

OPEN MEETING**REGULAR OPEN MEETING OF THE GOLDEN RAIN FOUNDATION
MAINTENANCE AND CONSTRUCTION COMMITTEE**

Wednesday, August 11, 2021 - 9:30 a.m.
This will be a Virtual Zoom Meeting

Laguna Woods Village owners/residents are welcome to participate in all open committee meetings and submit comments or questions regarding virtual meetings using one of three options:

1. Join the meeting via Zoom by using this link: <https://us06web.zoom.us/j/99465596924>
2. Via email to meeting@vmsinc.org any time before the meeting is scheduled to begin or during the meeting. Please use the name of the committee in the subject line of the email. Name and unit number must be included.
3. By calling (949) 268-2020 beginning one half hour before the meeting begins and throughout the remainder of the meeting. You must provide your name and unit number.

NOTICE AND AGENDA

This Meeting May be Recorded

1. Call to Order
2. Acknowledgment of Media
3. Approval of the Agenda
4. Approval of Meeting Report for June 16, 2021
5. Chair's Remarks
6. Member Comments (Items Not on the Agenda)
7. Department Head Update

Consent:

All matters listed under the Consent Calendar are considered routine and will be enacted by the Committee by one motion. In the event that an item is removed from the Consent Calendar by members of the Committee, such item(s) shall be the subject of further discussion and action by the Committee.

8. Project Log

Presentation:

9. Electric Vehicle Growth in Laguna Woods Village & EV Charging Stations (Director Dotson)

Items for Oral Discussion:

10. First Floor Break Room in Resident Services
11. UV Lighting for PAC and Broadband HVAC Facilities
12. Senate Bill 326 Inspections
13. Driving Range Update
14. Curtains for Dining Rooms in PAC

Items for Future Agendas:

- Employee Parking Lot Lighting
- Building E Assessment
- Epoxy Line Remediation at the Golf Starter Building
- Electric Gate at Garden Center II

Concluding Business:

15. Committee Member Comments
16. Date of Next Meeting: October 13, 2021
17. Adjournment

**REPORT OF THE SPECIAL OPEN MEETING OF THE GOLDEN RAIN FOUNDATION
MAINTENANCE AND CONSTRUCTION COMMITTEE**

Wednesday, April 14, 2021 – 9:30 A.M.
Virtual On-line Meeting

MEMBERS PRESENT: Egon Garthoffner - Chair, Gan Mukhopadhyay, John Frankel, Ralph Engdahl, Carl Randazzo, Brian Gilmore, John Carter, Advisor Bill Walsh

MEMBERS ABSENT: Advisor Steve Leonard

OTHERS PRESENT: Debbie Dotson, Bunny Carpenter, Yvonne Horton, Sue Stephens, James Hopkins, Stephanie Brown, Joan Milliman

STAFF PRESENT: Guy West – Staff Officer, Ernesto Munoz, Ian Barnette, Rodger Richter, Brian Gruner, Tom McCray, Laurie Chavarria

1. Call to Order

Chair Garthoffner called the meeting to order at 9:32 a.m.

2. Acknowledgement of Media

Chair Garthoffner noted no members of the media were present.

3. Approval of the Agenda

The agenda was approved as written.

4. Approval of Meeting Report for April 14, 2021

The meeting report for April 14, 2021 was approved as written.

5. Chair's Remarks

Chair Garthoffner remarked that no action items are on the agenda and that there will be a private discussion for the Committee members directly after the meeting.

6. Member Comments (Items Not on the Agenda)

There were no member comments.

7. Department Head Update

Mr. Munoz spoke about his resignation as Director of the Maintenance and Construction Department and informed the Committee that Mr. Guy West will be the Interim Director

Consent:

All matters listed under the Consent Calendar are considered routine and will be enacted by the Committee by one motion. In the event that an item is removed from the Consent Calendar by members of the Committee, such item(s) shall be the subject of further discussion and action by the Committee.

The consent calendar was pulled for Discussion.

8. Project Log

Director Randazzo commented about the PAC maintenance items that are listed below the original PAC renovation project.

Mr. Munoz and Chair Garthoffner responded to the comment.

Reports:

9. Update on Gate 16 Golf Driving Range Project

Recreation Director Brian Gruner provided an update on an irrigation design proposal that was received from Fairway for \$6,000.

Discussion ensued regarding grading of the site; layout for the design; use of the existing topography from original design plans; the current drought conditions; the best sprinkler system to use; January 2022 is the estimated start time for this project; Bermuda grass has to be mature and fully germinated to thrive in the Summer and survive the colder weather; use of reclaimed water; and that the current proposed plans including the proposed topo and irrigation plan that were reviewed by the City are rejected by the Committee, with the exception of the area outline and existing topography map.

By consensus, the proposed design plans are hereby rejected and will not be utilized. Staff was asked to set up meeting with a grading company to visit the site with the Committee before the next scheduled M&C Committee meeting. Mr. Gruner will inquire about the best type of irrigation for the site.

Additionally, staff was directed to instruct a contractor to clean up the site, per the existing topography map; and to only show a detail to raise the soil parallel to the fence, by 1-2 feet. The Committee will work out the design details and provide further direction to staff.

10. Update on Employee Parking Lot Lighting Project

Maintenance Services Manager Ian Barnette provided an update on the number of employees utilizing the lot in the evening and the photometrics from the solar light on the pilot project, and answered questions from the Committee.

Chair Garthoffner directed to staff to wait for further direction. He'd like to see the solar light repaired, as he noticed that 3 LED's were burned out and it's straight angled down. The Committee will generate a plan on how to improve the solar light and determine how many more are needed.

11. Update on PAC Stage Rigging

Staff Officer Guy West provided an update on the stage rigging assessment and the cost to receive a written report then answered questions from the Committee. Additionally, Mr. West discussed the stage lighting and what was deferred to the Recreation Department Director, Mr. Brian Gruner.

Discussion ensued regarding the condition of the stage rigging which is secured to a cable that can move up and down, the structure holding the rigging system has been tagged as unsafe pending a thorough review; staff should remove the old heavy and hot lights from the rigging; some new lighting systems come with a rigging system that is adjusted remotely; Chair Garthoffner would like a modern system installed that will suit the needs of the theatre group participants; the project has been stalled for quite a while and Director Dotson would like to move the project forward by making some decisions to provide secure and energy efficient rigging and lighting equipment in the theatre; the winch for the current stage rigging system cannot be used; and that the new lighting will be LED, will be a lighter load, generate less heat and can most likely be installed on the existing rigging system.

Mr. West suggested that a lighting design is needed and once we have that, the engineer can determine if the existing structure can support the proposed lighting system. Mr. Gruner spoke of a newly hired technician who has experience in stage lighting and sound systems. He will get his Sr. Technician to provide a lighting recommendation. Chair Garthoffner requested that Mr. Gruner get the lights replaced by the September opening of the Performing Arts Center.

In February, Advisor Leonard contacted a company in Los Angeles and received a quote for \$1,500 to provide a general analysis and lighting recommendation.

By consensus, staff is approved to move forward with this analysis. Mr. Leonard will forward this information to Mr. Gruner and staff will work with Purchasing to execute an agreement for the analysis and lighting recommendation.

12. Update on Building E Assessment

Staff Officer Guy West provided an update on the visual review and verbal assessment that was provided by the Mutual's Structural Engineer at Building E and the quote that was received to deliver a written report on the findings after a thorough analysis is performed that includes destructive testing, structural review and equipment evaluation. An RFP has been drafted and staff is looking for authorization from the Committee to go out to bid for competitive pricing on a complete assessment of Building E.

Discussion ensued regarding staff relocation if reconstruction is needed; footings to stabilize the building; construction a pre-fab/modular building to relocate staff; demolishing the existing building; VMS Director stated that the air quality seems to be unhealthy – it's stuffy and it smells bad, and this building is in such bad condition that it is not an adequate working environment for staff; a parking study may be required by the City to move Security to the Community Center; long range planning needed for major improvements; the formation an ad-hoc committee to discuss the future of this building; The Austin Company is a nationally recognized and local design build contractor that specializes in pre-fab buildings; the use of an architect to perform a feasibility analysis and provide a report on demo, permits, utilities, design options and costs.

President Carpenter would like Building E demolished and knows that there are a lot of aspects to consider before a decision can be made. She would like an estimate for a modular or pre-fab building from the same company who provided the pre-fab gate houses. She suspects it may be around \$1,000,000.

By consensus, staff was directed to release the RFP for an architect to provide design and construction costs for a new conventional building and/or a modular building, as well as a construction time frame.

Additionally, staff will bring back the number of employee's currently utilizing Building E, that will need to be relocated during the reconstruction, to a future meeting.

13. Update on Filtration Systems for Clubhouses

Mr. Munoz provided an update on the filtration system at the Community Center and Performing Arts Center. At the direction of the Committee, staff is gathering the costs for the installation of HEPA filters at the other clubhouses and will bring this information to a future meeting. The HVAC system with the ion generator for the PAC is being fabricated and will be cost prohibitive to stop fabrication, and to place the project on hold while the scope of work and equipment are revised.

Discussion ensued regarding the effectiveness of ion generation; UV light systems; HEPA filters; and if a filtration system is still needed if the majority of residents are already vaccinated.

Staff will get a cost from the contractor to change the system from an ion generator to HEPA filter system.

14. Comments about Toilet Height & Timing

Chair Garthoffner updated the Committee on a less expensive alternate option for separate toilet seat risers that can be purchased and installed in lieu of a full toilet replacement. He suggested a pilot program be started to receive resident feedback, by placing a few of these toilet risers in the bathrooms at the Performing Arts Center.

Discussion ensued regarding using in-house staff for the toilet seat riser installations instead of an outside contractor; in-house staff cannot take on this project without reducing the service level provided to the Mutual's; the possibility of allowing staff to work over-time; and using commercial grade toilet seat risers without toilet lids.

By consensus, staff was directed to move forward with the purchase and installation of commercial grade toilet seat risers as a pilot project at the Performing Arts Center.

Items for Future Agendas:

- Electric Gate at Garden Center II

Concluding Business:

15. Committee Member Comments

- Chair Garthoffner commented on informal meetings with Committee members for discussion only workshops; the upcoming site meeting for the Gate 16 Driving Range; and an email to the Directors on who would like to participate in a discussion costs and options for the renovation or reconstruction of Building E.

16. Date of Next Meeting: August 11, 2021

17. Adjournment: The meeting was adjourned at 1:02pm.

18. Dismissal of Staff

19. Director's Private Discussion

DRAFT

Egon Garthoffner, Chair

GRF Project Log (July 2021)						
#	Type	Name	Description	Status	Estimated Completion	Budget
1	920 Projects	PAC Renovation Maintenance Upgrades	Funding for this project is allocated for the maintenance and safety upgrades at the Performing Arts Center. On June 22nd the Corporate Members voted against completing the PAC maintenance improvements as submitted. A report to rescind the supplemental appropriation was approved on September 1, 2020.	On July 13, 2020, the PAC Renovation Ad Hoc Committee reassigned several necessary maintenance improvements at the PAC to the M&C Committee. On August 18, Board members, staff and an independent theater consultant toured the PAC to review items which were part of the PAC Renovation Project. Staff was directed to obtain proposals and pricing on several items and report back to the M&C Committee. At the October 14, M&C Committee meeting, staff was directed to prepare a new scope of work for several items listed below as line items 2 & 3. Work completed at the PAC: *PAC Theater Curtain Cleaning, Repairs and Fire Proofing *PAC Lightbulb Conversion to LED	On-going	Budget: \$3,778,000 Funding Reduction: (\$2,122,830) Exp: \$761,808 Balance: \$893,362
2	920 Projects	PAC Dining Room and Lobby Upgrades	Funding for this project is allocated to paint walls and clean lobby carpets, as well as to install new flooring, wall carpet, acoustic ceiling tiles and paint in both dining rooms.	The dining and lobby upgrade work began in March and is scheduled to be completed the end of August.	August 2021	Contract Budget: \$113,816 Exp: \$64,040 Balance: \$49,776
3	920 Projects	PAC HVAC Replacement	Funding for this project is allocated to replace existing HVAC system components and install ion generator filtration.	The HVAC pre-construction work began in March and the installation work is scheduled to be substantially completed the end of August. Staff will continue to monitor and report the progress of this project accordingly.	September 2021	Contract Budget: \$515,406 Exp: \$0 Balance: \$515,406
4	920 Projects	Service Center Generator	Funding for this project will provide back up emergency power at the Service Center including Security, Transportation and fueling services to enable the provision of critical services in an emergency.	Staff received design build proposals to design and replace the existing emergency generator with a new emergency generator appropriately sized to power the entire facility. At the February 10, M&C Committee meeting, the Committee placed this project on hold pending a microgrid analysis.	TBD	Budget: \$150,000 Exp: \$0 Balance: \$150,000

5	920 Projects	Transfer Switches for Clubhouses 4 & 6	Funding for this project is allocated for the installation of new transfer switches in order to accept future emergency generators that will power the clubhouses in the event of a disaster.	At the February 10 M&C Committee meeting, staff was directed to place this project on hold for further review of the facility's emergency power needs and a microgrid analysis.	TBD	Budget: \$100,000 Exp: \$0 Balance: \$100,000
6	920 Projects	Community Center First Floor Renovation Project	Funding for this project is allocated for the reconfiguration of Resident Services located in the Community Center.	Plans for the new break room have been reviewed and approved for permit issuance by the City of Laguna Woods. The Committee placed this project on hold until further notice.	TBD	Revised Budget: \$150,000 Exp: \$7,223 Balance: \$142,777
7	920 Projects	Gate 16 Driving Range Improvements	Funding for this project is allocated to upgrade and improve the appearance and functionality of the golf driving range and practice area.	A site meeting was held on February 24 to observe the condition of the grounds. The M&C Committee directed recreation staff to consult with Troon Golf and obtain a second opinion on the current golf range design. Recommendations from Troon Golf were received and presented at the April 14, M&C Committee meeting. On April 29, the Committee met on site with Troon Golf. Staff was directed to work with the Troon representative on a plan to reduce costs by isolating specific areas of the range where work will occur relative to grading, irrigation, drainage and grass seed selection. The current landscape architectural and civil plans were discussed and will not be used at this time.	TBD	Budget #1: \$138,000 Budget #2: \$500,000 Exp: \$57,995 Balance: \$580,005
8	920 Projects	Maintenance Service Center Parking Lot Lighting	Funding for this project is allocated to install permanent lights in the Maintenance Service center parking lot for staff safety.	The installation of one pilot light pole at the Maintenance Service Center parking lot was completed on March 5. Staff is waiting on further direction from the M&C Committee.	TBD	Budget: \$250,000 Exp: \$10,497 Balance: \$239,503
9	920 Projects	Broadband HVAC System	Funding for this project will include the installation of five new HVAC units to replace the existing 17 year old HVAC system at the Broadband Building Data Center.	The M&C Committee requested pricing from AMS to replace the existing HVAC equipment at the Broadband building. Staff will prepare a report with updated HVAC cost to be presented at a future Maintenance and Construction Committee meeting.	TBD	Budget: \$300,000 Exp: \$0 Balance: \$300,000

10	920 Projects	Replace Welding Shop	Funding for this project is allocated to replace the existing Welding Shop with a pre-engineered metal building.	The design phase of the project was completed in 2020. At the February 10, M&C Committee meeting an update was provided and staff requested direction to move forward. No action was taken on this project during the meeting. Staff has placed this project on hold until additional direction is received.	TBD	Budget: \$275,000 Exp: \$0 Balance: \$275,000
11	920 Projects	Tennis Court Resurfacing	Funding for this project will replace the existing tennis court surface application, in accordance to the industry practice which is every five years, and apply a new court application.	The GRF Board approved the contract award on May 4, 2021. The work schedule is being coordinated with the Recreation Department.	TBD	Budget: \$60,000 Exp: \$0 Balance: \$60,000
12	920 Projects	Building E Assessment and Design Development	Funding for this project will provide an assessment of the work needed on the building and develop a design based on the assessment.	Some preliminary structural inspection work began in 2020 per a request received from the Security Department. On March 24, Directors from the M&C Committee walked the facility and staff was directed to prepare a scope of work to obtain consultant proposals to determine feasibility for different site and construction options.	TBD	Budget: \$50,000 Exp: \$0 Balance: \$50,000
13	920 Projects	GRF Paving & Sealcoat Programs and Concrete Repairs	Funding for this project is allocated to asphalt paving overlay, sealcoat work and concrete repairs adjacent to the overlay work on selected GRF streets and/or parking lot areas.	The concrete repair work began in June on Ave Sosiega, Calle Aragon, Pina, and Via Carrizo. Asphalt overlay paving is scheduled to follow in July/Aug on the same streets. Sealcoat work is scheduled to begin in August on Ave Majorca, Calle Sonora, Calle Sonora Este, Calle Sonora Oeste, Via de Faro, Garden Center 2, and the Maintenance Center.	September 2021	Budget: \$879,069 Exp: \$0 Balance: \$879,069
14	920 Projects	Shepherd's Crook at Gate 3	As a part of the Conditional Use Permit 1135 with the City of Laguna Woods, the Mutual will remove and replace barbed wire on all perimeter block walls with Shepherd's Crook on a phased approach.	The installation of a minimum 300 linear feet of Shepherd's Crook fencing is planned along the Gate 3 entrance in 2021. The contract has been executed. The contractor will begin scheduling, material procurement, and fabrication. Installation work is tentatively scheduled to begin in October.	Annual Program - December 2021	Budget: \$35,000 Exp: \$0 Balance: \$35,000

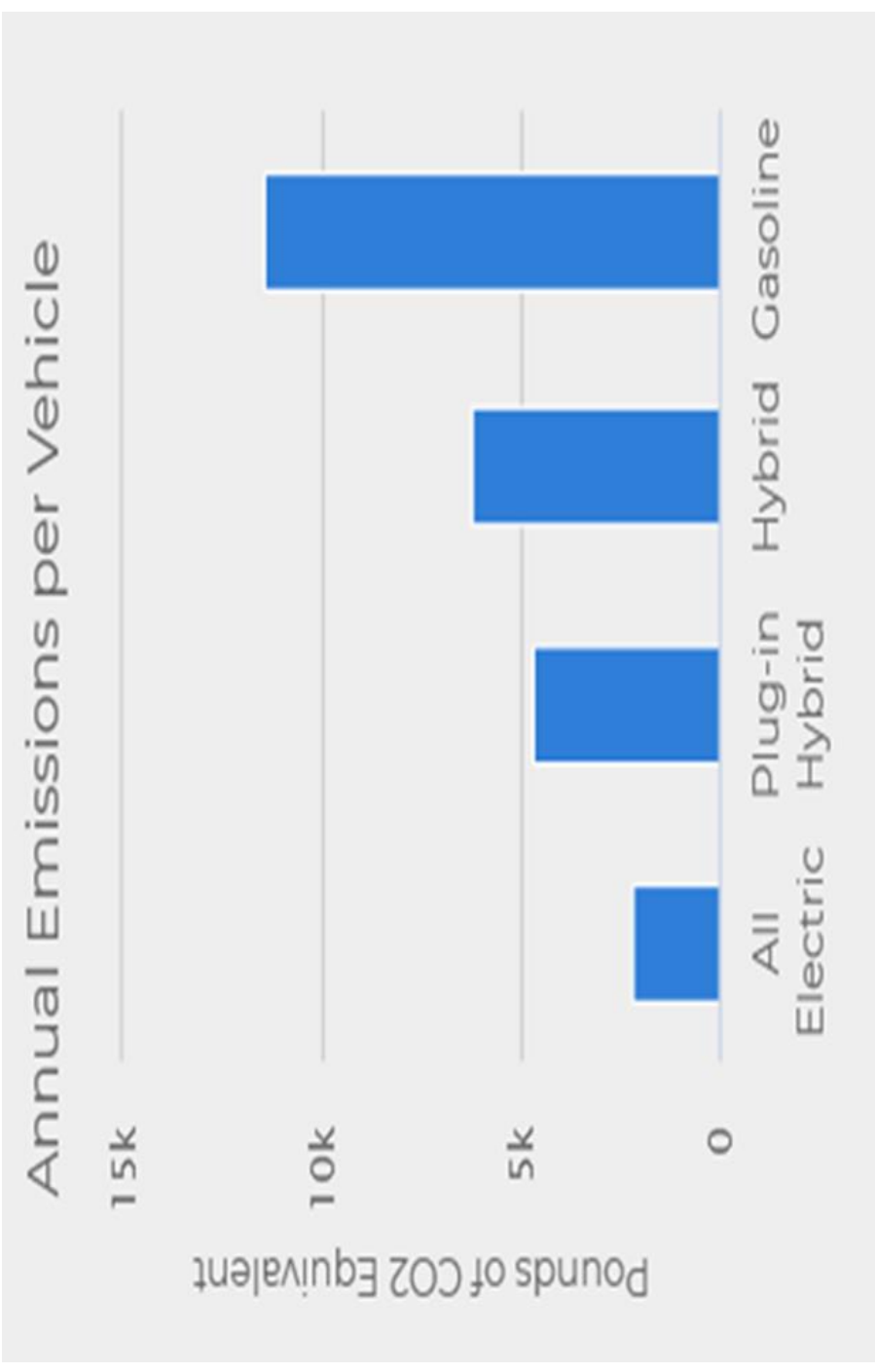
	920 Projects	Gymnasium Wall Padding	Funding for this project is allocated to replace existing gymnasium wall padding and to install additional wall padding to increase the safety during game play.	COMPLETED	February 2021	Budget: \$45,000 Exp: \$39,954 Balance: \$5,046
	920 Projects	PAC Theater Curtain Cleaning, Repairs and Fire Proofing	Funding for this project is allocated to clean, apply new fire retardant and make minor repairs to the theater curtains as applicable.	COMPLETED	May 2021	Contract Budget: \$20,978 Exp: \$20,978 Balance: \$0
	920 Projects	Clubhouse 2 Lawn Bowling Re-Roof	Funding for this project will replace the existing flat roof hot tar built up roof at the Clubhouse 2 Lawn Bowling building with a PVC cool roof system.	COMPLETED	April 2021	Budget: \$30,000 Exp: \$25,259 Balance: \$4,741
	920 Projects	PAC Lightbulb Conversion to LED	Funding for this project is allocated to replace the incandescent lightbulbs with LED lightbulbs throughout the entire Performing Arts facility.	COMPLETED	June 2021	Contract Budget: \$36,453 Exp: \$36,453 Balance: \$0
	920 Projects	Senate Bill 326 Load Bearing Component Inspections	Funding for this program is to conduct an assessment for inspection and testing of exterior elevated elements, defined as the load-bearing components and associated waterproofing systems in all buildings and facilities within the community.	COMPLETED Staff received correspondence from legal counsel indicating the inspection requirements outlined in the legislation are not applicable to GRF. Funding for this project may be returned to the Reserves Fund pending Board direction.	NA	Budget: \$50,000 Exp: \$0 Balance: \$50,000

The Future of EV in Laguna Woods Village

A research-based opinion presented
by GRF Director Debbie Dotson

Considerations for Going Green

- The US Department of Energy estimates the numbers based on the electrical power source used to charge the EVs. An estimated 2,182 pounds of CO2 are produced by an all-electric vehicle, 4,676 pounds are produced by plug-in hybrids, 6,258 pounds are produced by hybrid vehicles, and 11,435 pounds of CO2 are produced by gasoline only vehicles.
- These numbers are based on utilizing natural gas, solar, hydro, nuclear, wind, geothermal, biomass, other fossil fuels, coal, and oil to produce the energy to charge the EVs. 47% of the power supply in the state of California is produced by natural gas, followed by solar (15.84%), hydro (11.11%), and nuclear (8.44%).



Overall Growth of EV in US

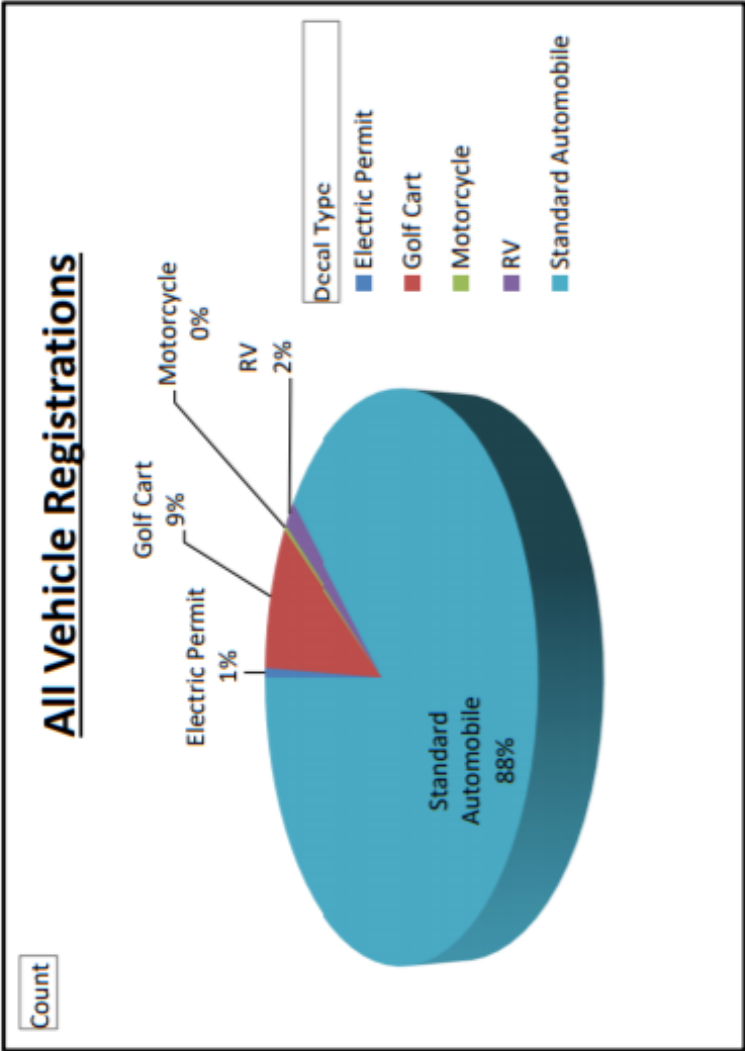
- Sales of battery powered Electric Vehicles (EV's) in the United States have grown from roughly 75,000 vehicles in 2015 to 180,000 in 2020. Statista projects more than 481,000 battery powered EV's will be sold in 2025. As a result, demand for commercial EV charging stations will also surge. In turn, property managers must weigh the benefits against the average cost of \$6,000 to install one EV charging station. Not to mention the on-going costs of maintenance.

What charging capacity do we have now?

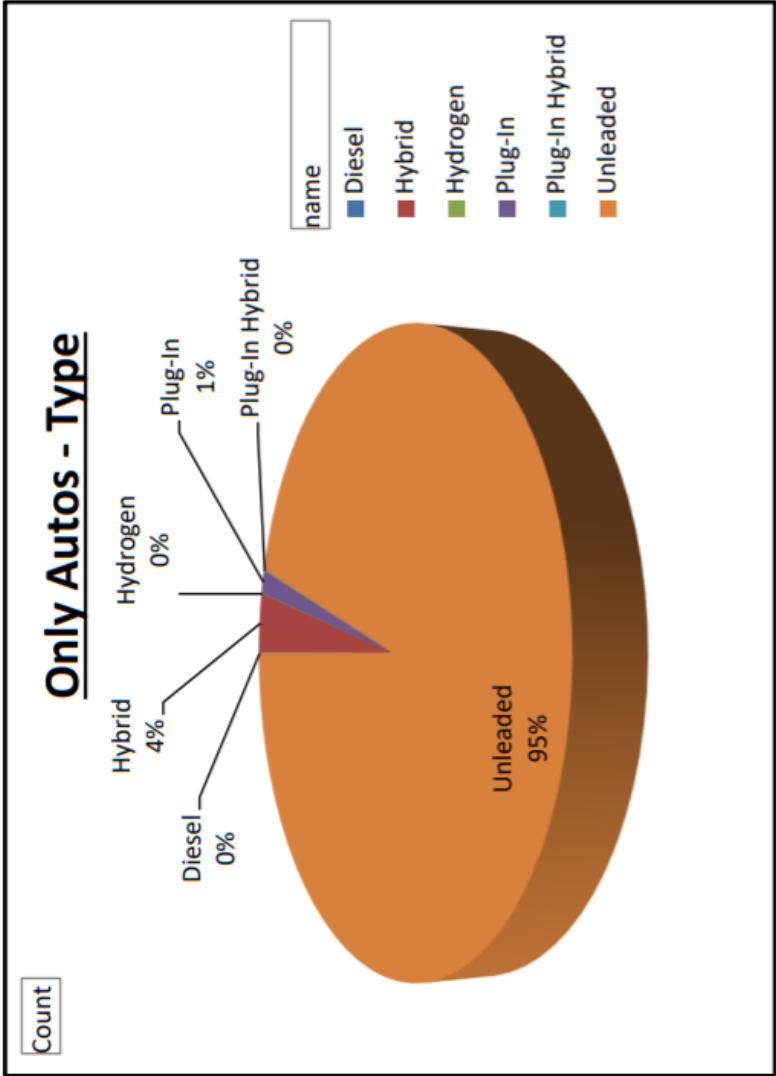
- Laguna Woods City, located within California, currently has fifteen station ports of public charging. The city's station ports are of level 2 and 3 and are within 15km. Around 80 percent of all the station ports offer level 2 charging services. Level 2 station points are those that offer charging via either 208V (for commercial) or 240V (for residential) plugs. Extra charging equipment needs to be installed in level 2 charging station ports. Level 2 ports can deliver 3.5 hours for an 80-mile battery or 8 hours for a 200-mile battery.
 - It is unclear if this includes the Community Center
- Level 3 station ports offer to charge via 480V AC inputs. These station ports need highly powered infrastructure and specialized adapters, and special equipment within the vehicles themselves. (Plug-in hybrid EVs do not usually possess fast capabilities when it comes to charging). These station ports can deliver around 60-80 miles of range within a 20-minute charging duration. Twenty-six percent of the station ports provide electric vehicle charging for free.
- Home charging in a carport or garage

Current Registrations

All Registrations	
Decal Type	Count
Electric Permit	117
Golf Cart	1,743
Motorcycle	58
RV	325
Standard Automobile	16,798
Grand Total	19,041



Types of Vehicles in Laguna Woods Village



Only Autos - No Golf		
Fuel Type	Count	%
Diesel	7	0.04%
Hybrid	571	3.30%
Hydrogen	7	0.04%
Plug-In	218	1.26%
Plug-In Hybrid	11	0.06%
Unleaded	16484	95.29%
Grand Total	17298	

Cul-De-Sac	EV Permits	Golf EV Permit	Total
219	8	100	108
221	5	44	49
203	0	33	33
216	1	26	27
403	1	24	25
202	0	22	22
206	2	19	21
406	1	17	18
343	1	15	16
405	1	13	14
306	1	12	13
407	1	12	13
213	1	11	12
371	1	11	12
222	0	11	11
330	2	9	11
218	1	9	10
341	2	8	10
201	0	9	9
212	0	9	9

223	0	4	4
301	0	4	4
312	0	4	4
313	0	4	4
314	1	3	4
319	0	4	4
331	1	3	4
401	0	4	4
9	3	0	3
13	3	0	3
27	3	0	3
72	3	0	3
204	3	0	3

Current Locations of EV

225	1	8	9
316	3	6	9
214	1	7	8
326	1	7	8
31	0	7	7
307	0	7	7
363	0	7	7
372	0	7	7
402	0	7	7
404	0	7	7
305	2	4	6
364	0	6	6
367	0	6	6
226	0	5	5
302	0	5	5
308	0	5	5
317	0	5	5
327	1	4	5
335	0	5	5
340	0	5	5
353	0	5	5
370	0	5	5
8	4	0	4
40	4	0	4
217	0	4	4

Currently, CDS 219 and 221 have the largest locations of EV – with 8 and 5, respectively.



With the commonality of Clubhouse 4 being extremely close, this seems like a logical location



The Basis of the Research

The original logic behind the model is that the Department of Energy found that in 2018, 650 out of 100,000 people in California owned an electric vehicle (NREL, 2018). Out of that percentage of people, the number of people that are 55 years or older account for 54% of all EV purchasers (Hedges&Company, 2021). Based on the 18,000 vehicle decals that are permitted in Laguna Woods Village, the model can get an estimate for 2018. From there using the projected increase in EV sales through 2027, the model can continue to predict the increase in the number of EVs in Laguna Woods Village, if the demographic of new EV buyers does not change, as well as the number of decals permitted in Laguna Woods Village (EVAoption, N.D).

Car Buyers

- Currently, the average American buys a new car about every six years. (1) That's up from four years in 2006. The average age of a car on the road is eleven years.
- When it comes to car ownership by age, buyers that are ages 25 to 54 purchase most new vehicles.

New Electric Vehicle (EV) Buyers by Age Group

Age 24 and younger	less than 1%
Age 25 to 54	46%
Age 55 to 64	22%
Age 65 and up	32%

New Plug-In Hybrid Vehicle (PHEV) Buyers by Age Group

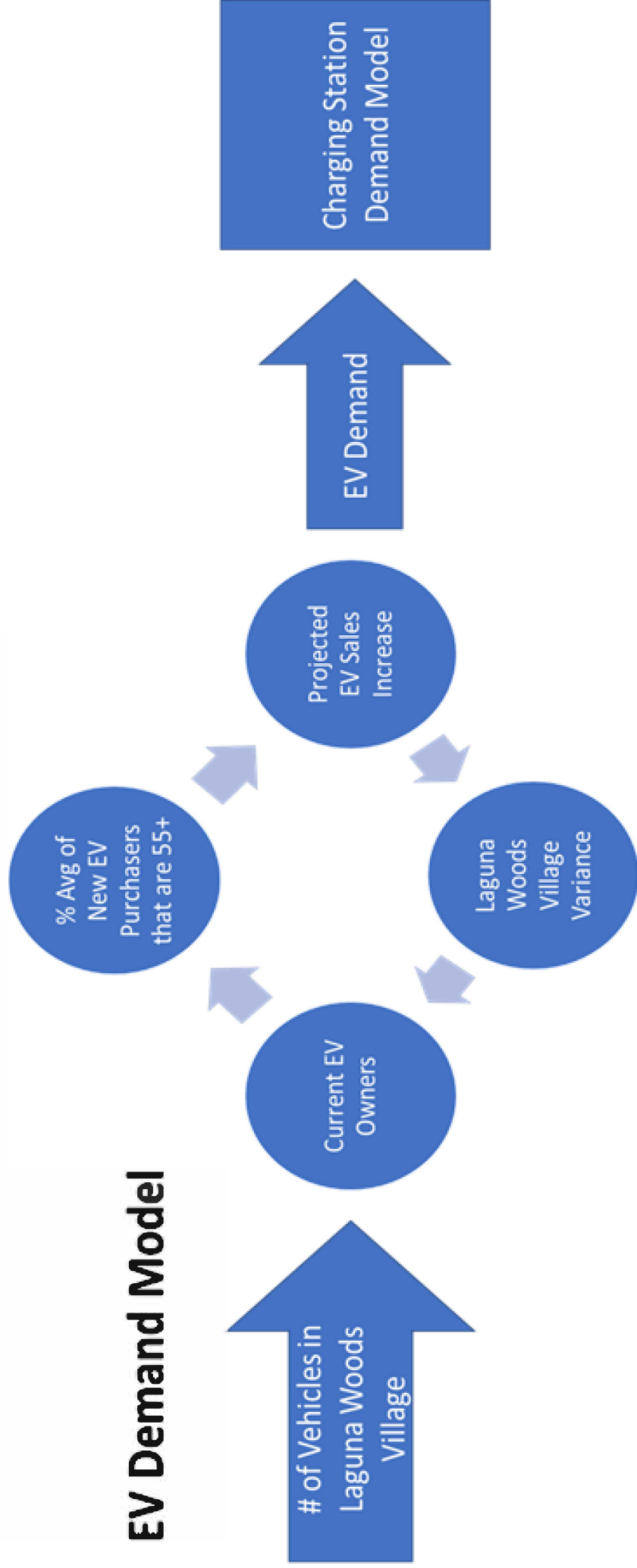
Age 24 and younger	less than 1%
Age 25 to 54	54%
Age 55 to 64	22%
Age 65 and up	23%

American women over the age of 65 have the lowest average miles per year. They drive just 4785 miles each year, on average.

Men/women 65+: 10,404 miles/4785 miles

The Bureau of Transportation indicates that the average age across the board for vehicles still on the road is just over 11 years according to Autotrader, and the average may be approaching 12 years. Standard cars are expected to keep running up to 200,000 miles, while cars with electric engines are expected to last for up to 300,000 miles.

Methodology: Model Design



Year	Projected increase in EV Sales	% of People that own an EV	% of People 55+ that own an EV	Projected EVs in Laguna Woods
2018		0.0065	0.00351	63.2
2019	8.97%	0.00708305	0.003824847	68.8
2020	11%	0.007862186	0.00424558	76.4
2021	14.50%	0.009002202	0.004861189	87.5
2022	17.50%	0.010577588	0.005711897	102.8
2023	20%	0.012693105	0.006854277	123.4
2024	25%	0.015866382	0.008567846	154.2
2025	30%	0.020626296	0.01111382	200.5
2026	35%	0.0278455	0.01503657	270.7
2027	40%	0.0389837	0.021051198	378.9

Cost Benefit Analysis

Stakeholder	Cost	Benefit
Resident (Non-EV)	Lose a parking spot	More incentive to move to EV
Resident (EV)	Metered Parking (Discounted for residents)	Charge faster, from home
HOA (Board)	Infrastructure/Installation Costs	Ahead of the curve, meeting needs
Southern California Edison	\$437 million	Reduce Emissions

Ethical/Legal Concerns:

Reduction of 1,351,800 lbs. of CO2 by 2027.

This project is legal and follows all of the regulations set forth by SB 880 Common interest developments: electric vehicle charging stations.

Recommended Plan by Research Team

(based on GRF Properties in Third Mutual only)

- The recommended plan of action would be for the community to install eight initial charging stations which will meet 90% of the demand through 2026. Three charging stations should be installed at Clubhouse 4, three at Clubhouse 7, and the remaining two at Clubhouse 5.
- A budget of at least \$30,000 should be allotted to this project. This implementation should be completed within 2021 to take advantage of the current rebate and grant options. 2027 will require the addition of at least two more chargers.
- These chargers should be placed at the Clubhouse with the most demand in its relative region. Though there is currently only 1 EV owner near Clubhouse 1, and 1 EV owner near Clubhouse 6, this trend could change by 2027.
- This plan attempts to find a balance in both affordability and practicality.



Current Status at the Government Level

- General Motors Co (GM.N), Ford Motor Co (F.N) and Chrysler parent Stellantis NV (STLA.MI) said in a joint statement they aspired "to achieve sales of 40-50% of annual U.S. volumes of electric vehicles ... by 2030." Reuters reported the planned automaker announcement on Tuesday.
- The Detroit 3 automakers said the aggressive EV sales goals can only be met with billions of dollars in government incentives including consumer subsidies, EV charging networks as well as "investments in R&D, and incentives to expand the electric vehicle manufacturing and supply chains in the United States."
- A bipartisan Senate infrastructure bill includes \$7.5 billion for EV charging stations