNATIVES:**

This is an informational item only.

**ATTACHMENTS:**

1. USGA Site Visit Report for Madera Municipal Golf Course 21 July 2023



# Site Visit Report

**Madera Municipal Golf Club**  
Madera, California

Visit Date: July 21, 2023

Present:

Jeremy Jordan, Golf Course Superintendent  
Dan Bacci, Sierra Golf Management  
Jon Christensen, Sierra Golf Management  
Brian Whitlark, USGA Green Section

Brian Whitlark | Regional Director, West Region | (480) 215-1958 | [bwhitlark@usga.org](mailto:bwhitlark@usga.org)

**USGA** GreenSection

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# Executive Summary

Thank you for the invitation to conduct the first Course Consulting Service visit to Madera Municipal Golf Course on behalf of the USGA Green Section. The purpose of the Course Consulting Service is to collect and distribute information on the proper construction and maintenance of golf courses. Each visit offers an impartial yet concerned perspective regarding turfgrass growth requirements, practical information on maintenance practices to address your needs, and sharing information from other courses that we visit that may be helpful to your operation. This information is provided free of bias since the USGA is not affiliated with manufacturers or suppliers. In short, we are a tool to help your superintendent and management team provide better turf for better golf.

This was my first visit to Madera Municipal Golf Course. The golf course is about 30 years old, and it is clear that there have been no capital improvement projects completed at the golf course. The infrastructure of the golf course is aging, and the most important topic of this report will be the need to upgrade components of the irrigation system. We will also discuss the importance of significantly increasing weed control efforts. A brief summary of the topics discussed in this report is included below:

- **Irrigation system.** Despite a significant reduction in irrigated turf, the irrigation system is insufficient to properly deliver water adequately and efficiently to this golf course. It is recommended for the City to consider significant upgrades to the pump station and irrigation system at Madera Municipal Golf Course.
- **Weed control.** Weeds are a significant problem at this golf course, and weed control efforts need to be increased in primary playing areas such as green surrounds, fairways and tees.
- **Putting greens.** The putting greens are in good health in general, but they are very soft and spongy. We will discuss increasing cultural practices to improve sand dilution and decrease surface thatch.
- **Bunkers.** The bunkers have exposed sumps which are unsightly and impact playability but do help to drain the bunkers during rainfall events. While not an immediate priority in my opinion, a bunker renovation should be considered in the future.
- **Bermudagrass upgrade.** After upgrading the irrigation infrastructure, it is recommended to consider upgrading to hybrid bermudagrass, which could be sprigged to the fairways perhaps nine holes per year. This would improve golf course aesthetics and playability year-round.

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# Irrigation

## Observations

### 1. Antiquated System

The irrigation system is now over 30 years old. Most courses will replace irrigation satellites, sprinklers, lateral and mainline valves between year 15 and 25, and often courses will replace the entire irrigation system at year 30 to 35.

### 2. System Limitations

The irrigation system does not deliver water adequately and efficiently to this golf course. The system only delivers about 1,200 gallons per minute, which is only about 40% of what a typical golf course will pump out to an 18-hole golf course. This means not enough water can be delivered to the golf course during an evening irrigation cycle, and the time in which to apply water is 11 to 13 hours. A system with adequate pressure and flow could deliver more water in a window of only about six hours. The long water window creates wet conditions for golfers playing early in the morning and does not facilitate deep watering.

### 3. Multiple Sprinklers Per Valve

Most all golf courses I work with (approximately 90 golf courses per year) have the ability to control every sprinkler individually. At Madera, there are two to three sprinklers per station and, in some cases, five to six sprinklers per station. This means limited ability to apply site-specific water and results in inefficient use of water and overwatering.

### 4. Inconsistent Spacing

The spacing among the sprinklers is inconsistent, which results in localized wet and dry areas.

### 5. Valves Not Working

Mainline and lateral line valves are not working properly. This means that to conduct any repairs across the golf course, the team must shut off the pump station. During the summer months, this is a significant inconvenience and puts turfgrass throughout the golf course at risk of failure.

### 6. Pump Station in Poor Condition

The pump station is in very poor condition and is exposed to the elements.

### 7. No Independent Watering

It was great to see that irrigated turf was removed several years ago. It was reported that the team now irrigate only about 75 acres of turf compared to about 105 acres of turf several years ago. However, the sprinkler design is not set up to independently water only these 75 turf acres. This means water is applied where it is not needed.

### 8. Poor Sprinkler Design Around Greens

There are full-circle sprinklers around greens, which means water must be applied to green surrounds and bunkers when greens are watered. Ideally, greens would be watered with part-circle sprinklers designed only for the greens to allow deep watering of greens without flooding bunkers.

# Recommendations

## 1. System Component Replacement

At the very least, it is suggested to replace swing joints, sprinklers and irrigation satellites and add a central irrigation computer. This is the very minimum irrigation component replacement plan. This plan does not allow for redesigning irrigation spacing to accommodate the new turf lines and does not replace lateral line pipes which are more likely to fail in the next five to ten years. Below is an industry reference that provides the expected useful service life of irrigation components:

## GOLF COURSE ITEMS EXPECTED LIFE CYCLE

**HOW LONG SHOULD PARTS OF THE GOLF COURSE LAST?**

No two golf courses are alike except for one thing: deferring replacement of key items can lead to greater expense in the future, as well as a drop in conditioning and player enjoyment. The following information represents a realistic timeline for each item's longevity.

Component life spans can vary depending upon location of the golf course, quality of materials, original installation and past maintenance practices. The American Society of Golf Course Architects (ASGCA) encourages golf course leaders to work with an ASGCA member, superintendents and others to assess their course's components.

ITEM	YEARS
Greens (1)	15 – 30 years
Bunker Sand	5 – 7 years
Irrigation System	10 – 30 years
Irrigation Control System	10 – 15 years
Pump Station	15 – 20 years
Cart Paths – asphalt (2)	5 – 10 years (or longer)
Cart Paths – concrete	15 – 30 years (or longer)
Practice Range Tees	5 – 10 years
Tees	15 – 20 years
Corrugated Metal Pipes	15 – 30 years
Bunker Drainage Pipes (3)	5 – 10 years
Mulch	1 – 3 years
Grass (4)	Varies

NOTES: (1) Several factors can weigh into the decision to replace greens: accumulation of layers on the surface of the original construction, the desire to convert to new grasses and response to changes in the game from an architectural standpoint (like the interaction between green speed and hole locations). (2) Assumes on-going maintenance beginning 1 - 2 years after installation. (3) Typically replaced because the sand is being changed – while the machinery is there to change sand, it's often a good time to replace the drainage pipes as well. (4) As new grasses enter the marketplace – for example, those that are more drought and disease tolerant – replanting may be appropriate, depending upon the site.

ASGCA thanks those at the USGA Green Section, Golf Course Builders Association of America, Golf Course Superintendents Association of America and various suppliers for their assistance in compiling this information.

The materials presented on this chart have been reviewed by the following Allied Associations of Golf:

**For more information, contact ASGCA at (262) 786-5960 or visit [www.ASGCA.org](http://www.ASGCA.org)**

DATA COMPILED BY ASGCA, 126 NORTH EXECUTIVE DRIVE, SUITE 302, BROOKFIELD, WI 53005



## 2. Pump Station Replacement

In Central California, the irrigation system is the lifeblood of every golf course and effectively is the most important part of the golf course. Without it, you do not have a golf course. Replacing the irrigation system components in conjunction with upgrading to hybrid bermudagrass would have a significant positive impact on the golfer experience for the long-term viability and sustainability of this golf course. It is strongly recommended to replace the pump station with a system that is capable of delivering at least 2,500 gallons per minute.

- You may wish to reach out to Cloudburst Engineering in Palm Desert to assist with the pump station replacement.
- It is also strongly recommended to reach out to an irrigation designer such as [BTG Golf LLC](#) for consultation on the system hydraulics. It is critical to size the pipe properly leaving the pump station and throughout the golf course to provide adequate flow.
- Below I have included several articles on the importance of replacing the irrigation system.
  - ◆ [How Do We Know When It Is a Good Time to Replace Our Irrigation System?](#)
  - ◆ [How Long Does an Irrigation System Last?](#)
  - ◆ [Irrigation System: There Is More Than Meets the Eye](#)
  - ◆ [New Irrigation System Offers Significant Water Savings](#)
  - ◆ [Proper Pump Maintenance and Testing](#)
  - ◆ [Making Your Case for An Irrigation Renovation](#)
  - ◆ [USGA Water Use and Irrigation Literature](#)

# Bermudagrass Upgrade

## Observations and Recommendations

### 1. Hodgepodge of Grasses

The primary playing areas in green surrounds, fairways and tees consist of a hodgepodge of grasses including common bermudagrass, cool-season and warm-season weeds, and patches of hybrid bermudagrass. The current combination of grasses and weeds does not provide the ability to deliver good conditions any time of the year. While golfers may consider the conditions acceptable, there is a huge opportunity at this facility if the irrigation system is upgraded to convert to hybrid bermudagrass and deliver a far superior playing experience, and one that will use much less water.

### 2. Convert To Hybrid Bermudagrass

While many courses are sodding hybrid bermudagrass at a cost of about \$.70 per square foot, there is an option to sprig bermudagrass at a cost of about \$.15 per square foot. However, this would require closing nine holes for a period of about 90 days during the summer months to complete the conversion. It is important to note that it is not recommended to consider any conversion until the irrigation system is upgraded. The success of the conversion relies on improved irrigation coverage. The current system limitations would significantly limit the success of the conversion. Here is an article that explains [bermudagrass conversion](#) in greater detail.

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# Weed Control

## Observations

### 1. Significant Weed Population

Unfortunately, the golf course is littered with both cool-season and warm-season weeds. Green surrounds, fairways and tees have a very high weed population which significantly detracts from the golfer experience. It also weakens the existing turfgrasses.

## Recommendations

### 1. Increased Weed Control Program

While it may be several years until the City has the funds to upgrade the irrigation system and convert to hybrid bermudagrass, weed control efforts should be increased immediately. There is a big opportunity to significantly reduce the weed population during the summer months, which will ultimately increase the health of the common bermudagrass. Please consider the following weed control program:

- **Increased nitrogen.** First and foremost, nitrogen should be increased on fairways to improve common bermudagrass density and coverage. It is always impressive to see that when bermudagrass density improves, the weed population decreases. Ideally, you would apply at least 2 pounds of nitrogen per 1,000 square feet between mid-September in late October and apply another 2 pounds of nitrogen per 1,000 square feet from early April through the end of May. Nitrogen should be applied only where necessary during the summer months.
- **Spring preemergent weed control.** Please consider the following two options for pre-emergence weed control, which should begin in late February or early March:
  - ◆ One option is to spray indaziflam (Specticle®) on green surrounds, fairways and tees. The Specticle will kill a majority of existing cool-season weeds. Specticle can be expected to provide weed control through the end of August. It is critical to avoid spraying Specticle within a 15-foot barrier of the putting greens. In this zone, it is recommended to use a combination of prodiamine and Pennant Magnum® for preemergence control. A second application will be needed in late May, and the chemistry should be switch to granular Ronstar® to pick up goosegrass control.
  - ◆ The next option is to combine prodiamine with the Pennant Magnum in early March on green surrounds, fairways and tees. A second application will be needed with an alternative chemistry such as oxadiazon (granular Ronstar). Another option is simazine (Princep®).
- **Fall postemergence goosegrass control.** For postemergence control of goosegrass, it is strongly recommended to have Sencor® on hand. While the two-application strategy in the spring is very important to control the summer weeds, we discussed not using preemergence products in the fall given the common bermudagrass is susceptible to wet and soggy conditions. In fact, the annual bluegrass and ryegrass that recovers each fall effectively improves playing conditions during the winter months, especially in a wet winter, even without overseeding. It is worth noting that if you should ultimately convert the fairways to hybrid bermudagrass, then it would be important to control the winter weeds.

- **Additional applications.** There is also a fair amount of purple nutsedge on the golf course. For this weed, it is important to use Celero® with two to three applications from mid-July through mid-October. You also may consider purchasing Vexis®, a granular product that can be used to spot apply to the nutsedge areas. The preemergent program provided above will help to control dallisgrass as well. However, when dallisgrass breaks through, it is recommended to spray Monument® as a postemergence control product.

## Putting Greens

### Observations

#### 1. General Condition

I was able to view multiple greens during our visit, and I'm happy to report that all greens have a healthy combination of bentgrass and *Poa annua*.

#### 2. Rooting Depth

Closer observation reveals roots extending to 5 to 6 inches in the greens.

#### 3. Shear Strength

I utilized a shear strength tester to measure surface strength of greens. A value less than about 12 Newton meters (Nm) indicates weak surface strength. At Madera Municipal Golf Course, values ranged from 15 to 17 Nm, which is excellent this time of year, especially given the recent heat.

#### 4. Excess Organic Matter

The putting greens are very soft and puffy, and ball marks are quite deep. A soil profile collected from greens reveals there is excess organic matter near the surface of the greens and there has not been enough sand applied for dilution.

### Recommendations

#### 1. Aeration and Vertical Mowing

It is recommended to continue with your program to conduct 5/8-inch-diameter core aeration on a 2- by 2-inch spacing this fall. It is recommended to immediately precede this operation with vertical mowing with blades set about 0.150 inches below the bottom of the rollers. Run the vertical mower up and back on the same pass and change directions, thereby making four passes over the greens. Follow by applying ample sand to dilute surface organic matter.

#### 2. Increased Sand Topdressing

During the growing season, it is recommended to apply sand from February or March through October or November at a frequency of two or three times per month. Rates should range from as low as 40 to 50 pounds per 1,000 square feet to as high as 100 to 115 pounds per 1,000 square feet. During the primary growing season, conduct vertical mowing two to four times per month at light intensity. All these practices combined will help to reduce surface thatch and increase firmness. These practices will also help to smooth ball roll.

# Bunkers

## Observations

### 1. Exposed Sumps

The bunkers have an exposed sump in the lowest area of each bunker to facilitate drainage during rainfall events. While this may be effective to remove water, it is unsightly and negatively impacts play. Golfers must move their golf ball aside when the ball comes to rest in these low-lying areas. I will say this is extremely uncommon to see at golf courses.

### 2. Ample Sand

I was able to measure sand depth in a few greenside bunkers. It was great to see adequate sand at a depth of 6 to 7 inches. It was also good to hear that golfer comments concerning the bunkers are generally positive.

## Recommendations

### 1. Continued Sand Addition

For the time being, it is recommended to continue to add sand where necessary in greenside bunkers. A good goal is to provide 7 to 9 inches of sand on the bunker floors. This will help with playability and drainage.

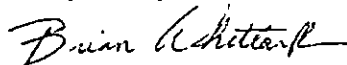
### 2. Bunker Renovation

A bunker renovation is needed at Madera Municipal Golf Course. However, I would strongly recommend focusing your capital monies on irrigation upgrades and converting to hybrid bermudagrass before any work may be considered on the bunkers.

## Closing Comments

Thank you for an enjoyable morning spent on the golf course at Madera Municipal. Given that this was my first opportunity to see the property, it was impressive to see the amount of turf reduction and to see the greens in good condition. **The major take-home message from this first initial visit is that it is strongly recommended to focus capital improvement funds on irrigation system upgrades and consider upgrading to hybrid bermudagrass.** In the short term, it is necessary to increase funds for fertilizing primary playing areas and increasing weed control efforts. Thank you for your support of the USGA Green Section. Please do not hesitate to contact my office should you have any further questions or concerns.

Respectfully submitted,



Brian Whitlark, Regional Director  
USGA Green Section, West Region

Distribution:

Dan Bacci, Sierra Golf Management  
Jon Christensen, Sierra Golf Management

# USGA Green Section

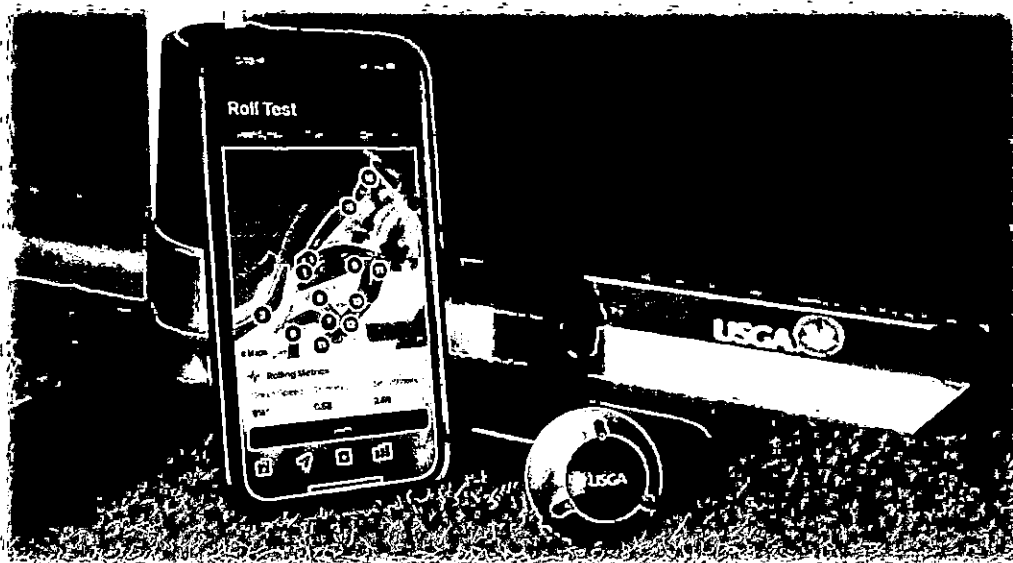
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