

STAFF REPORT FOR GROWTH MANAGEMENT COMMISSION MEETING DECEMBER 20, 2022

FILE NO: GM-2022-0504

AGENDA ITEM: 6.B

STAFF CONTACT: Heather Ferris, Planning Manager

AGENDA TITLE: GM-2022-0504 For Possible Action: Discussion and possible action regarding a request from Carson City Holdings, LLC ("Applicant") for approval of a daily water usage above 15,000 gallons per day for a proposed congregate care facility on property zoned Retail Commercial ("RC"), located at 4500 North Carson Street, Assessor's Parcel Number ("APN") 007-531-26. (Heather Ferris, hferris@carson.org)

STAFF SUMMARY: The Applicant is proposing a congregate care facility and is requesting an average daily water usage of 15,700 gallons. Growth Management Commission review and approval is required for any commercial use that uses more than 15,000 gallons of water per day.

RECOMMENDED MOTION: I move to approve GM-2022-0504 based on the findings and subject to the conditions of approval included in the staff report.

VICINITY MAP:



RECOMMENDED CONDITIONS OF APPROVAL:

1. The Applicant must sign and return the Notice of Decision within 10 days of receipt of notification. If the Notice of Decision is not signed and returned within 10 days, the item may be rescheduled for the next Growth Management Commission meeting for further consideration.
2. The Applicant shall comply with all conditions of approval associated with the Special Use Permit ("SUP") (LU-2022-0326).
3. The approval of this Growth Management approval shall expire with the SUP (LU-2022-0326).

LEGAL REQUIREMENTS: CCMC 18.12.070 (Growth Management, Commercial and Industrial Permits)

MASTER PLAN DESIGNATION: Mixed Use Commercial ("MUC")

ZONING DISTRICT: Retail Commercial ("RC")

DISCUSSION: Per Carson City Municipal Code ("CCMC") 18.12.070 the Board of Supervisors ("Board") will determine, annually, the maximum daily water usage threshold for commercial and industrial building permits. In the event a commercial or industrial use exceeds the amount set by the Board, an applicant must apply for review and approval by the Growth Management Commission. The Commission may approve, approve with conditions or deny the request on the basis of the effect of the project on the City's essential resources.

On July 15, 2021, the Board adopted Resolution 2021-R-23 establishing an average daily water usage in excess of 15,000 gallons as the threshold for Growth Management Commission review and establishing criteria for decision making for commercial and industrial building permits.

Per CCMC the Commission must base its decision on the following:

- (1) The quantity of water consumed by the use for which the building is constructed compared to the availability of water.
- (2) The ability of the city to deliver water service to the structure.
- (3) Other effects of water usage; and/or
- (4) The ability of the city's sewage disposal system to handle the quantity of wastewater generated, including the composition of wastewater and the ability of the system to carry the wastewater for treatment.

Per Resolution 2021-R-23, in considering applications the Growth Management Commission must first find that the use utilizes water conservation measures and techniques. If that finding is made, the Growth Management Commission must consider if the use will promote health, welfare, safety or quality of life; create quality jobs; or promote recreation and tourism.

Quantity of water consumed compared to availability of water & ability to deliver water

Carson City has established a threshold for average daily water usage for commercial and industrial projects of 15,000 gallons of water per day ("GPD"), above which an applicant is required to obtain approval from the Growth Management Commission prior to the issuance of a building permit. The Applicant is proposing a congregate care facility and is requesting an average daily water usage of 15,700 gallons.

The City maintains a water model that utilizes the Master Plan designations on a parcel basis to determine the overall water demand in the City. This helps the City to understand water demand at build out. According to the City's water model there is sufficient capacity to serve this project without detrimental impacts to the City system or other surrounding properties.

Engineering staff has provided comparison data which shows that the proposed congregate care facility estimates using a similar amount of water per bed as other similar facilities in the city. The proposed facility estimates water usage at 44.1 gallons per day per bed equivalent to 36.9 Water Equivalent Residential Customers. The comparison data identifies four similar businesses in the City with the low average daily water usage being 3,179 gallons per day or 38.3 gallons per bed, and the high being 5,328 gallons per day or 54.4 gallons per bed.

The Development Engineering Division of the Carson City Public Works Department ("Development Engineering") has reviewed the information submitted by the Applicant and conferred with Public Works. Staff finds there is sufficient capacity to serve this development.

Quantity of wastewater generated and ability to treat

According to the City's sewer model there is approximately 1,216 feet of sewer main in College Parkway that is at capacity. A sewer pipe is considered to be at capacity or "full" when it reaches 50% of its maximum capacity as measured by the maximum depth of flow to pipe diameter ("d/D"). This main is 12 inches in diameter with a depth at peak flow that varies from about 51% to 54% full (d/D). The project in question will increase the depth by about 1%. The sewer main can easily accommodate 60% full with no anticipated issues. Also, some of the depth in the sewer model is future projected flow based on projects that have not been constructed yet. The City estimates that the actual flows will reach these future estimated flows in approximately 5 years. The City plans to replace the College Parkway main in 5 to 10 years, but the main is being closely monitored and the main may be replaced sooner if conditions change. Staff is recommending a condition of approval requiring the project to pay a pro rata share to contribute to the estimated cost of the upgrade based on the requested average 15,700 gallons per day water usage. The estimated pro rata share contribution based on the current sewer demand estimate is \$43,580.

Other Effects of Water Usage

Part of the other effects of water usage includes the opportunity cost. The City's water resources are not infinite. With that in mind, the engineering staff provides the Commission with the water equivalent residential customer value. If water is assigned to Use A, it will not be available to Use B. As noted above, the proposed facility estimates water usage at 44.1 gallons per day per bed is equivalent to 36.9 Water Equivalent Residential Customers.

Policy Criteria from Resolution 2021-R-23

Specific policy criteria relative to commercial and industrial water demands has been included in Resolution 2021-R-23 adopted by the Board of Supervisors on July 15, 2021. As noted above, the criteria require the Growth Management Commission to make the following findings in the affirmative, in order to approve water use in excess of 15,000 gallons per day:

1. The use utilizes water conservation measures and techniques; and

The Applicant proposes the use of low flow water fixtures and the use of sink faucets with automatic shut-off valves. Outdoors, the Applicant proposes the use of landscaping materials that will utilize less water and water with drip irrigation. The pool and spa will be indoors with retractable covers which will help to reduce the amount of evaporation loss. The Applicant estimates the actual realized water use will be lower than the proposed 15,700 gallons per day; however, 15,700 gallons per day is being proposed as a conservative estimate based on the average use of existing facilities in the City. Staff is recommending a condition of approval for the project requiring future water use to be reported which would ensure that future water use is within

the range proposed. If it is in excess of the range proposed, a new Growth Management approval will be required.

2. The use will promote health, welfare, safety, or quality of life; or create quality jobs; or promote recreation and tourism.

The proposed use is a congregate care facility, providing care to individuals who can no longer care for themselves. The Applicant notes that the facility will work to continually train their caregivers to provide a healthy and safe environment to help improve the quality of life for their residents and they will ensure compliance with all state and local regulations related to such facilities. Additionally, the Applicant notes the facilities proximity to Carson-Tahoe Hospital in the event of an emergency for one of the residents. The Applicant also advises of their plans to provide multiple quality jobs, including life and health insurance, continuing education and on-site housing for employees.

Based on the materials submitted staff is able to make these findings in the affirmative and is recommending approval subject to the conditions of approval.

Attachments:

- Application GM-2022-0504
- Water Use Application Form for GM-2022-0504

Carson City Planning Division 108 E. Proctor Street- Carson City NV 89701 Phone: (775) 887-2180 • E-mail: planning@carson.org		FOR OFFICE USE ONLY: CCMC 18.12		<div style="border: 2px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> RECEIVED NOV 18 2022 CARSON CITY PLANNING DIVISION </div>	
FILE # <u>GIM-2022-0504</u>		GROWTH MANAGEMENT			
APPLICANT <u>PETER WILDAY</u>		PHONE # <u>775-742-5644</u>		FEE: None	
MAILING ADDRESS, CITY, STATE, ZIP <u>3710 GRANT DR., RENO, NV 89509</u>					
EMAIL ADDRESS <u>PETEWILDAY@GMAIL.COM</u>					
PROPERTY OWNER <u>JODA LLC</u>		PHONE # <u>775-885-1701</u>		<input type="checkbox"/> SUBMITTAL PACKET - 4 Complete Packets (1 Unbound Original and 3 Copies) including:	
MAILING ADDRESS, CITY, STATE, ZIP <u>4500 N. CARSON ST. CARSON CITY 89706</u>					
EMAIL ADDRESS <u>MIKE@MICHAEL HOHL.COM</u>					
APPLICANT AGENT/REPRESENTATIVE <u>PETER WILDAY, ARCHITECT</u>		PHONE # <u>SAME</u>		<input checked="" type="checkbox"/> Application Form <input checked="" type="checkbox"/> Site Plan <input checked="" type="checkbox"/> Water Report <input checked="" type="checkbox"/> Applicant's Acknowledgment Statement <input checked="" type="checkbox"/> Documentation of Taxes Paid to Date	
MAILING ADDRESS, CITY, STATE, ZIP <u>SAME</u>					
EMAIL ADDRESS <u>SAME</u>					
Total Gallons Per Day of Water Usage Requested: <u>14,892 GAL/DAY MAX.</u>		Assessor's Parcel Number(s) <u>07-53-531-26</u>		Address <u>4500 N. CARSON STREET 89706</u>	
Project's Master Plan Designation <u>COMMERCIAL</u>		Project's Current Zoning <u>RC</u>		Nearest Major Cross Street(s) <u>ARROWHEAD DR. - MEDICAL PARKWAY</u>	

Please provide a brief description of your proposed project and/or proposed use below. Provide additional pages to describe your request in more detail.

SEE ATTACHED: DETAILED PROJECT DESCRIPTION

PROPERTY OWNER'S AFFIDAVIT

I, Michael Hohli, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature

Address

Date

Use additional page(s) if necessary for other names.

STATE OF NEVADA
COUNTY Carson

On 11/18, 2022, Michael Hohli, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public



MALLORY NICHOLE COOK
 Notary Public - State of Nevada
 Appointment Recorded in Douglas County
 No: 18-4130-5 - Expires November 1, 2026

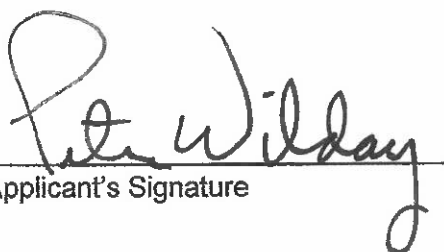
NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.

If there is any additional information that would provide a clearer picture of your proposal that you would like to add for presentation to the Planning Commission, please be sure to include it in your detailed description.

Please type and sign the statement on the following page at the end of your findings response.

ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.


Applicant's Signature

PETER WILDAY 7/14/22
Print Name Date

SUP - 10/4/22 (Pu)
GROWTH — 11/17/22 (Pu)
MANAGEMENT

DETAILED PROJECT DESCRIPTION:

OASIS – assisted living will be a full service congregate care facility that will provide Skilled Nursing as well as less intensive assisted living services including memory care and hospice care. The project will include three connected three-story residential towers that encircle a shared central gardens amenity area. Each tower will have a different theme and restaurant dining area; The Tuscan tower will capture an Italian restaurant, 2. The Hawaiian Tower will feature an Asian restaurant, 3. The Tahoe Tower will feature an American restaurant. Dining choices and good food are highly valued by the residents. All restaurants will look out onto the central gardens and will be easily connected to each other around the garden's amenity area on the ground level. The restaurants will be serviced by the central commissary that will prepare all the food and wash all the dishes. Each restaurant will have 5 or 6 menu choices that will be served table side from rolling hot carts. Extended hours of operation will allow for more family participation in visits.

Each three-story tower will have 58 rooms with two resident elevators and one service elevator. Each room has the flexibility to be private or shared and has its own bathroom and outside deck. The number of beds housed will vary and will be driven by market demand. Each building could house as many as 132 beds at 90 percent occupancy. At the required rate of one caregiver per six residents each building could have as many as twenty-two caregivers on duty on the day shift and 11 caregivers on the night shift.

The Central Gardens amenity area will include 2 putting greens, 2 dog parks and indoor physical therapy pool and spa, flower and vegetable gardens, a water feature with walking paths and benches as well as a special event room for Sunday church services and other scheduled speaking and musical events as well as movie nights. Chaplain services will be available for residents and families in small chapels.

A separate 13,000 square foot on-site administrative building will include Human resources, training, operations, staff offices as well as a micro testing laboratory, a private pharmacy and other medical staff and storage facilities.

We are also requesting an alternate use for on site caregiver housing as shown on sheet 2 overall site plan and sheet 12 alternate Caregiver Apartments. The existing RC zoning allows for a mixed use with an S.U.P. The addition of this 12 unit apartment building would enhance the overall OASIS campus complex level of care by housing about 1/3 of the required caregivers on site. It is imperative to the residents that the caregivers are on duty at all times. Having a portion of this staff on site will give Oasis the ability to ensure this level of care. The location of this apartment building also shields the truck loading as well as trash pick up and grease interceptor maintenance from the Medical Parkway park loop roads. We appreciate your consideration of this request.

The proximity to the Carson Tahoe Regional Medical Center will be an advantage to residents of Oasis since the services offered there and the short response time will add to the overall health care availability in Carson City.

Water Main Analysis

Project: Oasis Assisted Living
4500 N Carson Street
Carson City APN 007-531-26
File No: 2284.001-B

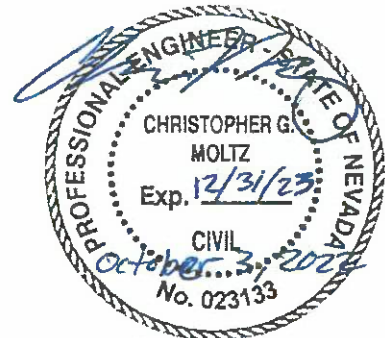
Prepared by:

Christopher Moltz, P.E.
chris@westexconsulting.com
775-484-1013

October 3, 2022

Prepared for:

Peter Wilday Architects for Submittal to Carson City, NV



I. Introduction

This report intends to serve as a Water Main Analysis for Oasis Assisted Living. The project is to be located on Carson City APN 007-531-26 (at 4500 N. Carson Street). The parcel is currently used by an existing business (Michael Hohl RV Center) which will be replaced by the proposed project: an up to 356 bed maximum assisted living facility. A Major Project Review Meeting was held with Carson City on October 26, 2021 (MPR-2021-0348). Per review of MPR meeting notes for this project, nine items (Items 6-14) were addressed towards the water requirements for this project:

6. The existing water main is a 10-inch PVC on [the] east side of the property (N Carson St).
7. The project spans two pressure zones. The development shall be connected to the 12-inch water main in Medical Parkway, the 5030-pressure zone.
8. A wet stamped water main analysis must be submitted in accordance with CCDS 15.3.1(a) to show that adequate pressure will be delivered to the meter and fire flows meet the minimum requirements of the Carson City Fire Department. Please contact Michael Friend at (775) 283-7713 or mfriender@carson.org to schedule a fire hydrant flow test.
9. Due to minimal water information provided in the MPR application, additional requirements may apply.
10. Project shall comply with all City and State codes and standards.
11. The project shall be master metered for the water service. A reduced pressure principal backflow prevention assembly will be required to install located after the master meter. Attention is drawn to NRS 704.940 in regard to metering, charging and billing for water supplied to individual units.
12. During system adjustments, pressures may be lower and the applicant may wish to consider installing booster pumps to provide adequate pressures at the upper stories of the development. Booster pumps would be installed and maintained at the property owner's expense.
13. A fire loop will be private and check valves will be installed at the property line.
14. Water and sewer connection fees must be paid. If these fees were paid in the past, then the difference between the old and new amounts of water/sewer usages must be paid for. Please see CCMC 12.01.030 for the water connection fee schedule and 12.03.020 for the sewer connection fee schedule.

The purpose of this report is to address Item No. 8 of MPR letter for MPR-2021-0348.

If any findings, assumptions, conditions, or project plans are found to vary from those described in this report, we should be contacted immediately to verify that the recommendations contained herein remain applicable to the final project design. Accordingly, this report may be revised at any time.

II. Overview and Scope of Analysis

The proposed development for this project is a 356 bed maximum assisted living facility. Multiple three story towers are proposed for the property. The location of this project is on Carson City APN 007-531-26. This project will replace the existing Michael Hohl RV Center currently on the property. Please reference Figure 1 (below) for a conceptual layout of the project.

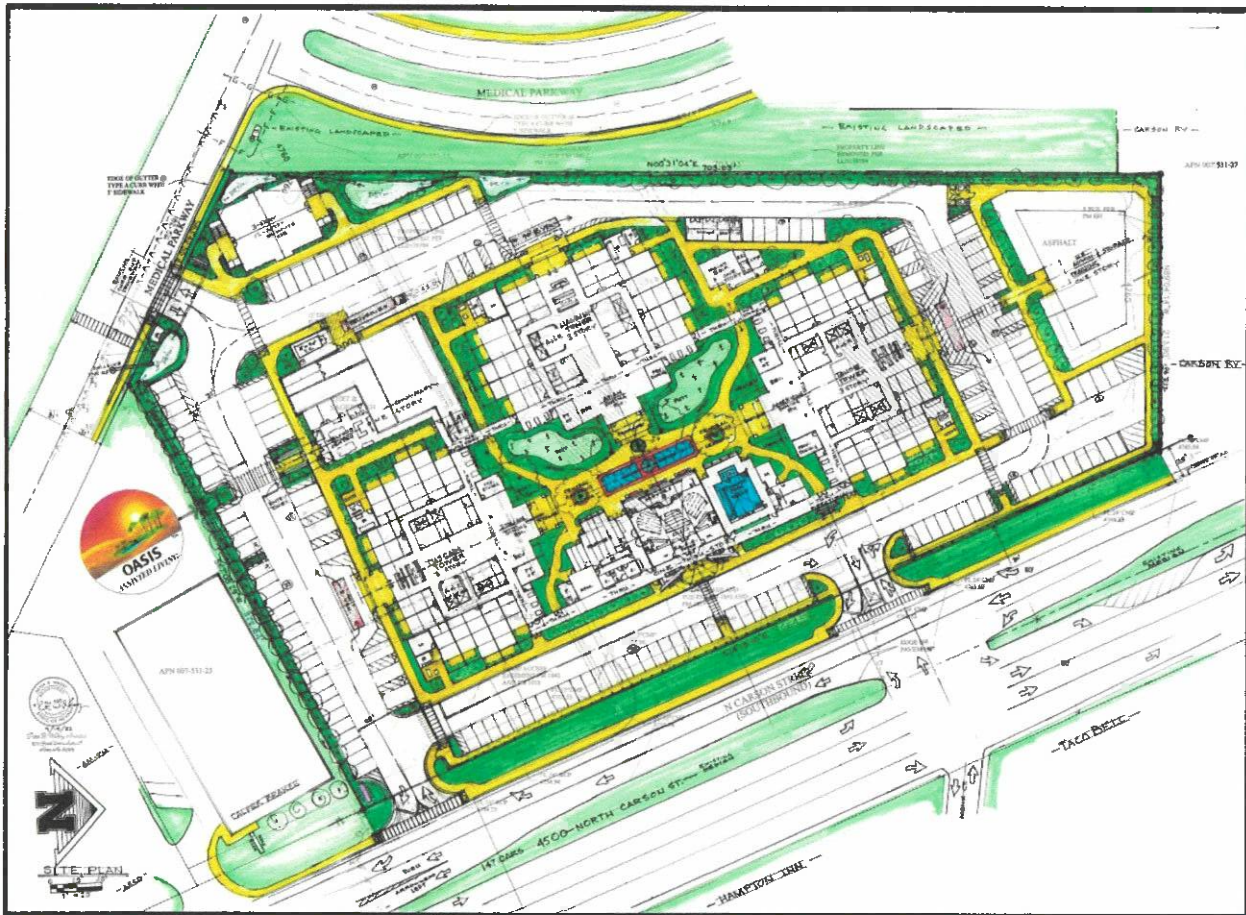


Figure 1 – Conceptual Site Layout of Project.

I reached out to Carson City Public Works to schedule a fire test flow and discuss the water main analysis for this project. When I first scheduled a fire flow test with the City, they a fire flow test along the eastern side of the project location in the 4960 pressure zone was ordered (see Attachment 1). However, the MPR notes from Carson City specified that the water main must connect to the 5030 pressure zone of Medical Pkwy.

An overview of the existing municipal water system can be seen below in Figure 2.



Per review of the MPR Letter, any Sewer Main Capacity Study should consult Section 15.3.1(a) of the CCDS. I pulled the municipal code for Section 15.3.1(a) which reads as follows:

a. **Main Analysis.** Water mains shall be analyzed to determine system capability to provide adequate flows and pressures. The analysis and calculations shall be provided to Carson City development engineering for review and approval, or the applicant may request that the analysis be done by the city. The cost to the city for performing the analysis shall be charged

to the developer. Water mains shall be designed to deliver a minimum of sixty (60) psi at the meter during peak demand periods and to provide adequate fire flow as required by the fire department. If project is an infill development where the existing system is incapable of providing sixty (60) psi, the utilities director may waive the requirement.

Subdivisions, PUD's and large commercial or industrial projects having a significant impact on the city water system as determined by the Carson City development engineering department shall provide an update of the city water model using a format that is compatible with the current model, or request the city perform the analysis as described above.

New construction or remodels adjacent to the existing Carson City water system where little or no additional system improvements are required; must provide a report with current date, project address (with location map), APN number, permit number, if available, comparing the required fire flow established by the building and safety department (UFC) and the "available" flow obtained by the actual fire flow data sheet, which shall be approved.

The report shall address system pressures at the project location to assure sixty (60) psi is available at all water meters during peak day demands.

Reclaimed water mains shall be analyzed to provide adequate flow and pressure at the points of service for new intended use. The analysis must consider future uses as determined by the utilities department.

Accordingly, the following sections intend to address the above scope of analysis.

III. Existing Water System and Surrounding Areas

Based on information provided by Carson City and review of the MPR Meeting notes, this project will need to connect to the 5030 pressure main along Medical Pkwy. The water line in front of Medical Pkwy is a 12" PVC Main, which loops around the parkway. The fire flow test was performed on the northern edge of the Medical Pkwy loop (Attachment 2). Although the fire flow test was performed approximately 2,500 feet from the proposed project hookup location, it is on a looped system, and the elevation of the proposed project location meter location is at approximately 4758 feet, whereas the elevation of where the fire flow test was taken was at approximately 4828 feet (or 70 feet higher in elevation).

Static pressure at the point of connection should at a minimum match the static pressure at the residual hydrant (which was identified as 82 psi per the fire flow test), but realistically, we can assume the static pressure will be higher due to the 70 feet in elevation drop from the residual hydrant's location.

As previously mentioned, two Fire Flow Tests were conducted: one in the 5030 Pressure zone on Medical Pkwy (Attachment 2), and one in the 4960 Pressure Zone on North Carson Street (Attachment 1).

The largest building proposed is the three towers, each of which is proposed to be a 45,000 square foot building (under 45 feet tall) with IBC construction type IIA or IIIA. Based on review of the 2018 IFC Table B105.1(2), required fire flows for a 45,000

square foot building (Type IIA or IIIA) require a 3,000 gpm flow at 20 psi residual pressure for three hours.

Based on the fire flow test on Medical Pkwy (5030 Presure Zone), there is not enough flow available to meet this requirement. The fire flow test for Medical Pkwy (Attachment 2) shows only a 2,100 gm capacity at 20 psi residual pressure. However, the fire flow test for N. Carson Street (Attachment 1) shows a 3,100 gpm flow at 20 psi residual pressure. Based on review of these two tests, the 4060 pressure zone (along N. Carson Street), should be able to provide adequate fire flows for this project. Please note that all hydrants in the vicinity of the project are connected to the 4060 pressure zone.

IV. Fixture Unit Counts and Water Demand for Project

A fixture unit (F.U.) count was performed and supplied by IMEG Corporation for this project and can be seen in Attachment 3.

Based on the completed fixture unit count 1577.5 total fixure units were counted resulting in a maximum demand rate of 279.6 gpm.

In addition to the domestic water usage, we also need to approximate landscaping usage. Please note that due to the size of the project and the way landscaping systems work (in irrigation zones), not all landscaping will be irrigated at the same time. Accordingly, landscaping can and should be timed so that irrigation systems are not running at the same time as peak domestic water usage times. Based on initial discussions with the Architect, we are looking at the following quantities of landscaping:

- 70 Large Shade Trees
- 700 Shrubs
- 5,000 square feet of turf (putting green)

If we assume 12 gallons per hour trip system per tree, and 2 gallons per hour drip system per shrub, this comes to a demand of 2,240 or 37.33 gallons per minute (gpm) for the drip system. However, an irrigation system of this size will likely be split into at least seven zones for an instantaneous demand of 5.3 gpm for drip system irrigation.

Based on previous experience and irrigation design, it will be assumed that 1,000 sq. feet of turf requires a sprinkler flow rate of 7gpm. Although there is 5,000 proposed square feet of turf, we will assume that this will be broken into a minimum of four zones resulting in a maximum instantaneous flow rate of 8.75 gpm.

Based on the assumption that only drip or sprinkler irrigation systems will be running at the same time, and the irrigation system will run in zones at separate timing, the highest of the above numbers (8.75 gpm) will be used in this analysis as the peak irrigation flow rate.

If we add the 8.75 gpm maximum irrigation demand to the 279.6 gpm maximum domestic demand based on the water fixture units, we come to a peak water demand of 288.35 gpm.

When we plot the 288.35 gpm peak demand on the pressure curve of the fire flow test for the 5030 Pressure Zone on Medical Pkwy (Attachment 2), a pressure drop from 82 psi to 80 psi is observed. This is plenty more than the 60 psi required per Carson City Standards.

V. Conclusions:

This project adjoins two pressure zones within the Carson City municipal water system: the 4960 Pressure Zone along N. Carson Street, and the 5030 Pressure Zone along Medical Pkwy.

Existing fire hydrants adjoining the property are located off N. Carson Street and the 4960 Pressure Zone. Based on the fire flow test in Attachment 1, these hydrants will provide enough fire flow capacity to the project (based on a maximum building size of 45,000 sq. feet and Type IIA or IIIA construction). Any additional hydrants that may be required for this project should come off the 4960 Pressure Zone.

The existing domestic water line and irrigation lines should come off the 5030 Pressure Zone on Medical Pkwy (as prescribed in the MPR meeting notes). The peak water demand based on the fixture count provided by IMEG Corporation is 279.6 gpm, and the maximum irrigation demand is assumed to be 8.75 gpm. This comes to a maximum demand of 288.35 gpm.

When we plot the 288.35 gpm peak demand on the pressure curve of the fire flow test for the 5030 Pressure Zone on Medical Pkwy (Attachment 2), a pressure drop from 82 psi to 80 psi is observed. This is plenty more than the 60 psi required per Carson City Standards.

VII. Disclaimer and Closeout:

The recommendations presented in this report are based on preliminary assumptions and estimates, as well as the best available data at the time.

Our conclusions and recommendations may be invalidated, partially or in whole, by changes outside our control, such as new projects, or changes in land uses, or additional testing and modeling. This report may be subject to review and revision at any time. Opinions expressed in this report do not constitute a warranty of any kind, either express or implied.

Sewer Main Analysis for Oasis Assisted Living
File No. 2284.001-B
October 3, 2022

WESTEX Consulting Engineers, LLC
P.O. Box 18871
Reno, Nevada 89511

If you, any design consultants, or plan reviewers have any questions, please contact me directly at (775) 484-1013 or at chris@westexconsulting.com

Respectfully submitted,
WESTEX Consulting Engineers, LLC

A handwritten signature in blue ink, appearing to read "Chris Moltz", with a stylized flourish at the end.

Christopher Moltz, P.E.
Senior Project Manager

October 17, 2022

Carson City Public Works Department
ATTN: Christopher Gonzales, P.E.
cgonzales@carson.org
775-283-7053

Attention: Mr. Christopher Gonzales, P.E.

Subject: ADDENDUM LETTER NO. 2 FOR WATER MAIN ANALYSIS FOR OASIS ASSISTED LIVING
4500 N Carson Street
Carson City APN 007-531-26
File No: 2284.001-B

Mr. Gonzales,

This letter is intended to serve as a second addendum letter to the Water Main Analysis for Oasis Assisted Living dated and Stamped October 3, 2022. A first addendum letter was written dated 10/14/2022. This letter supersedes and replaces the previous addendum letter dated 10/14/2022. Key changes include:

- **Turf Grass has been replaced with artificial turf**
- **It has been clarified that Usage for Domestic Towers is intended to include all domestic functions associated with care of residents (including kitchen facilities, maintenance, and Washing of Clothes and Linens)**
- **Daily Water Losses for Pool and Fountain Accounted For**
- **Water Use for 12 Apartments (Domestic Caregivers) Accounted For**

Based on review and feedback from Carson City, I was told that additional information is required to determine peak water usage for this project (Oasis Assisted Living, a 356 maximum bed assisted living facility to be located at 4500 N Carson Street).

I reached out to IMEG Corporation who performed the water fixture count for the project (Attachment 3 of the Water Main Analysis). I spoke with Richard of IMEG Corporation (775-374-5684). He identified that the 279.6 TOTAL GPM flow on the fixture unit count was all fixtures running simultaneously. My original water main analysis mistakenly identified this as the peak flow, however, the peak flow will realistically be much less than this.

In order to determine peak flow and average daily flow, we will use the water fixture count and adjust it based on realistic maximum use.

Based on discussions with the applicant, there will be one caregiver for every six residents. These residents will likely not be able to function, let alone perform bathing and bathroom functions without assistance. Many will be in their beds and will have catheters, and will not perform standard bathroom and daily hygiene functions without the assistance of their caregiver. Additionally, residents won't sit in the bath or shower for long periods of time. Standard cleaning schedules are very brief showers (1 to 2

minutes) twice a week. Most of the caregiver's time is spent assisting with changing, medication, helping movement, and taking medical readings. A very small portion of their time in the room is running water fixtures. Accordingly, not all nurses will be running water fixtures at the same time. If we assume that at peak demand, half of all nurses will be running water fixtures at a given time, we come to a Peak Water Demand of 23.3 gpm. ($279.6 \text{ gpm of all fixtures running at once} / 6 \text{ nurses per patient} / 2 [\text{half of all nurses running water}] = 23.3 \text{ gpm peak demand}$).

If we then take the 23.3 gpm Peak Water Demand, and divide by a factor of 3 (Standard for Carson City), we arrive at an average water use of 7.77 gpm. $7.77 \text{ gpm} \times 24 \text{ hours in a day} \times 60 \text{ minutes in an hour} = 11,188.8 \text{ gallons per day}$ estimated daily usage for this project. Divided by the maximum 356 beds for this project, this comes to an average daily water use demand of 31.4 gallons per resident per day. This seems like a reasonable number for average daily usage per resident of the assisted living facility.

As a check, I researched to see if there is another assisted living facility which we could compare water usage to. I identified Sierra Place Senior Living located at 1111 W College Pkwy (Carson City APN 007-462-01) as a comparable source. I reached out to Carson City utilities billing who provided water usage quantities in thousands of gallons (See Attachment to this letter). Based on review of provided data, this comes to an average monthly demand of 161,000 gallons per month, or 5,322 gallons per day. Based on the 120 unit location, this comes to 44.35 gallons per day per room.

This amount is close, but more than the 31.4 gallons per day per room estimated per person based on the fixture unit count. However, typically as more rooms are added, your average demand goes down per room. Additionally per discussions with the applicant, the 356 beds is a maximum theoretical value. Rooms and living spaces will be modular, with families electing to provide their loved ones with larger living areas at additional costs. Realistically closer to 300 beds would be more realistic to what we can expect to see for a true number of residents at Oasis Assisted Living. I would like to note that Sierra Place Senior Living was built in 1997 and likely has many fixtures that use substantially more water than current low flow and water saving fixtures to be installed in the new Oasis Assisted Living Facility. However, in order to be conservative, we will take the average of the estimated daily demand from the fixture unit count for Oasis Assisted Living and the estimated daily demand from Sierra Place Senior Living (located at 1111 W College Pkwy). If we take the average of the 31.4 gallons per day per room from the fixture count, and the 44.4 gallons per day per room from Sierra Place Senior Living, it results in an estimated 37.9 gallons per resident per day. This calculates to an average daily water demand of 13,492 gallons (based on maximum theoretical of 356 beds). This number is intended to account for all domestic use associated with the residents, to include kitchen facilities, maintenance, and washing of clothes and linens. I think this is a reasonable value of expected domestic water usage, as the number of residents increases, typically individual water usage decreases.

Based on initial discussions with the Architect, we are looking at the following quantities of landscaping:

- 70 Large Shade Trees
- 700 Shrubs
- 5,000 square feet of turf (artificial turf)

If we assume 12 gallons per hour drip system per tree, and 2 gallons per hour drip system per shrub, this comes to a demand of 2,240 gph. If we assume a 30 minute run time for drip irrigation three days a week, this comes to 480 gallons per day (on average) for drip system irrigation.

The 5,000 proposed square foot putting green will be artificial turf and will require no water usage.

The applicant is proposing a 12 unit apartment building on site to house caregivers. It is assumed that each apartment will utilize 60 gallons per day. 60 gallons per day for 12 apartments results in a daily

emand of 720 gallons for apartment use. It is also assumed that a peak flow of 9 gpm would occur
om apartment use.

y office was also asked to analyze effects of the proposed fountain and indoor pool / spa losses.
ased on best available research, it was determined that losses of 0.25 inches per day would be
plied to both of these water features. A combined estimate of 1,140 square feet of surface area can
e applied to the fountain and indoor pool area. 1,140 square feet divided by 12 inches per foot,
vided by four (1/4 of an inch) results in a daily loss of 23.75 cubic feet, or 178 gallons of water per day
sses. This number will be rounded up to 200 gallons per day for this analysis.

ombining the 480 gallons per day for drip irrigation, the 200 gallons per day for fountain and indoor
ool / spa losses, as well as the 720 gallons per day for apartment (caregiver domestic use), this
omes to 1,400 gallons per day of additional uses (beyond domestic use for caring for residents). If we
ld the 1,400 gallon per day additional water demands to the 13,492 gallon estimated daily demand,
is comes to a maximum 14,892 gallon daily demand.

or the sake of this analysis the maximum average total daily water demand is estimated to be at
4,892 gallons per day, which is less than the 15,000 gallon per day trigger for Growth Management
lan. The applicant understands that while this number is close to the 15,000 gallon per day trigger,
e plans are conceptual at this time, and it is their full intention to modify plans as needed to stay
nder 15,000 gallons per day. Removal of additional landscape irrigation, as well as room reductions
e both possibilities to the reduce the overall daily demand.

ne estimated water demand is based on a maximum of 356 beds. However, I think actual water
sage will be lower than this, based on the fact that the maximum number of beds will likely never be
ached (due to modularity and customization of the floor plans). If only 300 beds are ever occupied,
e can expect the average total daily water demand to be closer to 12,770 gallons per day (including
igation).

we combine the peak daily demand of 23.3 gpm for resident domestic use, plus a 9 gpm peak
emand for apartment use, plus 3 gpm for water features, this comes to a peak demand of 35.3 gpm
stantaneous peak water demand).

you have any questions or require further assistance, please do not hesitate to contact me directly.

respectfully submitted,
WESTEX Consulting Engineers, LLC

Christopher G. Moltz, P.E.
Senior Project Manager
cmoltz@westexconsulting.com
(75) 484-1013 (Direct)



ATTACHMENT: UB Consumption History Report for 1111 College (from Carson City Utilities)

December 7, 2022

Carson City Public Works Department
ATTN: Stephen Pott  y, P.E.
spottey@carson.org
775-283-7079

Attention: Mr. Stephen Pott  y, P.E.

Subject: ADDENDUM LETTER NO. 3 FOR WATER MAIN ANALYSIS FOR OASIS ASSISTED LIVING
4500 N Carson Street
Carson City APN 007-531-26
File No: 2284.001-B

Mr. Pott  y,

This letter is intended to serve as a third addendum letter to the Water Main Analysis for Oasis Assisted Living dated and Stamped October 3, 2022. A first addendum letter was written and dated 10/14/2022, and a second addendum letter was written and dated 10/17/2022. This letter supersedes and replaces the previous addendum letter dated 10/17/2022. Key changes include:

- **Calculations updated**

Based on review and feedback from Carson City, I was told that additional information is required to determine peak water usage for this project (Oasis Assisted Living, a 356 maximum bed assisted living facility to be located at 4500 N Carson Street).

I reached out to IMEG Corporation who performed the water fixture count for the project (Attachment 3 of the Water Main Analysis). I spoke with Richard of IMEG Corporation (775-374-5684). He identified that the 279.6 TOTAL GPM flow on the fixture unit count was all fixtures running simultaneously. My original water main analysis mistakenly identified this as the peak flow, however, the peak flow will realistically be much less than this.

In order to determine peak flow and average daily flow, we will use the water fixture count and adjust it based on realistic maximum use.

Based on discussions with the applicant, there will be one caregiver for every six residents. These residents will likely not be able to function, let alone perform bathing and bathroom functions without assistance. Many will be in their beds and will have catheters, and will not perform standard bathroom and daily hygiene functions without the assistance of their caregiver. Additionally, residents won't sit in the bath or shower for long periods of time. Standard cleaning schedules are very brief showers (1 to 2 minutes) twice a week. Most of the caregiver's time is spent assisting with changing, medication, helping movement, and taking medical readings. A very small portion of their time in the room is running water fixtures. Accordingly, not all nurses will be running water fixtures at the same time. If we assume that at peak demand, half of all nurses will be running water fixtures at a given time, we

come to a Peak Water Demand of 23.3 gpm. (279.6 gpm of all fixtures running at once / 6 nurses per patient / 2 [half of all nurses running water] = 23.3 gpm peak demand).

If we then take the 23.3 gpm Peak Water Demand, and divide by a factor of 3 (Standard for Carson City), we arrive at an average water use of 7.77 gpm. 7.77 gpm x 24 hours in a day x 60 minutes in an hour = 11,188.8 gallons per day estimated daily usage for this project. Divided by the maximum 356 beds for this project, this comes to an average daily water use demand of 31.4 gallons per resident per day. This seems like a reasonable number for average daily usage per resident of the assisted living facility.

As a check, I researched to see if there is another assisted living facility which we could compare water usage to. I identified Sierra Place Senior Living located at 1111 W College Pkwy (Carson City APN 007-462-01) as a comparable source. I reached out to Carson City utilities billing who provided water usage quantities in thousands of gallons (See Attachment to this letter). Based on review of provided data, this comes to an average monthly demand of 161,000 gallons per month, or 5,322 gallons per day. Based on the 120 unit location, this comes to 44.35 gallons per day per room.

This amount is close, but more than the 31.4 gallons per day per room estimated per person based on the fixture unit count. However, typically as more rooms are added, your average demand goes down per room. Additionally per discussions with the applicant, the 356 beds is a maximum theoretical value. Rooms and living spaces will be modular, with families electing to provide their loved ones with larger living areas at additional costs. Realistically closer to 300 beds would be more realistic to what we can expect to see for a true number of residents at Oasis Assisted Living. I would like to note that Sierra Place Senior Living was built in 1997 and likely has many fixtures that use substantially more water than current low flow and water saving fixtures to be installed in the new Oasis Assisted Living Facility. However, in order to be conservative, we will take the average of the estimated daily demand from the fixture unit count for Oasis Assisted Living and the estimated daily demand from Sierra Place Senior Living (located at 1111 W College Pkwy). If we take the average of the 31.4 gallons per day per room from the fixture count, and the 44.4 gallons per day per room from Sierra Place Senior Living, it results in an estimated 37.9 gallons per resident per day. This calculates to an average daily water demand of 13,492 gallons (based on maximum theoretical of 356 beds). This number is intended to account for all domestic use associated with the residents, to include kitchen facilities, maintenance, and washing of clothes and linens. I think this is a reasonable value of expected domestic water usage, as the number of residents increases, typically individual water usage decreases.

Based on initial discussions with the Architect, we are looking at the following quantities of landscaping:

- 70 Large Shade Trees
- 700 Shrubs
- 5,000 square feet of turf (artificial turf)

If we assume 12 gallons per hour drip system per tree, and 2 gallons per hour drip system per shrub, this comes to a demand of 2,240 gph. If we assume a 30 minute run time for drip irrigation three days a week, this comes to 480 gallons per day (on average) for drip system irrigation.

The 5,000 proposed square foot putting green will be artificial turf and will require no water usage.

The applicant is proposing a 12 unit apartment building on site to house caregivers. It is assumed that each apartment will utilize 60 gallons per day. 60 gallons per day for 12 apartments results in a daily demand of 720 gallons for apartment use. It is also assumed that a peak flow of 9 gpm would occur from apartment use.

My office was also asked to analyze effects of the proposed fountain and indoor pool / spa losses. Based on best available research, it was determined that losses of 0.25 inches per day would be applied to both of these water features. A combined estimate of 1,140 square feet of surface area can be applied to the fountain and indoor pool area. 1,140 square feet divided by 12 inches per foot, divided by four (1/4 of an inch) results in a daily loss of 23.75 cubic feet, or 178 gallons of water per day losses. This number will be rounded up to 200 gallons per day for this analysis.

Combining the 480 gallons per day for drip irrigation, the 200 gallons per day for fountain and indoor pool / spa losses, as well as the 720 gallons per day for apartment (caregiver domestic use), this comes to 1,400 gallons per day of additional uses (beyond domestic use for caring for residents). If we add the 1,400 gallon per day additional water demands to the 13,492 gallon estimated daily demand, this comes to a maximum 14,892 gallon daily demand calculated for this project, or 41.8 gallons per bed per day.

If we combine the peak daily demand of 23.3 gpm for resident domestic use, plus a 9 gpm peak demand for apartment use, plus 3 gpm for water features, this comes to a peak demand of 35.3 gpm (instantaneous peak water demand).

Although the 41.8 gallons per bed per day estimate is reasonable, I was asked by Carson City to check against other similar facilities and their daily usage. Based on data from Carson City, average daily usage may be as much as 44.1 gallons per bed per day. If we adopt this more conservative value for planning purposes, based on 356 beds, we arrive at 15,700 gallons per day of water use .

If you have any questions or require further assistance, please do not hesitate to contact me directly.

Respectfully submitted,
WESTEX Consulting Engineers, LLC

Christopher G. Moltz, P.E.
Senior Project Manager
chris@westexconsulting.com
(775) 484-1013 (Direct)



ATTACHMENT: UB Consumption History Report for 1111 College (from Carson City Utilities)

November 14, 2022

Carson City Planning Department
ATTN: Heather Ferris
hferris@carson.org
775-283-7080

Attention: Heather Ferris

**Subject: RESPONSE TO GROWTH MANAGEMENT RESOLUTION NO. 2022-R-26 FOR
OASIS ASSISTED LIVING, ITEM NO. 6**
4500 N Carson Street
Carson City APN 007-531-26
Westex File No: 2284.001-B

Ms. Ferris,

This letter is intended to serve as a summary response addressing Item No. 6 of the Growth Management Resolution No. 2022-R-26 and how it applies to the proposed project (Oasis Assisted Living, a 356 maximum bed assisted living facility to be located at 4500 N Carson Street).

You sent an email to Mr. Pete Wilday (applicant) and myself to address Item 6 of the Growth Management Resolution on 11/8/2022.

I am writing this letter to address those concerns.

Per the except from Resolution 2022-R-26, adopted by the Board of Supervisors on 7/21/22:

“ 6. In considering applications in response to subsection 5, the Growth Management Commission must first find that the use utilizes water conservation measures and techniques. If that finding is made, the Growth Management Commission must consider if the use will promote health, welfare, safety or quality of life; or create quality jobs; or promote recreation and tourism. If both such findings are made, an application under subsection 5 can be granted.”

How this project will utilize water conservation measures and techniques:

This project plans on water conservation measures and techniques in the following ways:

- All plumbing fixtures that will be used at Oasis Assisted Living will be “low flow” as certified by the EPA to meet or exceed low flow criteria.
- The proposed toilets to be installed exceeds EPA “low flow” criteria by 50%. The EPA has determined that toilets 1.6 gallons per flush or less can be classified as “low flow”. Oasis Assisted Living will be exclusively installing Kohler Niagara Stealth Toilets which utilizes only 0.8 gallons per flush, which is half of a traditional “low flow” toilet (1.6 gallons per flush). Water savings over a standard “low flow” toilet will be half.

- Showering practices associated with senior care is vastly different than a typical working age adult. Most people turn on their 3gpm shower, step in, and take anywhere between a five to ten minute shower before or after work. This is far different than senior living care showers. Residents are typically showered approximately every three days (unless more are medically required). All showers are given by trained caregivers for safety and water conservation reasons. The residents are required to sit on an ADA fold-down bench in the private wet room / bathroom. They are rinsed with a hand-held shower sprayer to get wet. Water is shutoff and they are then cleaned with a medical grade liquid soap and with sponge / wand. Then they are rinsed off by their caregiver with said hand-held shower sprayer and their shower is completed. The sprayer is manually activated to prevent waste. The shower sprayers are rated as 1.5 gpm fixtures (Delta 59462-B15-BG). Total wash time would be close to 1 to 2 minutes. Water used is likely one fifth of a standard working adult per shower. Additionally time of use is typically one third of the use (showers given approximately every three days). Water use for showering will be 1/10th to 1/15th that of a standard working adult.
- Residents will have unmonitored access to their own sinks for hygienic purposes. Because many residents have some level of dementia or Alzheimer's Disease, they tend to forget to turn off their faucets. For that reason, all Oasis Assisted Living faucets will have automatic water shutoff valves. These valves are connected to the house power supply instead of batteries for guaranteed reliability, and ensuring water is not wasted. All proposed sinks are 6" tall ADA low flow water saving faucets with automatic shutoff valves.
- No grass or turf is to be installed. There is an approximate 5,000 square foot putting green which is to be constructed of artificial turf. This means there will be no water usage for this putting green.
- All outdoor landscaping will be based on timed irrigation drip systems to control the amount and time of irrigation. There are no "sprayers" or "sprinklers" to be installed which shoots water in the air. Only drip system irrigation.
- The spa / pool for residents will be indoor (which will prevent the majority of potential evaporation losses). Secondly this pool will have a retractable cover which will additionally reduce evaporation losses.

How this project promotes health, welfare, safety, or quality of life:

This project plans on promoting health, welfare, safety, or quality of life in the following ways:

- This project is an assisted living facility. By definition, this facility is intended to provide and enhance care, health, welfare, safety, and quality of life, for seniors who cannot care for themselves.
- The proposed facilities are located directly next to the Carson-Tahoe Hospital, which will provide speedy access to both regular healthcare, as well as immediate access in the case of an emergency.
- Oasis Assisted Living will continually train their caregivers to provide a health, safe, and better quality of life for all of their residents. Staff will strictly adhere to the Nevada Bureau of Healthcare Quality and Compliance regulations to ensure that their residents will have the best quality of life possible.
- Multiple recreational facilities are proposed to increase enjoyment for residents to include:
 - A large central garden area for walking and enjoyment
 - Multiple putting greens
 - Private gardening areas to allow residents to grow flowers and organic fruits and vegetables
 - Group activities, and special events to include parties and classes
 - A large movie theatre
 - Private Therapy Pool and Spa

- Private Dining Areas
- Each personal sink/faucet will be installed with an ICEPURE under sink water filter which removes 99.99% of chlorine as well as removed odors and taste from water.

How this project will create quality jobs:

This project plans on creating multiple quality jobs. All Oasis Assisted Living caregivers will have good paying jobs with life and health insurance, as well as continuing education with the goal of promoting opportunity for successful career advancement. The additional apartment complex (12 units) will further assist staff members and provide much needed affordable (free) housing to workers for their initial training period (up to a year).

If you have any questions or require further assistance, please do not hesitate to contact me directly.

Respectfully submitted,
WESTEX Consulting Engineers, LLC



Christopher G. Moltz, P.E.
Senior Project Manager
chris@westexconsulting.com
(775) 484-1013 (Direct)

① TAXES HAVE BEEN PAID TO DATE

Payment History			
Fiscal Year	Total Due	Total Paid	Amount Unpaid
(2022 - 2023)	\$33,580.53	\$0.00	\$33,580.53
(2021 - 2022)	\$31,093.24	\$31,093.24	\$0.00 ✓
(2020 - 2021)	\$30,055.00	\$30,055.00	\$0.00
(2019 - 2020)	\$29,010.64	\$29,010.64	\$0.00
(2018 - 2019)	\$27,681.92	\$27,681.92	\$0.00
Show 5 More (22)			

Related Names			
CURRENT Mail To FOR 2023 (2023 - 2024)		CURRENT OWNER FOR 2023 (2023 - 2024)	
Name	JODA LIMITED PARTNERSHIP	Name	JODA LIMITED PARTNERSHIP
Mailing Address	2910 S CARSON ST CARSON CITY, NV, 89701-0000	Mailing Address	
Status	Current	Status	Current
Account		Account	
		Mail To FOR 2021 (2021 - 2022)	
		Name	JODA LIMITED PARTNERSHIP
		Mailing Address	2910 S CARSON ST CARSON CITY, NV, 89701-0000
		Status	Current
		Account	
OWNER FOR 2021 (2021 - 2022)			
Name	JODA LIMITED PARTNERSHIP		
Mailing Address			
Status	Current		
Account			

- Structure 1 of 4
- Structure 2 of 4
- Structure 3 of 4
- Structure 4 of 4

TAXES PAID

NEW WATER USE APPLICATION FORM

(Carson City Growth Management Commission)



Water Use Comparison

Type of Business : Congregate Care Facility

Number of similar businesses found: 4

Total Usage Comparison:

Low:	<u>1,551</u>	(GPD)	Amount Requested	<u>15,700</u>	GPD
Average:	<u>3,950</u>	(GPD)	equivalent WERCs	<u>36.9</u>	
High:	<u>5,741</u>	(GPD)			

"Per Bed" Comparison:

Low:	<u>38.3</u>	(GPD per bed)	Beds Proposed	<u>356</u>	
Average:	<u>44.1</u>	(GPD per bed)	Amount Requested	<u>44.1</u>	GPD/Bed
High:	<u>54.4</u>	(GPD per bed)			

Water Rights Comparison

Low	<u>1.7</u>	(AC-FT/YR)	Amount Requested	<u>17.6</u>	AC-FT/YR
Average	<u>4.4</u>	(AC-FT/YR)			
High	<u>6.4</u>	(AC-FT/YR)			

Notes: Range of comparative values are for reference only, no warranty is given or implied for typical uses
Carson City Municipal Code (CCMC) definition of Water Equivalent Residential Customer (WERC) value of 425/gpd