

# LOS ALAMOS COUNTY GOLF COURSE OVERVIEW

SCHEMATIC DESIGN SUBMITTAL, AUGUST 2019



MRWM

LANDSCAPE ARCHITECTS



# EXISTING VERSUS EXPECTED WATER USE

- Source of water : County's non-potable water system
- Capacity of existing connection : 1250 gpm
- Storage capacity: 1.15 million gallons, max 600k allotted/day for golf course
- Irrigated area of golf course: 79.00 acres (Total maintained area 83.00 acres)



## Provided Water Use Data for 2018 Irrigation Season

• April (2018) = 7,222,118 gallons
• May (2018) = 7,363,027 gallons
• June (2018) = 7,311,000 gallons
• July (2018) = 7,628,966 gallons
• August (2018) = 3,841,000 gallons
• September (2018) = 4,540,000 gallons
• October (2018) = 1,090,000 gallons
• November (2018) = 547,600 gallons
Total: 39,543,711 gallons of water.

# CALCULATING A BUDGET WATER USE VALUE

- Cool-season turf requires approximately an average of **18.696"** irrigation per season.
- The average annual "effective" rainfall is **7.44"**.
- The per acre water requirement is **305,645 gallons per season**.
- For approximately **79.00 acres of turf**, water requirements are approximately **24,145,955 gallons of water annually**.

The actual water applied in 2018 was **39,543,711 gallons**, making the existing irrigation system **61.06% efficient**.



# EXPECTED EFFICIENCY OF A NEW IRRIGATION SYSTEM



- The new irrigation system could apply up to **30,182,443 gallons per season.**
- This would equate to a theoretical water use reduction of approximately **23.7% over 2018 reported water usage.**

# PROPOSED DESIGN FEATURES

- Edge-to-edge spray irrigation system, covering approximately **79.00 acres** of turf.
- Designed for long term maintainability and effective irrigation control.
- It is estimated to require approximately **1,500** valve-in-head style golf sprinklers.
- Proposed irrigation control system will be a computer-controlled system.



# PROPOSED DESIGN FEATURES

- Large mainline hydraulic structure capable of applying the maximum daily evapotranspiration rate of **0.26"** within an **8-hour** water window.
- All golf sprinklers will be “electric-valve-in-head” which will enable them to operate individually, allowing for precision control and management when needed.
- Quick couplers located at greens and tee complexes facilitates easy access locations to plug in hoses and utilize a high-volume water connection.



# PRELIMINARY COST ESTIMATES

Based on a per-sprinkler base cost of **\$1,250 per sprinkler**, plus a “premium” of between 15% and 30% for the likely scenario of perceived “rock-trenching” conditions, the estimated installed cost of the basic golf course irrigation system is expected to range between:

**\$2,157,000** (\$1,438/per sprinkler)

AND

**\$2,437,500** (\$1,625/per sprinkler)

Plus costs of taxes, fees, permits, options, etc.

# DESIGN OPTIONS AND UPGRADES

## BASE SYSTEM COST:

**\$2,157,000** (\$1,438/per sprinkler)

AND

**\$2,437,500** (\$1,625/per sprinkler)

Plus costs of taxes, fees, permits,  
options, etc.

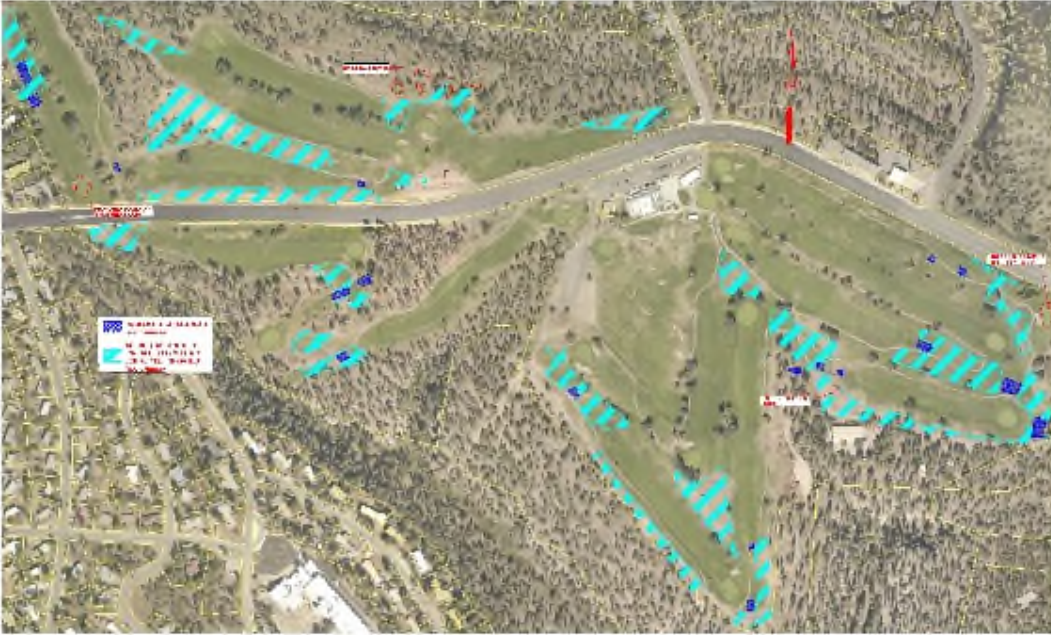
Available Construction Budget  
(Pre-tax):

**\$2,607,076**

System Options: Irrigation System Features / Equipment	Preliminary Cost of Option
"Greens" Irrigation System	\$104,000
"Tees" Irrigation System	\$48,000
Weather Station	\$16,000
Chemical Injection System	\$29,000
Automatic Filtration System	\$68,000
Dual-Heads on Greens	\$64,700
Heavy-Duty Lateral Pipe Fittings	\$18,000
Specialized Winterization Equipment	\$140,000
Demolition / Removal of Pump House	\$14,000
Total Preliminary Cost of All Irrigation System Options:	
\$501,700	



# ADDITIONAL DESIGN CONSIDERATIONS



## Turf Reductions:

- There are approximately **3.61 acres** of fairway where some potential areas of turf may be reduced.
- This could result in a potential annual water savings of approximately **1,103,178 gallons**.

# ADDITIONAL DESIGN CONSIDERATIONS



## Future Site Development Improvements:

- Tee Boxes
- Bunkers
- Cart Paths
- Safety Netting



# PROPOSED SCHEDULE

- PHASE I -** Schematic Design  
**UNDER REVIEW**
- PHASE II -** Design Development  
**MID SEPTEMBER 2019 – MID OCTOBER 2019**
- PHASE III -** Construction Documents  
**END OF OCTOBER 2019 – MID DECEMBER 2019**
- PHASE IV -** Construction  
**1<sup>ST</sup> PHASE BEGINNING MARCH 2020 – ENDING JUNE 2020**  
**2<sup>ND</sup> PHASE BEGINNING AUGUST 2020 – ENDING NOVEMBER 2020**

# NEXT STEPS

## SCHEMATIC DESIGN REVIEW & COMPLETION

- Control System Selection (conventional vs. 2 wire)
- Determination of System Upgrades

## BEGIN DESIGN DEVELOPMENT

- Parks & Rec Board Meeting Presentation – October 10, 2019





**Golf Course Irrigation  
Parks & Recreation Board/Public Meeting  
August 28, 2019 at 5:30 p.m.  
Comment Form**

**Comments:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Name:** \_\_\_\_\_ **Address:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

Please drop comments in comment box at the meeting or hand to staff. Comments may also be submitted by e-mail to (lacpw@lacnm.us). ***Please note:*** Comments become public records upon submittal and may be released if requested.

***Thank you for taking the time to provide your comments!***

**QUESTIONS/COMMENTS?**