

**STAFF REPORT FOR THE PLANNING COMMISSION MEETING OF
JANUARY 25, 2023**

FILE NO: LU-2022-0492

AGENDA ITEM: 6.A

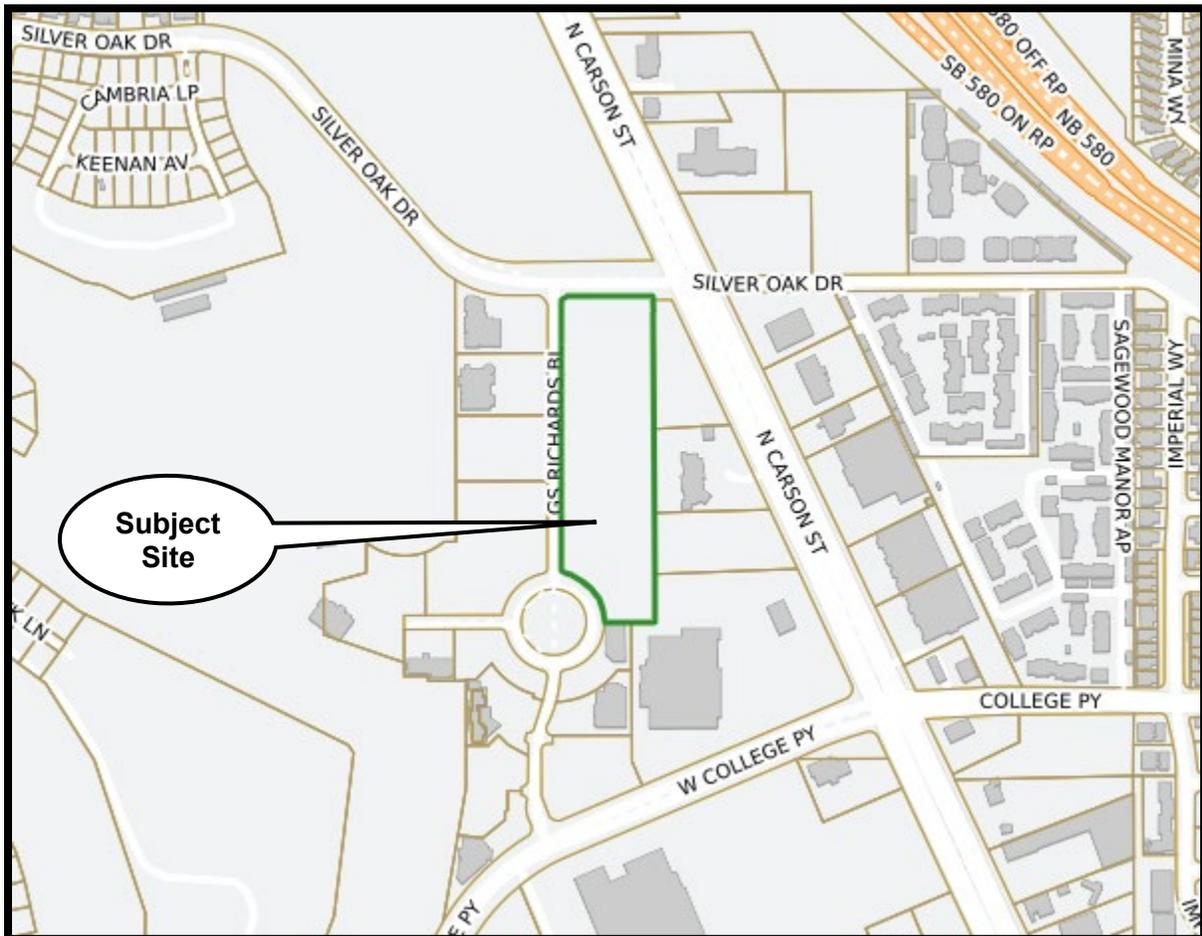
STAFF CONTACT: Heather Manzo, Associate Planner

AGENDA TITLE: For Possible Action: Discussion and possible action regarding an application from Alta Consulting, Ltd (“Applicant”) for a special use permit (“SUP”) for a multifamily residential development on a property within the Silver Oak Planned Unit Development and zoned Retail Commercial (“RC-P”) located on the southeast corner of Silver Oak Drive and GS Richards Boulevard, Assessor’s Parcel Number (“APN”) 007-461-19. (Heather Manzo, hmanzo@carson.org)

STAFF SUMMARY: The Applicant is proposing to construct a 178-unit multi-family residential project on a ±6.2-acre parcel. Multifamily development is allowed within the RC zoning district upon approval of a SUP. The Planning Commission is authorized to approve the SUP.

PROPOSED MOTION: “I move to approve the special use permit LU-2022-0492 based on the ability to make the required findings, and subject to the conditions of approval contained in the staff report.”

VICINITY MAP:



RECOMMENDED CONDITIONS OF APPROVAL

1. All development shall be substantially in accordance with Special Use Permit plans and application materials on file with the Carson City Planning Division.
2. All on and off-site improvements shall conform to City standards and requirements.
3. The applicant shall meet all the conditions of approval and commence the use for which this permit is granted, within 12 months of the date of issuance of the special use permit. A single, one-year extension of time may be granted if requested in writing to the Carson City Community Development, Planning Division ("Planning Division") 30 days prior to the one-year expiration date. Should this permit not be initiated within one-year and no extension granted, the permit shall become null and void.
4. The applicant must sign and return the Notice of Decision within ten (10) days of receipt of notification. If the Notice of Decision is not signed and returned within ten (10) days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.
5. Prior to the issuance of the first building permit, the applicant must submit an Emergency Responder Radio Coverage System ("ERRCS") survey for each apartment building. If an ERRCS is determined to be required, it shall be a deferred submittal through the Fire Department.
6. Prior to the issuance of the site improvement permit, the Applicant shall submit a landscape and irrigation plan and open space exhibit that demonstrates the project landscaping and common open space standards have been met. The open space exhibit shall demonstrate quantitatively and qualitatively that the plan complies with Section 1.18.6.
7. Prior to the issuance of a site improvement permit, the Applicant must enter into a pro-rata share agreement and pay its pro-rata share of the cost to replace 1,216 feet of downstream sewer main in College Parkway. The contribution will be calculated based on the estimated cost of the improvements and the sewer demand imposed by the project in an amount not to exceed \$72,557.23.
8. Prior to the issuance of a site improvement permit, plans and reports must be submitted which demonstrate that either the fire flow demand has been decreased by installing fire walls or construction materials that meet the available capacity of the City's water system, or which demonstrates that the available capacity of the City's water system will be increased through the project's water system design.
9. Prior to the issuance of a site improvement permit, plans must be submitted which demonstrate pedestrian access ramps will be installed at the locations indicated in the traffic impact study.
10. Prior to the issuance of a site improvement permit, plans must be submitted which demonstrate bike lane striping shall be installed on both sides of GS Richards Boulevard along the frontage of the project.
11. Prior to the issuance of a site improvement permit, the Applicant must enter into a pro-rata

share agreement and pay its pro-rata share cost for improvements to the intersection of Silver Oak Drive and North Carson Street. The improvements will be a traffic signal or other improvements as approved by the Transportation Division of the Carson City Public Works Department (“Transportation Division”) and the City Engineer. If signalization is the identified solution, the estimated cost of the signal improvements is approximately \$1,459,800. The project’s share is estimated to be 10%, with a maximum pro-rata share contribution of \$145,980.

12. Prior to the issuance of a site improvement permit, the applicant shall demonstrate that all garage spaces will be reserved for vehicle parking only and shall not be used for storage. The Applicant shall provide a notice to tenants disclosing this limitation. This may include, but is not limited to, providing a parking plan that assigns parking spaces to each unit and providing staff with a draft of the disclosure notice.
13. Prior to the issuance of a site improvement permit, the Applicant shall have plans approved that include a photometric plan that demonstrates compliance with the non-residential lighting standards contained in Carson City Design Standards (“CCDS”) Division 1.3.

LEGAL REQUIREMENTS: Carson City Municipal Code (“CCMC”): 18.02.080 (Special Use Permits), 18.04.130 Retail Commercial (“RC”), and CCDS Division 1.18 (Residential Development Standards in Non-Residential Districts)

MASTER PLAN DESIGNATION: Mixed-Use Commercial

PRESENT ZONING: RC-P

KEY ISSUES: Will the proposed development be compatible with the surrounding neighborhood and be in keeping with the standards of CCMC?

SURROUNDING ZONING AND LAND USE INFORMATION:

- EAST: RC / Glen Eagles restaurant, grocery store, and vacant land
- WEST: RC-P / office, medical office and vacant land
- NORTH: RC-P / vacant land
- SOUTH: RC-P /office & medical office

ENVIRONMENTAL INFORMATION:

- FLOOD ZONE: AE, X Shaded
- EARTHQUAKE FAULT: Greater than 500 feet from site
- FAULT ZONE: Zones 1 and 2 moderate to greatest severity
- SLOPE: The site is relatively flat

SITE DEVELOPMENT INFORMATION:

- SITE SIZE: ±6.2 acres
- EXISTING DEVELOPMENT: vacant
- PROPOSED DEVELOPMENT: multifamily residential development
- PROPOSED PARKING: 356 required, 303 provided parking spaces

PREVIOUS REVIEWS:

SUP-17-048 – A special use permit for multifamily development was approved on May 31, 2017, however the project was not constructed and the approval has expired.

DISCUSSION: The 6.2 acre subject property is located within the Silver Oak Planned Unit Development (“PUD”). The PUD does not include any land use restrictions for parcels located in the commercial zoning districts and as such, the site is required to meet the standards for the base zoning district. Residential development within the RC zone, a non-residential zoning district, requires the approval of a SUP. The project must meet all SUP findings as well as the additional findings contained in CCDS 1.18 to be approved. An analysis of applicable standards has been provided in the findings section of this report.

PUBLIC COMMENTS: Public notices were mailed on January 11, 2023 to 35 property owners within 850 feet of the subject property. As of the writing of this report, staff had not received any public comments related to the request. Any comments that are received after this report is completed will be submitted to the Planning Commission prior to or at the meeting on January 25, 2023, depending on the date of submission of the comments to the Planning Division.

OTHER CITY DEPARTMENTS OR OUTSIDE AGENCY COMMENTS: The following comments were received by various City departments. Recommendations have been incorporated into the recommended conditions of approval, where applicable.

Fire Department:

1. The project must comply with the 2018 International Fire Code (“IFC”) and Northern Nevada Fire Code amendments as adopted by Carson City.
2. Apartment buildings and the community building must have fire sprinklers, fire alarm, and Knox box.
3. Additional fire hydrants are required for buildings 1 and 4. Three fire hydrants are required (building 1 has two fire hydrants within 600 feet of the most remote point and building 4 has one fire hydrant within 600 feet of the most remote point).
4. The 4-story building will require standpipes and gurney sized elevators.
5. All buildings require their own street address.
6. Unit numbering needs to meet the CCMC for multi-unit buildings.
7. IFC Appendix D section D105.3 requires fire apparatus access roads for structures 30 or more feet in height to be at least 15 feet but no more than 30 feet from the building along the longest axis. The Applicant will be required to demonstrate all buildings meet this standard.
8. An ERRCS survey will be required for each apartment building, and if an ERRCS is determined to be required it shall be a deferred submittal.

Development Engineering:

The Carson City Public Works Department, Development Engineering Division (“Development Engineering”) has no preference or objection to the special use permit request provided that the following conditions are met:

- Prior to the issuance of a site improvement permit, the Applicant must enter into a pro-rata share agreement and pay its pro rata share of the cost to replace 1,216 feet of downstream sewer main in College Parkway. The contribution will be calculated based on the estimated cost of the improvements and the sewer demand imposed by the project.
- Prior to the issuance of a site improvement permit, plans and reports must be submitted which demonstrate that either the fire flow demand has been decreased to meet the available capacity of the City’s water system, or which demonstrates that the available capacity of the City’s water system will be increased through the project’s water system

design.

- Prior to the issuance of a site improvement permit, plans must be submitted which demonstrate pedestrian access ramps will be installed at the locations indicated in the traffic impact study.
- Prior to the issuance of a site improvement permit, plans must be submitted which demonstrate bike lane striping shall be installed on both sides of GS Richards Boulevard along the frontage of the project.
- Prior to the issuance of a site improvement permit, the Applicant must enter into a pro-rata share agreement and pay its pro-rata share cost for improvements to the intersection of Silver Oak Drive and North Carson Street. The improvements will be a traffic signal or other improvements as approved by the Transportation Division and the City Engineer. If signalization is the identified solution, the estimated cost of the signal improvements is approximately \$1,459,800. The project's share is estimated to be 10%, with a maximum pro-rata share contribution of \$145,980.

Development Engineering has reviewed the application within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.080, Conditional Uses. Development Engineering offers the following discussion:

The project must meet all CCDS and Standard Details including but not limited to the following:

- The driveways must meet minimum width requirements.

CCMC 18.02.080(5)(a) - Master Plan

The request is not in conflict with any Engineering Master Plans.

CCMC 18.02.080(5)(b) – Use, Peaceful Enjoyment, Economic Value, Compatibility

Development Engineering has no comment on this finding.

CCMC 18.02.080(5)(c) - Traffic/Pedestrians

The applicant submitted a traffic impact study ("TIS") for the project which among other recommendations, a pro-rata share contribution is recommended for intersection improvements at North Carson Street and Silver Oak Drive which may include signalization of the intersection. A condition of approval is recommended to require the Applicant to enter into an agreement and to pay their pro-rata share for necessary improvements. Should signalization be identified as the preferred solution, the project cost is estimated to be \$1,459,800. The project is expected to incur 10% of the overall improvement costs, which would equal a maximum contribution of \$145,980. The pro-rata share for improvements will mitigate the project's impact to this intersection. All other studied intersections are shown to operate at acceptable levels of service.

Parking and internal circulation: The internal parking and circulation meets City standards.

On-Street Parking: On-street parking is available along the site frontage within the GS Richards Boulevard traffic circle.

Proposed and/or necessary improvements: The traffic impact study recommends pedestrian curb ramps at adjacent intersections to provide connectivity to existing sidewalk network and improvements to the intersection of North Carson Street and Silver Oak Drive.

CCMC 18.02.080(5)(d) - Public Services

Sanitary Sewer: According to the City's sewer model there is approximately 1,216 feet of sewer main in College Parkway that is at capacity. This main is 12 inches in diameter with a depth at peak flow that varies from about 52% to 55% full, depth/Diameter ("d/D"). The project in question will increase the depth by about 2%. Twelve-inch mains are considered "at capacity" when they reach 50% full (d/D). 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 five years. The City plans to replace this main in five to ten years, but the main is being closely monitored and the main may be replaced sooner if conditions change. The estimated pro-rata share contribution based on the current sewer demand estimate is \$72,557.23.

Water: The water main analysis shows that there is insufficient flow to meet the fire flow demand. The applicant has proposed 4 potential mitigations. One mitigation that is known to be viable is to change construction types and methods, such as decreasing building sizes or using fire walls, to decrease the fire flow demand. The other three options may be viable as well. These will be analyzed at the time of the site improvement permit. Installation of privately owned and operated booster pumps to improve water pressure is also recommended, but not required for this project.

Storm Drain: The proposed design will mitigate the increase in storm water runoff and will be required to be designed to Carson City Development Standards.

CCMC 18.02.080(5)(e) – Title 18 Standards

Development Engineering has no comment on this finding.

CCMC 18.02.080(5)(f) – Public health, Safety, Convenience, and Welfare

Public Health: The project meets will meet engineering standards for health and safety if conditions are met.

Fault Lines: There are no known fault lines within 500 feet of the site.

FEMA flood zones: Property is in the Shaded X Zone. There are no special flood design requirements.

Site slope: The site is relatively flat.

CCMC 18.02.080(5)(g) – Material Damage or Prejudice to Other Property

Development Engineering has no comment on this finding.

CCMC 18.02.080(5)(h) – Adequate Information

The plans and reports provided were adequate for this analysis.

SPECIAL USE PERMIT FINDINGS: Staff's recommendation is based upon the findings as required by CCMC 18.02.080 (Special Use Permits) enumerated below and substantiated in the public record for the project.

1. Will be consistent with the master plan elements.

The Master Plan designation for the site is Mixed Use Commercial. The Master Plan encourages up to 25% of land with this designation to consist of high-density residential development and also encourages a full mix of uses to include a variety of commercial and residential uses. Based on the overall ±160-acre Silver Oak PUD area, up to 40 acres of Mixed-Use Commercial designated

land may be developed with high density residential. At this time, this request would be the only high density residential within the PUD. The Master Plan qualifies development with a density of between 8 and 36 dwelling units as high-density residential development. The proposal would result in 28.7 dwelling units per acre and would be consistent with residential development within the Mixed-Use Commercial Master Plan land use designation.

As proposed, and with recommended conditions, the proposal is consistent with the adopted Master Plan and Elements.

2. *Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and will cause no objectionable noise, vibrations, fumes, odors, dust, glare or physical activity.*

The subject site is surrounded by vacant or non-residential uses. The impacts associated with the proposed use are consistent with those of a multi-family use which does not generate objectionable noise, vibrations, fumes, odors, dust, glare or physical activity. The use will not compromise the peaceful enjoyment of surrounding properties or that of the surrounding neighborhood. CCDS 1.3.3 (General Lighting Requirements in Commercial Zones) requires a photometric plan to be provided to ensure site and building lighting is sufficiently placed, downlit and shielded to eliminate light glare.

3. *Will have little or no detrimental effect on vehicular or pedestrian traffic.*

As proposed with recommended conditions of approval, the project will not have a detrimental effect on vehicle or pedestrian traffic. The applicant submitted a traffic impact study ("TIS") for the project which among other recommendations, includes pedestrian curb ramps at adjacent intersections to provide connectivity to existing sidewalk network and intersection improvements at Silver Oak Drive and North Carson Street. Staff is recommending a condition of approval requiring the applicant to enter into a pro-rata share agreement for the required intersection improvements at North Carson Street and Silver Oak Drive which may include signalization of the intersection. Should signalization be identified as the preferred solution, the project cost is estimated to be \$1,459,800. The project is expected to incur 10% of the overall improvement costs, which would equal a maximum contribution of \$145,980. The pro-rata share for improvements will mitigate the project's impact to this intersection. All other studied intersections are shown to operate at acceptable levels of service.

4. *Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage, and other public improvements.*

The project is located in a larger Planned Unit Development which is currently served by the existing public services including schools, sheriff, transportation facilities, and parks. Staff has consulted with the Carson City School District as part of this review. The School District has indicated that the District is excited to see the continued growth of Carson City but is always concerned about our ability to accommodate any large influx of students. The School District believes they can accommodate the number of students likely to come from this development.

Development Engineering has reviewed the development for impact to water, sewer, storm drainage, and roadway systems. According to the City's sewer model there is approximately 1,216 feet of sewer main in College Parkway that is at capacity. The City plans to replace this main in five to ten years, but the main is being closely monitored and the main may be replaced sooner if

conditions change. A condition is recommended to require the Applicant to provide a pro-rata share contribution based on the current sewer demand in an amount not to exceed \$72,557.23. The water main analysis shows that there is insufficient flow to meet the fire flow demand. The applicant has proposed 4 potential mitigations. One mitigation that is known to be viable is to change construction types and methods, such as decreasing building sizes or using fire walls, to decrease the fire flow demand. The other three options may be viable as well. These will be analyzed at the time of the site improvement permit. Installation of privately owned and operated booster pumps to improve water pressure is also recommended, but not required for this project.

The Carson City Fire Department has reviewed the development. As proposed, sufficient access is provided. As noted in the Fire Department comments, the project is required to comply with the currently adopted edition of the IFC and the Northern Nevada Fire Code Amendments as adopted by Carson City. The Fire Department will review the construction for compliance at the time the building permit is submitted.

As proposed and with recommended conditions of approval, the development will mitigate for the impacts to public services and facilities and will not overburden the services and infrastructure necessary to serve the project.

5. *Meets the definition and specific standards set forth elsewhere in this title for such particular use and meets the purpose statement of that district.*

The project is subject to CCDS 1.18 and has met the requirements as discussed below:

1. *Permitted uses. Residential uses are only allowed as permitted by Chapter 18.04, Use Districts, as a primary or conditional use in the applicable zoning districts.*

Staff Response: A multifamily development is allowed within the RC zoning district with the approval of a SUP.

2. *Maximum permitted density. There is no maximum residential density within non-residential zoning districts subject to meeting the height, setback, parking and open space requirements of this chapter.*

Staff Response: The Applicant is proposing 178 residential units on a 6.2-acre site which will result in a project that has a density of 28.7 dwelling units per acre. The project complies with other code requirements contained in this chapter.

3. *Maximum building height shall be the maximum height established by the zoning district in which the project is located.*

Staff Response: The maximum building height for a project within the RC zoning district is 45 feet tall, unless otherwise approved by SUP. The Applicant is proposing a maximum building height of 43 feet tall.

4. *Setbacks. Minimum setbacks shall be those established by the zoning district in which the project is located, subject to the following:*

- a. *In the NB, RC, GC and GO zoning districts, a minimum setback of twenty (20) feet is required adjacent to a residential zoning district, with an additional ten (10) feet for each story above one (1) story if adjacent to a single-family zoning district.***
- b. *A minimum setback of ten (10) feet is required from the right-of-way of an arterial***

street as identified in the adopted Transportation Master Plan, excluding the Downtown Mixed-Use area.

Staff Response: The site is not adjacent to residentially zoned property and is not located on an arterial street so the setbacks for development within RC apply and are zero with the exception of the street frontages which require a minimum six-foot-wide landscape buffer. The Applicant has provided wider landscaped areas along the frontages than are required by CCMC. The frontages are a minimum of 15 feet wide including sidewalk and landscaped areas.

5. *Required parking: Two (2) spaces per dwelling unit; and in compliance with the Development Standards Division 2, Parking and Loading.*

Staff Response: Per Division 2, two parking spaces are required for each dwelling unit plus guest parking at a rate of 1 space for every 2 units. Since there is on-street parking available adjacent to the site along a portion of GS Richards Boulevard, guest parking is not required. With 178 apartment units proposed, this results in a requirement for 356 on-site parking spaces. The applicant proposes a minimum of 303 onsite parking spaces. The applicant has requested approval of a lower parking rate based on the Institute of Traffic Engineers (“ITE”) parking rates for multifamily housing in an urban/suburban setting. Per section 2.2 of the Development Standards, the Community Development Director is authorized to allow the use of an alternative parking standard. The applicant’s request for parking at a rate of 1.7 parking stalls per unit has been approved and may be utilized should the special use permit be granted.

It should be noted that CCDS Division 2, Section 2.1.16 requires snow storage for development projects. Snow storage must not be located within required parking areas or where living landscaping is located.

6. *Open Space.*
- a. *For Multi-Family Residential development, a minimum of 150 square feet per dwelling unit of common open space must be provided. For projects of 10 or more units, areas of common open space may only include contiguous landscaped areas with no dimension less than 15 feet, and a minimum of 100 square feet per unit of the common open space area must be designed for recreation, which may include but not be limited to picnic areas, sports courts, a softscape surface covered with turf, sand or similar materials acceptable for use by young children, including play equipment and trees, with no dimension less than 25 feet.*
 - b. *For Multi-Family Residential development, a minimum of 100 square feet of additional open space must be provided for each unit either as private open space or common open space.*
 - c. *For Single-Family Residential development or Two-Family Residential development, a minimum of 250 square feet of open space must be provided for each unit either as private open space or common open space.*
 - d. *Front and street side yard setback areas may not be included toward meeting the open space requirements.*

Staff Response: This multifamily development proposes approximately 65,944 square feet of open landscaped common area, of which only 23,314 square feet is required. The Applicant has proposed an additional 42,630 square feet of common open space with this development. The proposal exceeds the minimum open space requirements. To ensure the open space requirements will be met at the time of development, a detailed exhibit demonstrating compliance with these standards will be required prior to the issuance of construction permits.

7. *Landscaping. Landscaping shall comply with the Carson City Development Standards Division 3, Landscaping.*

Staff Response: Based on 116,572 square feet of impervious surface, the minimum landscape area is ±23,314 square feet. The Applicant is proposing to exceed the code requirements for landscaped area as the proposal includes approximately 65,944 square feet of landscaped area which consists of both required landscape areas as well as common open space landscaping. Code requires landscape and irrigation plans however, does not address the timing for when the plans are to be presented for approval. A condition is recommended to require the Applicant to submit the landscape and irrigation plans with the site improvement permit package.

8. *Special Use Permit review standards. Where a residential use is a conditional use within a given zoning district, the Planning Commission shall make two (2) of the following findings in the affirmative in the review of the Special Use Permit in addition to the required findings of Section 18.02.080 of the Carson City Municipal Code.*

a. *The development is not situated on a primary commercial arterial street frontage.*

Staff Response: The project site is located on Silver Oak Drive and GS Richards Boulevard. Both streets are designated as Local streets. The request meets this finding.

b. *The development is integrated into a mixed-use development that includes commercial development.*

Staff Response: The project is within an area immediately surrounded by a range of commercial uses. While the project site is not proposing mixed use, the parcel in the greater context of its surroundings does create a mix of uses which include residential, retail, restaurants and medical offices. The request meets this finding.

c. *The applicant has provided evidence that the site is not a viable location for commercial uses.*

Staff Response: Staff was unable to make this finding.

d. *The site is designated Mixed-Use Commercial, Mixed-Use Residential or Mixed-Use Employment on the Master Plan Land Use Map and the project meets all applicable mixed-use criteria and standards.*

Staff Response: The site is designated Mixed-Use Commercial which encourages primary uses such as commercial, retail and office type uses, but also encourages inclusion of higher density residential uses to provide a true mixed-use character within the land use designation. The site is surrounded by commercial, retail and office uses and would introduce a mixed-use element to the immediately surrounding area. The proposal has a density of 28.7 dwelling units per acre, which would be considered a higher density project and is consistent with the Master Plan designation. The request meets this finding.

6. ***Will not be detrimental to the public health, safety, convenience and welfare.***

The use is appropriate at this location, supports the mixed-use character encouraged by the Mixed-Use Commercial Master Plan land use designation and has been designed to meet code requirements. As proposed with recommended conditions, the development will not be detrimental

to public health, safety, convenience, and welfare.

7. *Will not result in material damage or prejudice to other property in the vicinity.*

The proposed project will introduce more housing options in a location that is within proximity of a variety of non-residential uses. The mix of uses will allow for residents to work at or utilize the commercial services nearby. The request will not result in material damage to other property in the vicinity.

Attachments:

Application LU-2022-0492

Special Use Permit Silver Oaks Apartments

Submitted to Carson City
November 9, 2022

Prepared for

Alta Consulting, Ltd

P.O. Box 1263

Verdi, NV 89439

Prepared by



WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Blvd • Reno, NV 89502 • Tel: 775.823.4068 • www.woodrogers.com

Table of Contents

Section 1

- ❖ Carson City Special Use Permit Application
 - Application
 - Master Plan Policy Checklist
 - Property Tax Receipt
 - Applicant Acknowledgement

Section 2

- ❖ Project Location
- ❖ Existing Conditions
- ❖ Master Plan and Zoning
- ❖ Project Request
- ❖ Project Details
 - Project Summary
 - Landscaping
 - Parking
 - Traffic
 - Utilities
 - Lighting
 - Signage
- ❖ Special Use Permit Findings
- ❖ Supplemental Findings

Section 3

- ❖ Supporting Graphics
 - Vicinity Map
 - Aerial Map
 - Master Plan Map
 - Zoning Map
 - Color Site Plan
 - Reduced Civil Plan Sheets
 - Reduced Architectural Plan Sheets

Section 4

- ❖ Project Reports & Supporting Information
 - Preliminary Sewer Report
 - Preliminary Hydrology Report
 - Water Service Availability Letter
 - Preliminary Traffic Impact Analysis

Plans

- ❖ Civil Plan Set
- ❖ Architectural Plan Set

Section 1

Master Plan Policy Checklist

Special Use Permits & Major Project Reviews & Administrative Permits

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to non-residential and multi-family residential development. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: Silver Oaks Apartments

Reviewed By: _____

Date of Review: _____

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed development meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN



The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed development:

- Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?
- Use sustainable building materials and construction techniques to promote water and energy conservation (1.1e, f)?
- Located in a priority infill development area (1.2a)?
- Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

The site is master planned Mixed Use Commercial allowing higher density residential uses. The proposed use for the parcel provides a transition from the existing commercial along N. Carson Street. Developing the site with a higher density residential project is in line with a balanced land use pattern.

- Protect existing site features, as appropriate, including mature trees or other character-defining features (1.4c)?
- At adjacent county boundaries or adjacent to public lands, coordinated with the applicable agency with regards to compatibility, access and amenities (1.5a, b)?
- In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?
- Meet adopted standards (e.g. setbacks) for transitions between non-residential and residential zoning districts (2.1d)?
- Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?
- Sited outside the primary floodplain and away from geologic hazard areas or follows the required setbacks or other mitigation measures (3.3d, e)?
- Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc.) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?
- If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The subject properties are not in a floodplain or geologic hazard area. Also, as the site is surrounded by existing development, sewer and water services are nearby and anticipated to have capacity to serve this project. Roadway capacity and pedestrian access are not anticipated to be adversely affected by this project.

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES



The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods.

N/A - This development is not anticipated to produce additional recreational demand.

Is or does the proposed development:

- Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?
- Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

CHAPTER 5: ECONOMIC VITALITY



The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed development:

The subject site is appropriate for residential development that provides alternative housing options in an area with access to many retail and commercial establishments.

- Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)
- Encourage the development of regional retail centers (5.2a)
- Encourage reuse or redevelopment of underused retail spaces (5.2b)?
- Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?
- Promote revitalization of the Downtown core (5.6a)?
- Incorporate additional housing in and around Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS



The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown.

Is or does the proposed development:

The proposed site plan and project details adhere to the setbacks, articulation, landscaping, and other development standards outlined within Carson City Municipal Code.

- Use durable, long-lasting building materials (6.1 a)?
- Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features (6.1 b)?
- Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1 c)?
- Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?
- If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1 a, b)?
- If located Downtown:
 - Integrate an appropriate mix and density of uses (8.1 a, e)?
 - Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1 b)?
 - Incorporate appropriate public spaces, plazas and other amenities (8.1 d)?
- Incorporate a mix of housing models and densities appropriate for the project location and size (9.1 a)?

CHAPTER 7: A CONNECTED CITY



The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational



Special Use Permit, Major Project Review, & Administrative Permit Development Checklist

amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed development:

The proposed project is located at the intersection of Silver Oak Dr and GS Richards Blvd, two streets that are fully developed and provide connection to the surrounding developed area. Future development of the site with multi-family residential will incorporate pedestrian connectivity to the existing sidewalk along both streets

- Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?
- Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?
- Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan (12.1a, c)?

Carson City Property Inquiry

Property Information

Parcel ID	007-461-19	Parcel Acreage	6.2000
Tax Year	2022 <input type="button" value="v"/>	Assessed Value	754,311
Land Use Group	VAC	Tax Rate	3.5700
Land Use	140 - Vacant - Commercial	Total Tax	\$25,730.23
Zoning	RCP	Fiscal Year (2022 - 2023)	
Tax District	024	Total Unpaid All Years	\$12,864.14
Site Address	GS RICHARDS BLVD	<input type="button" value="Pay Taxes"/>	
Neighborhood	Comm - N Carson Commercial		

No Sketches or Photos

Assessments

Taxable Value	Land	Building	Per. Property	Totals
Residential	0	0	0	0
Com / Ind.	2,155,175	0	0	2,155,175
Agricultural	0	0	0	0
Exempt	0	0	0	0
Pers. Exempt				0
Total	2,155,175	0	0	2,155,175

Assessed Value	Land	Building	Per. Property	Totals
Residential	0	0	0	0
Com / Ind.	754,311	0	0	754,311
Agricultural	0	0	0	0
Exempt	0	0	0	0
Pers. Exempt				0
Total	754,311	0	0	754,311

	New Land	New Const.	New P.P.
Residential	0	0	0
Com / Ind.	0	0	0
Agricultural	0	0	0
Exempt	0	0	0
Totals	0	0	0

Assessor Descriptions						
Year	Assessor Descriptions	Subdivision	Section	Township	Range	Block & Lot
Current Year 2023						
2023	SILVER OAK PHASE 10 P.U.D. LOT 1	SILVER OAK PHASE 10 P.U.D.	06	15N	19E	BLK LT 1
Selected Parcel Year 2022						
2022	SILVER OAK PHASE 10 P.U.D. LOT 1	SILVER OAK PHASE 10 P.U.D.	06	15N	19E	BLK LT 1

No Personal Exemptions

Billing Fiscal Year (2022 - 2023)

Installment	Date Due	Tax Billed	Cost Billed	Penalty/Interest	Total Due	Amount Paid	Total Unpaid
1	8/15/2022	\$6,434.02	\$0.00	\$0.00	\$6,434.02	\$6,434.02	\$0.00
2	10/3/2022	\$6,432.07	\$0.00	\$0.00	\$6,432.07	\$6,432.07	\$0.00
3	1/2/2023	\$6,432.07	\$0.00	\$0.00	\$6,432.07	\$0.00	\$6,432.07
4	3/6/2023	\$6,432.07	\$0.00	\$0.00	\$6,432.07	\$0.00	\$6,432.07
Total		\$25,730.23	\$0.00	\$0.00	\$25,730.23	\$12,866.09	\$12,864.14

Payment History

	Fiscal Year	Total Due	Total Paid	Amount Unpaid
+	(2022 - 2023)	\$25,730.23	\$12,866.09	\$12,864.14
+	(2021 - 2022)	\$24,300.96	\$24,300.96	\$0.00
+	(2020 - 2021)	\$25,237.76	\$25,237.76	\$0.00
+	(2019 - 2020)	\$22,196.95	\$22,196.95	\$0.00
+	(2018 - 2019)	\$21,158.96	\$21,158.96	\$0.00

Show 5 More (22)

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

Mark Neuffer 11/3/22
Date
Principal
Alfa Consulting Ltd

Section 2



PROJECT DESCRIPTION

Project Location

The project site consists of one parcel, APN 007-461-19, which is located south of Silver Oak Drive and between GS Richards Blvd and U.S. 395 in north Carson City. The parcel is 6.20 acres (*refer to the Vicinity Map in Section 3 of this submittal packet*).

Existing Conditions

The project site is currently undeveloped but surrounded by a variety of uses that includes an undeveloped, Retail Commercial – P lot to the north, the Silver Oak Golf Course and other commercial and medical businesses to the west, additional medical, commercial, and retail services to the south, and an undeveloped, Retail Commercial lot, food, and parking lot services to the east. (*refer to Aerial map in Section 3 of this submittal package*).

Master Plan and Zoning

The property has a current zoning designation of Retail Commercial – Planned Unit Development (RC-P), with surrounding parcels being zoned Retail Commercial and Retail Commercial – Planned Unit Development (RC-P). Consistent with the zoning, the subject site has a master plan designation of Mixed-Use Commercial (*refer to Zoning and Master Plan maps in Section 3 of this submittal packet*).

Project Request

This packet contains the required Carson City Special Use Permit application and supporting information for the following requests:

- To allow a residential use in a non-residential district in the form of a 178-unit, multi-family residential project located on a parcel that is zoned Retail Commercial – Planned Unit Development (RC-P).

Project Details

The proposed project is a multi-family development in the Retail Commercial-PUD (RC-P) zoning district, subject to Carson City Municipal Code. Standards of the Carson City Municipal Code, including those outlined in Division 1.18, are included in the site design.

Specifically, the project proposes to develop 178 multi-family apartments on 6.2 acres located in the Silver Oak PUD. The project design includes 4 buildings strategically located around the perimeter of the site. Building 1, is planned to be 4-story building and located on the north edge of the site. Buildings 2, 3, and 4 are planned to be 3-story and located in the central and southern portions of the site. The project also includes a 2-story clubhouse located on the southwest end of the site. The apartment complex will have two points of access from GS Richards Boulevard, where the entry points will connect to east/west drive aisles lined with parking spaces. The site also includes a row of single car garages located along the eastern property boundary. Refer to Civil Plans included with this application for greater detail.

As designed, the project also includes a 5-foot wide meandering sidewalk within a 6-foot wide landscaped parkway that extends along GS Richards Boulevard from the north edge of the project at Silver Oak Boulevard down to the existing round-about, where existing sidewalk connects to College Parkway.

Landscaping

Landscape requirements specify a minimum of 20 percent of the site’s impervious surfaces excluding the building coverage must be pervious areas of landscape material and the minimum number of trees shall be one (1) tree per four hundred (400) square feet of landscape area. As designed, the project includes 116,572 square feet of impervious surface, requiring a minimum of 23,314 square feet of pervious area. As designed, the project includes approximately 65,944 square feet of landscape/open space/common area with trees strategically planted throughout. As depicted on the landscape plan, a mix of trees and shrubs provide an aesthetically pleasing landscape across the development with plenty of screening and buffering provided. All amenities will be accessible via sidewalks and paths which will also connect to existing pedestrian infrastructure on GS Richards Blvd and Silver Oak Drive.

All of the landscaping/common areas and parking areas will be maintained by the owners and operators of the development.

Parking

The Carson City Zoning Code has a parking calculation specific to Multifamily Buildings, which is 2 spaces per unit, requiring a total of 356 spaces based on the proposed project. This is a much higher parking rate than other sources including references to the Institute of Transportation Engineers (ITE). As such and as part of this SUP, the applicant is requesting a reduction in parking to a minimum of 303 spaces, which equates to a parking ratio of 1.7 spaces per unit.

Based upon a review of available resources, the parking rate for similar facilities is much less than what is required by Carson City. The following table provides a comparison of the parking generation rates for this project.

Parking Standard Source	Use considered	Parking Rate	Project Comparison (178 units)
Carson City	All single-family, two family, and multiple family residential dwellings	2 spaces per unit	356 residential spaces
ITE*	Multi-family Housing (Mid-rise) – General Urban/Suburban Setting Average Rate (within ½ mile transit)	1.06-1.37 parking spaces per unit 1.5 parking spaces per unit	267 spaces (At average rate of 1.5 parking spaces per unit)
Silver Oaks Multi - Family	multi-family apartment complex	1.7 parking spaces per unit	303 spaces (includes minimum 40 single car garages)

*Note: ITE numbers are overall project ratios inclusive of both resident and guest parking.

As depicted on the site plan, and noted previously, the project includes 40 single car garages along the eastern edge. It is also worth noting that because GS Richards Boulevard can accommodate on-street parking, no additional guest parking spaces are necessary on-site therefore provided parking is inclusive of both resident and guest parking.

Traffic

According to the Traffic Impact Analysis (TIA) prepared by Wood Rodgers, Inc. (refer to Traffic Report in Section 4) the proposed project is not anticipated to create any significant impacts on traffic or require any significant improvements to adjacent roadways. The analysis indicates the project driveway configuration, emergency access, and site internal circulation are considered adequate. Additionally, study intersections are projected to operate at acceptable levels of service (LOS) "D" or better under all study conditions, with the exception of the N. Carson Street/Silver Oaks Drive intersection. This intersection is expected to operate at LOS "F" under 2045 conditions for both the "Cumulative" and "Cumulative Plus Project" scenarios. Signal warrants are met at this location under either scenario and the project should include a fair share contribution.

In terms of daily trips, the proposed project is anticipated to generate 1,216 average daily trips with 78 a.m. peak hour trips and 97 p.m. peak hour trips. All study roadway segments are projected to operate at acceptable levels of service (LOS) under all study conditions, therefore no improvements are recommended.

Utilities – information to be provided by Others

Utilities that will serve the project are summarized as follows:

- Water – The project will be served by Carson City Public Works Water Division. Water rights to accommodate the project will be dedicated prior to the issuance of building permit.
- Sewer – Treatment will be provided by Carson City Public Works Sewer Division. A sewer report addressing sewer generation and connectivity is provided in Section 4 of this application.
- Gas and Electricity – Natural gas is provided by Southwest Gas and electricity is provided by NV Energy.
- Telephone, Cable and Fiber Optic – Telephone, cable, and fiber optic services are provided by AT&T, Charter Communications, Dish Network, and DirecTV.

Lighting

Lighting is anticipated to be minimal and will be primarily consist of parking lot lighting. Low level lighting and decorative lights throughout the internal circulation of the development and at the front doors of each unit may also be provided. All lighting will be in accordance with code requirements.

Development Statistics

The following is a summary of the development statistics of the Site:

Total Site Area:	6.2± acres
Total Dwelling Units:	178 units
Density:	28.7± d.u./acre
Total Building Area:	2.09± acres (33%)
Total Paved/Impervious Area:	2.67± acres (43%)
Total Common Area:	1.51± acres (24%)
Required Parking:	356 spaces
Provided Parking:	303 spaces

Findings

Special Use Permit: Below is a summary of the required findings for a Special Use Permit (Section 18.02.080 of the Carson City Municipal Code). Except where specifically noted, the Planning Commission shall find that all of the following findings be met, as applicable.

Finding 1: Will be consistent with the objectives of the Master Plan elements.

Response: The proposed multi-family project implements the existing Master Plan designation on the properties. The development supports a compact and efficient pattern of growth (Guiding Principle 1) by making efficient use of the limited land area and water resources available. Infrastructure and services will be provided in a cost-effective manner due to the location of the proposed development.

The project is also consistent with creating a balanced land use mix (Guiding Principle 2) by proposing alternative housing options in an area developed primarily with single family detached housing, built with commercial, retail, and medical uses nearby. Placing people near existing economic centers encourages mixed-use activity and new mixed-use development in the area.

The project also promotes quality design and development (Guiding Principle 6). The architectural renderings display a high standard of design and the use of durable long-lasting materials, enhancing the surrounding development context and promoting a high standard for future infill development.

The project supports the City's goal of stable, cohesive neighborhoods offering a mix of housing types (Guiding Principle 9) by incorporating a multifamily option amongst existing single-family homes and mixed uses in the nearby commercial and medical centers. Impacts on the existing neighborhood are minimized by the project's walkability, access to public transportation, and decreased parking need.

Finding 2: Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and is compatible with and preserves the character and integrity of adjacent development and neighborhoods or includes improvements or modifications either on-site or within the public right-of-way to mitigate development related to adverse impacts such as noise, vibrations, fumes, odors, dust, glare or physical activity.

Response: The subject property is not adjacent to any existing residential development. In fact, the site is located in an area of Silver Oak that has always been identified for higher intensity uses which is reflected in the Retail Commercial zoning district. Consistent with the Retail Commercial zoning, the general area surrounding the site includes a grocery store, restaurants, the Silver Oak Golf Course and Clubhouse, and the nearby Carson Tahoe Hospital and Medical Campus. Given the long standing vision for higher intensity uses on this property and the mix of existing uses surrounding the site, the proposed project will not be detrimental to the general neighborhood.

Finding 3: Will have little or no detrimental effect on vehicular or pedestrian traffic.

Response: Based on the Traffic Impact Analysis included in Section 4 of this application, the proposed project is not anticipated to create any significant impacts on traffic or require any significant improvements to adjacent roadways or pedestrian facilities in the area. Specifically, with respect to pedestrian traffic, the proposed project will incorporate a sidewalk system to enhance pedestrian movement. New sidewalk along the east side of GS Richards Blvd will be constructed to connect to existing sidewalks and provide circulation within the existing neighborhood and opportunities for alternative,

healthy modes of transportation like walking and bicycling. Internal pathways will connect buildings to amenities located in the recreation center/clubhouse.

The proposed development is anticipated to generate 1,216 average daily vehicle trips, with 78 am peak hour trips and 97 pm peak hour trips. The roadways surrounding the development are equipped to accommodate this level of additional traffic and will not experience any significant adverse impacts to traffic or nearby available parking. The project location is in close proximity to multiple amenities, encouraging residents to utilize existing and new pedestrian infrastructure to access basic necessities and increase opportunities for physical activity.

Finding 4: Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements.

Response: As noted previously, the subject site has been designated as RC, an appropriate zoning district for higher intensity uses, since the Silver Oak PUD was originally adopted in 1993. In keeping with the planned development approach for the area, the proposed project is not anticipated to overburden public services or facilities. Specifically, as this area is already partially developed, utilities are within close proximity and have capacity to serve the proposed project.

As noted in the Preliminary sewer analysis included in Section 4, the flows generated by this project are estimated to be 66,750 GPD. Existing sewer infrastructure consisting of two diverging sanitary sewer mains in GS Richards Boulevard will be utilized to serve the proposed project. Based on information provided by the Carson City Public Works Department, the existing main in GS Richards Boulevard that flows north has no flow in it. The existing main in Silver Oak Drive is at 35% capacity (d/D) and the existing main in College Parkway is at 50% capacity (d/D). The Carson City Public Works Department is requiring a pro rata share for the sanitary sewer impact of this project and to upsize the existing sewer main in College Parkway.

To address recreation, the proposed project includes a clubhouse onsite that will offer residents a variety of amenities including a pool, playground, and picnic areas. Provided recreational amenities will reduce demand on existing public parks and recreation in the general area.

Emergency access to and within the project has been reviewed to insure adequate access throughout the site. A fire sprinkler system is planned to ensure the site has adequate fire protection and limit the need for additional emergency services to serve the project.

Finding 5: Meets the definition and specific standards set forth elsewhere in Carson City Municipal Code, Title 18 for such particular use and meets the purpose statement of that district.

Response: The proposed development meets standards set forth in Carson City Municipal Code, Title 18 (18.04.130): Retail Commercial (RC), which allows multifamily development with approval of an SUP and subject to required findings. The request to allow a residential use in a non-residential district supports the ongoing need for additional housing options in the Carson City area.

Specifically, the proposed 178-unit apartment project improves the land use mix in the area and provides an appropriate transition from the nearby Silver Oak community to the west to the existing higher intensity commercial uses along N. Carson Street. The proposed project has been designed to preserve the character of the surrounding neighborhoods by incorporating similar architectural features. Creating a

sustainable mix of uses that are self-supporting over time reinforces the purpose of the RC zoning district. The project's goal to provide another housing option within Silver Oak that is complimentary to and supportive of other uses in the area, including Carson Tahoe Hospital, adds a housing option while fulfilling the need for the "missing middle" affordable housing stock.

The Site Plan demonstrates compliance with minimum required design standards. There is no maximum residential density within non-residential zoning districts subject to meeting height, setback, parking and open space requirements. The project proposes a maximum building height of 43 feet (specifically for building 1), which is below the maximum allowable height (45 feet) in RC zoning.

Section 1.18 Open space requirements for multi-family residential development require a minimum of 150 square feet of common open space per dwelling unit plus a minimum of 100 square feet of additional open space provided as private open space or common open space. As designed, the project includes 44,755 square feet of common open space throughout the site with an additional 18,092 square feet of open space for recreation purposes.

Landscape requirements specify a minimum of 20 percent of the site's impervious surfaces excluding the building coverage must be pervious areas of landscape material and the minimum number of trees shall be one (1) tree per four hundred (400) square feet of landscape area. As designed, the project includes 65,944 square feet of the site in landscape treatments, which includes trees strategically planted throughout the site. The proposed landscape plan demonstrates compliance with Landscaping and Open Space requirements in accordance with Division 3 Development Standards and is included with the plan set provided with this submittal.

Finding 6: Will not be detrimental to the public health, safety, convenience, and welfare.

Response: The proposed development is not anticipated to have negative impacts on public health, safety, convenience, and welfare. The project has been designed with apartments that are compatible with the underlying master plan and the surrounding uses. The location provides residents access to nearby jobs as well as surrounding amenities within walking distance. Pedestrian infrastructure will be provided onsite which will connect to existing sidewalks and public transportation stops located approximately 1,000 feet (.2 miles) from the site, improving convenience and access for residents.

Finding 7: Will not result in material damage or prejudice to other property in the vicinity, as a result of proposed mitigation measures.

Response: The development is not anticipated to negatively impact surrounding properties. Construction activities will be carried out in a manner which is sensitive to surrounding residences in terms of noise and disturbance.

Supplemental Findings

Subsection 8 of CCDS 1.18: Residential development standards in non-residential districts states that in the case of a residential use being a conditional use within a given zoning district, the Planning Commission shall make two (2) of the given findings in the affirmative in the review of the Special Use Permit in addition to the required findings of Section 18.02.080. Affirmative findings applicable to this project are given below:

- A. The development is not situated on a primary commercial arterial street frontage.

Response: Carson City GIS identifies the adjacent roadways (GS Richards Blvd and Silver Oak Drive) as Local Streets. Nearby commercial development is situated on North Carson Street, identified as a Minor Arterial roadway. According to the Carson City GIS, there are no primary commercial arterial roads in proximity to the project site.

- B. The development is integrated into a mixed-use development that includes commercial development.

Response: The proposed project site is surrounded by a variety of commercial and retail uses including an office plaza directly west, Carson Tahoe Hospital to the north, a grocery store and restaurant to the immediate east, and a large retail establishment with a mix of retail uses to the south. The proposed development enhances the land use mix in the area by providing a logical transition between the nearby Silver Oak Community and nearby commercial uses, supporting the expansion of a mixed-use neighborhood while preserving the character of the surrounding neighborhoods. Furthermore, creating a sustainable mix of uses that are self-supporting over time reinforces the purpose of the RC zoning district. The location of the project site integrates housing opportunities with office, retail, commercial, and medical uses while providing a transition and separation between commercial and single-family development while providing amenities and employment opportunities to residents of the proposed development.

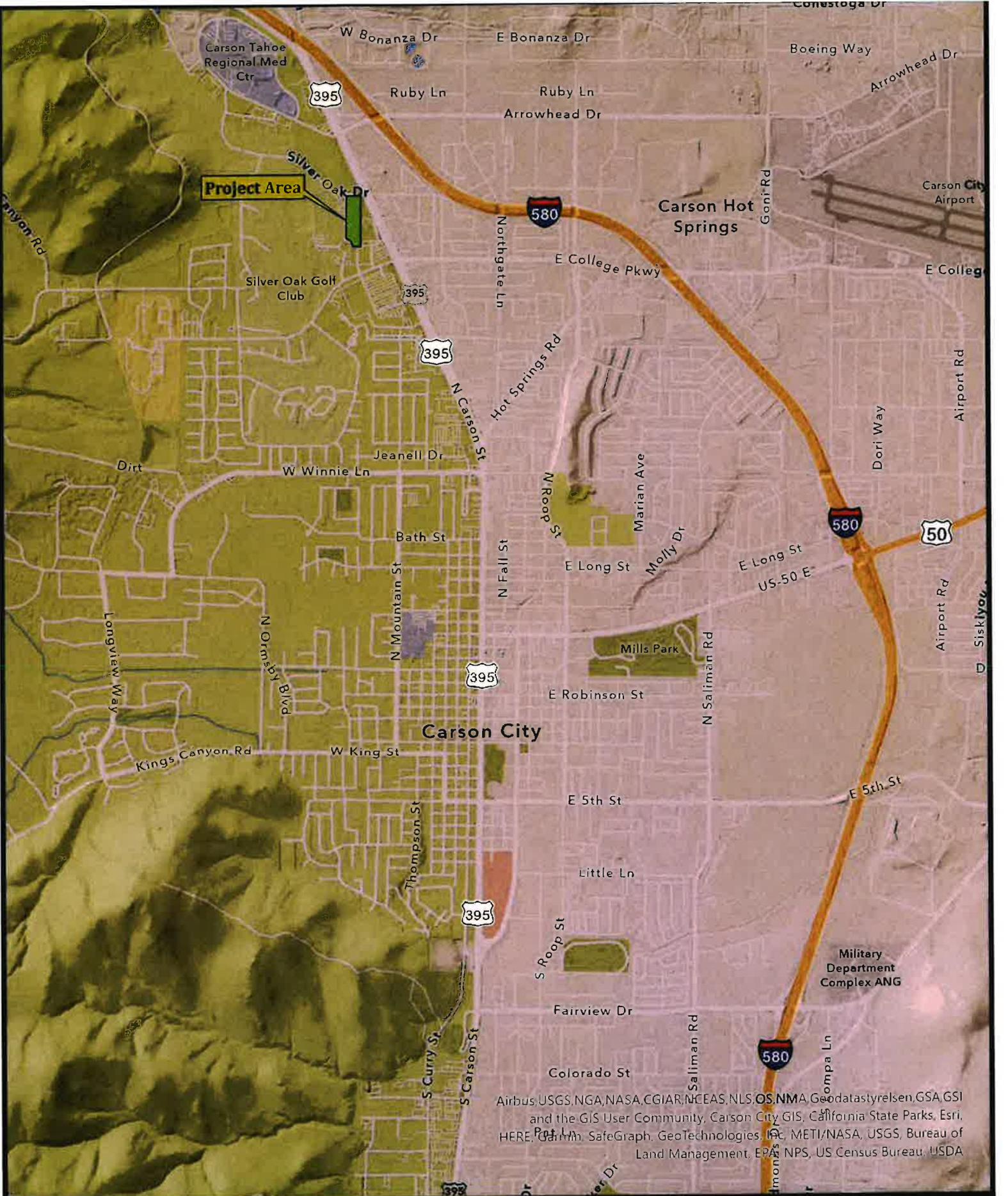
- C. The applicant has provided evidence that the site is not a viable location for commercial uses.

Response: The project site is located in an area that has been identified for commercial development for years and is reflected in the zoning designation of Retail Commercial (RC). Despite these factors, the parcel has remained vacant while surrounding parcels have been developed over the years with office, retail, commercial, and medical uses.

- D. The site is designated Mixed-Use Commercial, Mixed-Use Residential or Mixed-Use Employment on the Master Plan Land Use Map and the project meets all applicable mixed-use criteria and standards.

Response: The subject site is designated Mixed Use Commercial per the Carson City Master Plan and is designed to meet all applicable mixed-use criteria and standards. It is worth noting that per the Master Plan, characteristics of the Mixed-Use Commercial (MUC) land use category include higher density residential typically situated streets that can be served by existing transit. It is worth noting that there are two bus stops, one to the north at the Holiday Inn Express on North Carson Street and another to the south at the intersection of GS Richards Blvd and College Parkway, both approximately 1,000 feet (.2 miles) from the site. Additionally, site design incorporates new sidewalk that connects to existing pedestrian infrastructure on adjacent roadways, providing connections to the nearby commercial, restaurant, and medical uses.

Section 3



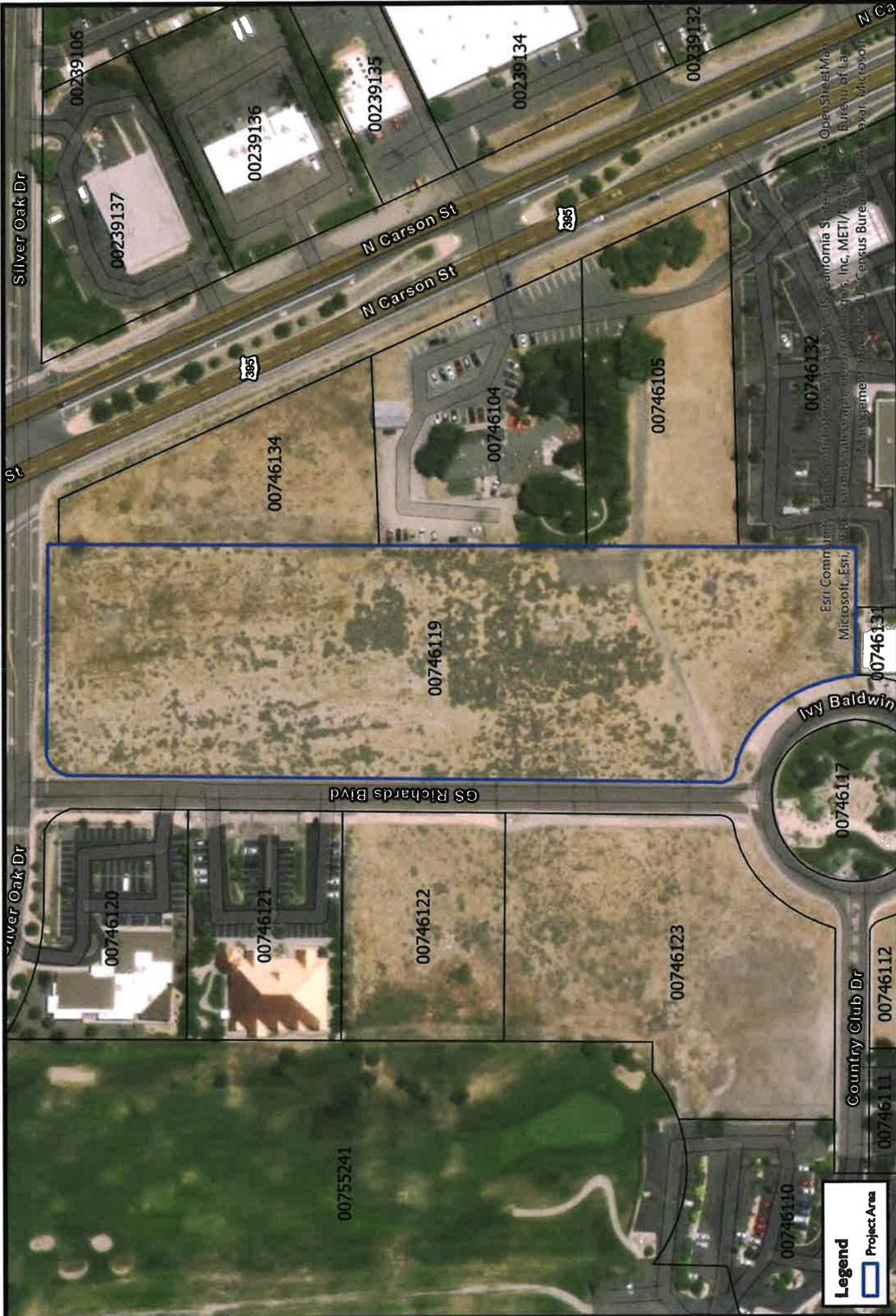
Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodastylelsen, GSA, GSI and the GIS User Community, Carson City GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA



Vicinity Map
APN 007-461-19
October 2022



WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1361 Corporate Boulevard Reno, NV 89502
 Tel: 775.823.4088 Fax: 775.823.4088



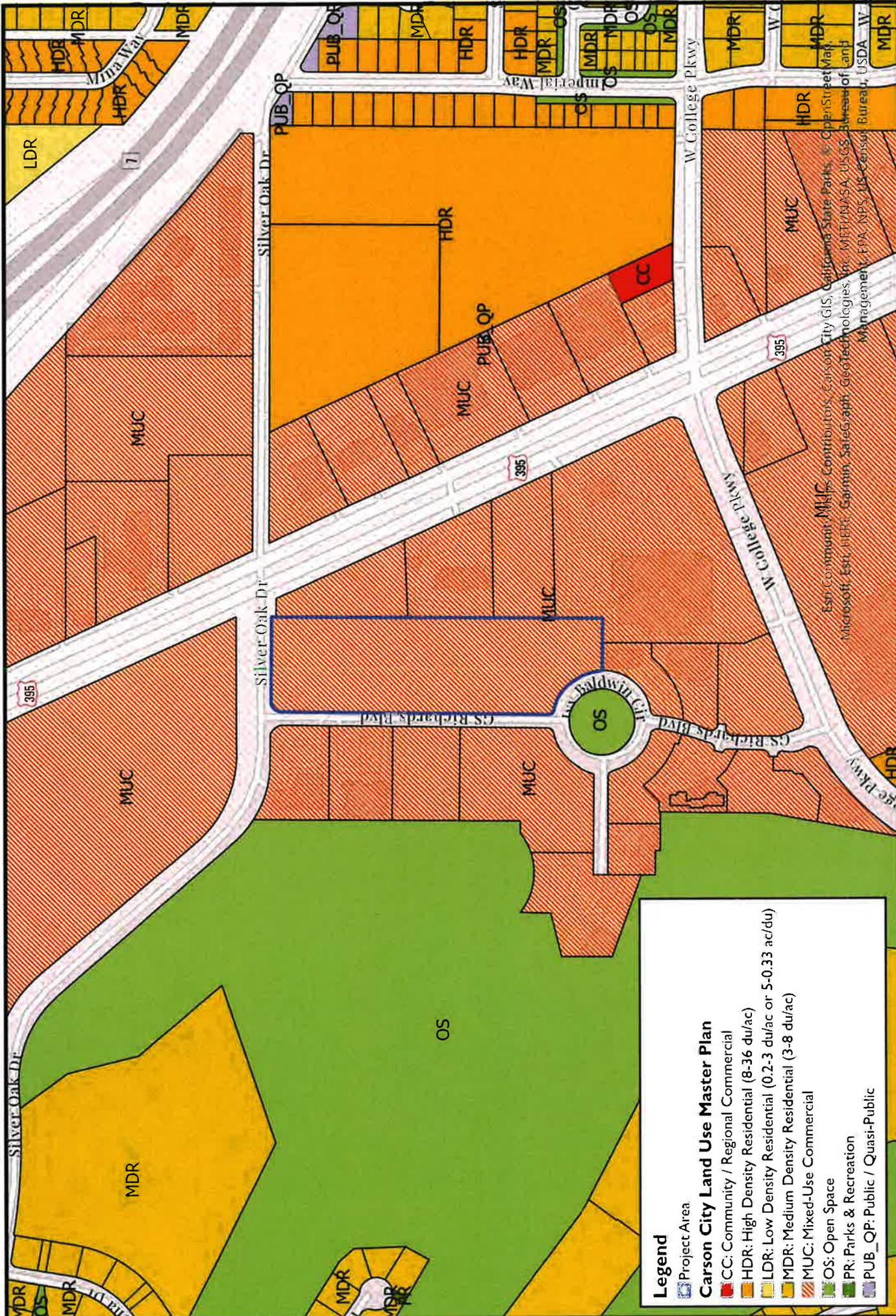
Aerial Map
APN 007-461-19
October 2022



Legend
 Project Area



WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1385 Corporate Boulevard
 Reno, NV 89502
 Tel: 775-823-4068
 Fax: 775-823-4066



Legend

- Project Area
- Carson City Land Use Master Plan**
- CC: Community / Regional Commercial
- HDR: High Density Residential (8-36 du/ac)
- LDR: Low Density Residential (0.2-3 du/ac or 5-0.33 ac/du)
- MDR: Medium Density Residential (3-8 du/ac)
- MUC: Mixed-Use Commercial
- OS: Open Space
- PR: Parks & Recreation
- PUB_QP: Public / Quasi-Public



Land Use Master Plan

APN 007-461-19

October 2022



WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1381 Corporate Boulevard
 Reno, NV 89502
 Tel: 775.823.4088
 Fax: 775.823.4088

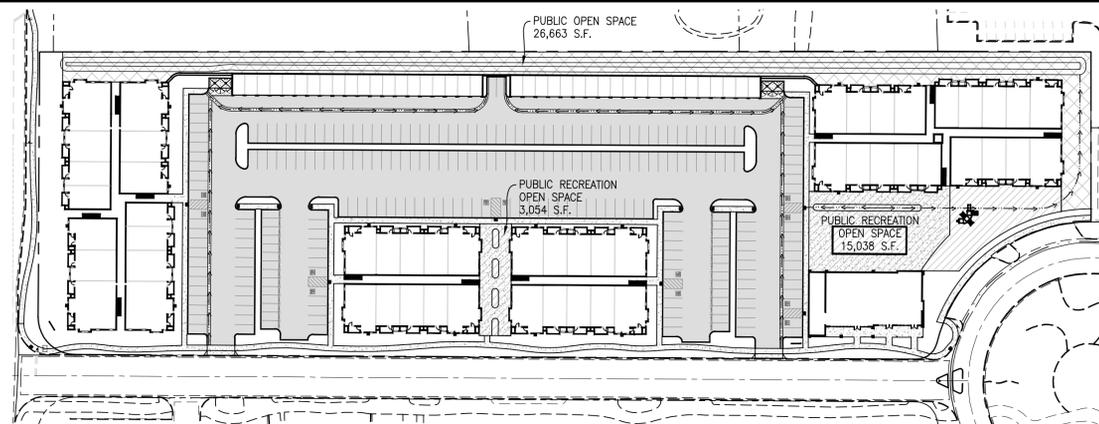
Esri Contributor, MUCs Contributor, Carson City GIS, California State Parks, OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, Geotechnologies, Inc., MHT/MESA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, W.

SITE & UTILITY LEGEND

- A.C. PAVEMENT AREA
- CONCRETE AREA
- UTILITY PROPOSED UTILITY LINE W. DESCRIPTION
- (UTILITY) EXISTING UTILITY LINE W. DESCRIPTION
- FIRE HYDRANT ASSEMBLY (EXISTING/PROPOSED)
- FLUSH VALVE ASSEMBLY (EXISTING/PROPOSED)
- DUAL/SINGLE WATER SERVICE (EXISTING/PROPOSED)
- AIR RELEASE VALVE ASSEMBLY (EXISTING/PROPOSED)
- WATER MAIN TEE W. GATE VALVES & THRUST BLOCK
- BACKFLOW PREVENTION ASSEMBLY
- ELBOW W. THRUST BLOCK
- MANHOLE W. DESCRIPTION (EXISTING/PROPOSED)
- CLEANOUT (EXISTING/PROPOSED)
- SANITARY SEWER LATERAL
- CATCH BASIN/DROP INLET
- YARD DRAIN
- ACCESSIBLE PARKING SPACE W. SIGN & PAVEMENT MARKINGS
- PEDESTRIAN ACCESS RAMP
- ACCESSIBLE ROUTE
- PARKING SPACE COUNT
- KEYNOTE (REF. CORRESPONDING LEGEND)

GENERAL NOTES

1. THESE PLANS ARE FOR SPECIAL USE PERMIT PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL REQUIRED PERMITTING IS OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO, DEMOLITION, ENCROACHMENT, BUILDING, GRADING, AND TRAFFIC CONTROL PERMITS.
3. UNLESS SPECIFICALLY PERMITTED OTHERWISE, CONSTRUCTION HOURS SHALL BE LIMITED TO BETWEEN THE HOURS OF 7:00 AM AND 6:00 PM MONDAY THROUGH FRIDAY AND BETWEEN THE HOURS OF 8:00 AM AND 6:00 PM ON SATURDAY. THERE SHALL BE NO CONSTRUCTION ON SUNDAY EXCLUDING DUST CONTROL AND STORM WATER POLLUTION PREVENTION PLAN MEASURES.
4. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (SDPWC), AS ADOPTED BY CARSON CITY, AND SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. ALL SPECIFICATIONS REFERENCED HEREIN REFER TO THE SSPWC UNLESS INDICATED OTHERWISE.
5. ALL QUANTITIES INDICATED IN THESE PLANS ARE APPROXIMATE AND INTENDED FOR PERMITTING & BONDING PURPOSES ONLY. THE CONTRACTOR SHALL PREPARE AN INDEPENDENT ESTIMATE FOR BIDDING & CONSTRUCTION PURPOSES.
6. THE FIELD SURVEY PREPARED BY WOOD RODGERS INC. IS THE BASIS OF THIS DESIGN. MVC TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE SURVEY.
7. AN ENCROACHMENT & EXCAVATION PERMIT IS REQUIRED FOR ALL WORK WITHIN THE CARSON CITY RIGHT-OF-WAY.
8. ALL WORK WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CODES, STANDARD SPECIFICATIONS & DETAILS.
9. REFERENCE ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS.
10. ALL DIMENSIONS ARE TO FRONT FACE OF CURB, FACE OF BUILDING, FACE OF WALL, CENTER OF PIPE, CENTER OF MANHOLE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
11. ALL PERMANENT STRIPING, SIGNAGE & TRAFFIC CONTROL IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS.
12. ALL NEW PEDESTRIAN INSTALLATIONS TO MEET CURRENT ADA REQUIREMENTS (ICC A117.1-2009 & PROWAG GUIDELINES).
13. THE ACCESSIBLE ROUTE SHALL NOT HAVE A RUNNING SLOPE EXCEEDING 5%(1:20) OR A CROSS SLOPE EXCEEDING 2%(1:48).
14. THE ACCESSIBLE ROUTE MAY CONTAIN RAMPS WITH A RUNNING SLOPE BETWEEN 5%(1:20)-8.33%(1:12). RAMPS SHALL HAVE A LANDING WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2%(1:48) AT THE TOP AND BOTTOM WITH A MAXIMUM VERTICAL RISE OF 30". RAMPS WITH A VERTICAL RISE GREATER THAN 6" SHALL HAVE A HANDRAIL.
15. ACCESSIBLE PARKING SPACES SHALL HAVE A MAXIMUM SLOPE OF 2%(1:48) IN ANY DIRECTION.
16. PROVIDE DETECTABLE WARNING (TRUNCATED DOMES) AT ALL LOCATIONS WHERE AN ACCESSIBLE PEDESTRIAN ROUTE ENTERS A VEHICULAR ROUTE. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP (EXCLUSIVE OF FLARED SIDES).
17. REFERENCE ARCHITECTURAL PLANS FOR ALL ACCESSIBLE TRANSITIONS FROM THE SITE IMPROVEMENTS TO THE INTERIOR OF THE PROPOSED STRUCTURE.
18. UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THE PLANS. THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN. THE INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. SPECIFICALLY, THE CONTRACTOR SHALL POT HOLE TO EXPOSE ANY UTILITY TIE IN PRIOR TO CONSTRUCTION TO VERIFY ACTUAL LOCATIONS AND ELEVATIONS OF UTILITIES PRIOR TO CONSTRUCTION. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THE INFORMATION SHOWN ON THESE DRAWINGS, THEY SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
19. UTILITY CONNECTIONS MAY REQUIRE REMOVAL, RELOCATION, REPAIR AND/OR REPLACEMENT OF EXISTING IMPROVEMENTS. THIS INCLUDES THE ADJUSTMENT/RELOCATION OF ALL EXISTING UTILITY VAULTS, MANHOLE LIDS & VALVE LIDS AS REQUIRED TO ACCOMMODATE THE PROPOSED FINISHED GRADES. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY UTILITY COMPANY APPROVAL AND ENCROACHMENT OR EXCAVATION PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE CARSON CITY RIGHT-OF-WAY. UNLESS SPECIFIED OTHERWISE, ALL PROPOSED UTILITY SEWER AND STORM DRAIN IMPROVEMENTS ARE PRIVATE AND SHALL BE MAINTAINED BY THE OWNER.
20. ALL SANITARY SEWER FACILITIES ARE INTENDED TO GRAVITY FLOW. SANITARY SEWER LATERALS SHALL MAINTAIN 3.0' MINIMUM COVER WITHIN THE RIGHT-OF-WAY, BE 4" PVC SDR 35 AND HAVE A MINIMUM SLOPE OF 2% UNLESS OTHERWISE NOTED.
21. MAINTAIN 3.5' MINIMUM COVER OVER ALL WATER MAINS AND SERVICE LINES.
22. MAINTAIN 3.0' MINIMUM HORIZONTAL CLEARANCE AROUND ALL FIRE HYDRANTS.
23. MAINTAIN 10' HORIZONTAL CLEARANCE BETWEEN DOMESTIC WATER AND SANITARY SEWER LINES. WHERE CROSSINGS ARE REQUIRED, DOMESTIC WATER SHALL MAINTAIN 18" MINIMUM CLEARANCE OVER SANITARY SEWER. FULL STICKS OF PIPE SHALL BE CENTERED ON THE CROSSING WHERE POSSIBLE. IF THESE CLEARANCES ARE NOT POSSIBLE, SPECIAL CONSTRUCTION IS REQUIRED (IF NOT SPECIFIED, CONTRACTOR SHALL NOTIFY MVC PRIOR TO PROCEEDING WITH CONSTRUCTION).
24. ALL PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH PERTINENT REGULATIONS AND MANUFACTURERS RECOMMENDATIONS.
25. ANY LOCATION FOR GAS, ELECTRICAL, TELEPHONE, CABLE TV, COMMUNICATION OR ANY OTHER LOW VOLTAGE IMPROVEMENT SHOWN IS SCHEMATIC ONLY (REF. DESIGN & DETAIL BY OTHERS).
26. ADD 4700' TO ALL SPOT ELEVATIONS.
27. ADD 4700' TO ALL SPOT ELEVATIONS.



OPEN SPACE PLAN
SCALE: 1"=80'

SITE ANALYSIS

AREA	270,071 S.F.
ZONING	RC-P
SETBACKS (F/R/S)	0/0/0 (FT)
BUILDING FOOTPRINT	87,555 S.F. 32.4%
PAVED/IMPERVIOUS	116,572 S.F. 43.2%
LANDSCAPED	65,944 S.F. 24.4%

FIRE FLOW ANALYSIS

BUILDING	1	2	3	4	5
AREA (FT ²)	69,632	37,283	37,283	92,842	7,131
STORIES	3	3	3	4	2
HEIGHT	35'	35'	35'	45'	25'
CONST. TYPE	V-A	V-A	V-A	V-A	V-A
OCC. GROUP	R-2	R-2	R-2	R-2	A-3
FIRE SPRINKLERS	YES	YES	YES	YES	YES
FIRE FLOW (GPM)	2,375	1,750	1,750	2,750	1,500
DURATION (HRS)	2	2	2	2	2
HYDRANTS	3	1	1	3	1

NOTES:

1. MINIMUM RESIDUAL SYSTEM PRESSURE IS 20 PSI.
2. ALL BUILDING INFORMATION PROVIDED BY KRI ARCHITECTURE.
3. FIRE FLOW & DURATION DETERMINED USING IFC TABLE B105.1(2).
4. UP TO 50% REDUCTION ALLOWED FOR FIRE SPRINKLERS (IFC B105.2).
5. HYDRANT REQUIREMENTS DETERMINED USING IFC TABLE C105.1.

OPEN SPACE CALCULATIONS

REQUIREMENTS	UNITS	REQUIRED OPEN SPACE
MIN. 150 S.F./DWELLING UNIT OF COMMON OPEN SPACE	178	26,700 S.F.
MIN. 100 S.F./DWELLING UNIT OF ADDITIONAL COMMON OR PRIVATE COMMON OPEN SPACE	178	17,800 S.F.
TOTAL REQUIRED OPEN SPACE		44,500 S.F.
COMMON OPEN SPACE PROVIDED		44,755 S.F.
PRIVATE OPEN SPACE PROVIDED		0 S.F.
REQUIRED OPEN SPACE TO BE DESIGNED FOR RECREATION		17,800 S.F.
OPEN SPACE TO BE DESIGNED FOR RECREATION		18,092 S.F.

NOTES:

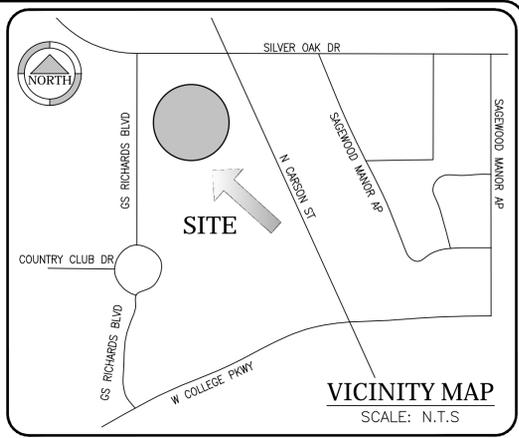
1. ALL BUILDING INFORMATION PROVIDED BY CATHEXES.
2. REQUIREMENTS DETERMINED USING CARSON CITY MUNICIPAL CODE TITLE 18 APPENDIX, DIVISION 1.17.

PARKING ANALYSIS

USE	AREA (FT ²)	CRITERIA	REQUIRED SPACES
MULTI-FAMILY	178 UNITS	1.7/UNIT ₂	303
TOTAL VEHICLE REQUIREMENT		ADA SPACES	VAN ACCESSIBLE
	303	12	6

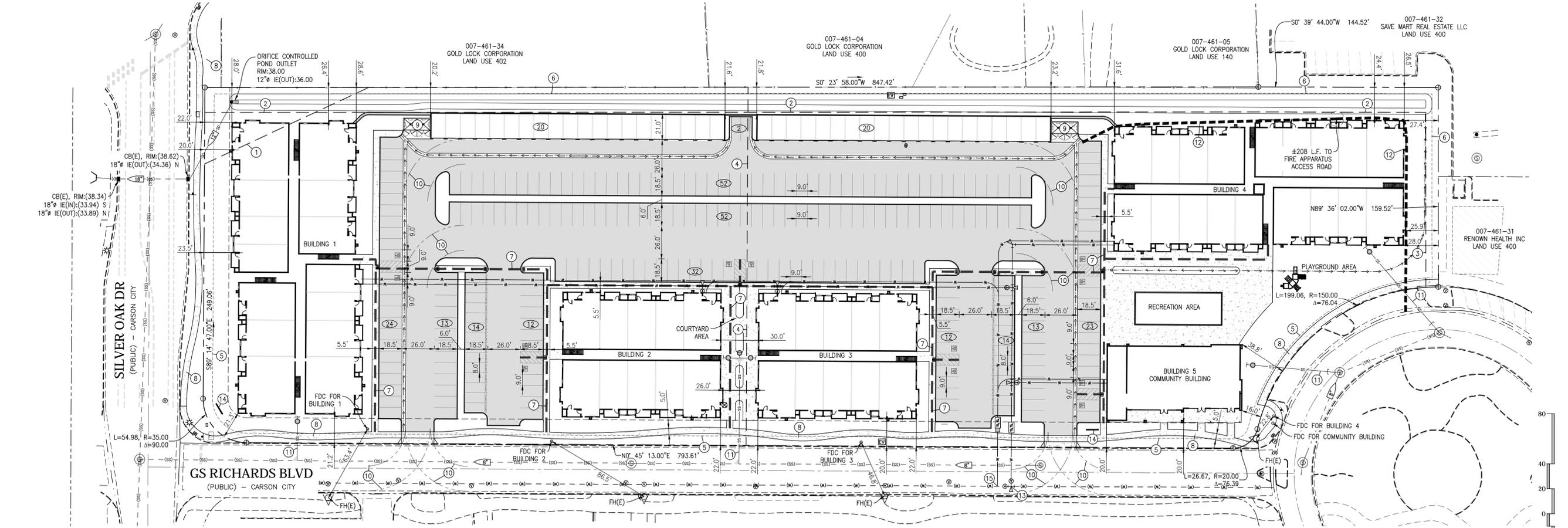
NOTES:

1. ALL BUILDING INFORMATION PROVIDED BY THE ARCHITECT.
2. REQUIRED PARKING CRITERIA FROM THE TRAFFIC REPORT PREPARED BY WOOD RODGERS, INC.



- SITE PLAN KEYNOTE LEGEND ○**
1. OPEN SPACE PER FM 2176 (TO BE RELOCATED)
 2. 20' DRAINAGE EASEMENT PER FM 2259
 3. 10' DRAINAGE EASEMENT PER FM 2259
 4. APPROX. LOCATION OF ELECTRIC & COMMUNICATION EASEMENT PER DOC. #943 AS SHOWN ON R.O.S. 1995 (NOT ON TITLE REPORT, TITLE COMPANY CONTACTED FOR DOC) (WIDTH UNDEFINED)
 5. 7.5' PUE PER FM 2291
 6. 5' PUE PER FM 2291
 7. ACCESSIBLE ROUTE
 8. 5' MEANDERING SIDEWALK
 9. TRASH ENCLOSURE
 10. FIRE TURNING RADIUS (R=30' INSIDE, R=50' OUTSIDE)
 11. SEWER LATERAL
 12. FIRE DIMENSION
 13. FIRE SERVICE
 14. MONUMENT SIGN
 15. MASTER DOMESTIC WATER SERVICE

THIS PLAN IS INTENDED FOR PRELIMINARY REVIEW ONLY NOT FOR CONSTRUCTION



811
Know what's below.
Call before you dig.

MONTE VISTA CONSULTING
575 E. Plumb Lane #101
Reno, NV 89502
775.636.7905
montevistaconsulting.com

Silver Oak Apartments
Preliminary Site & Utility Plan

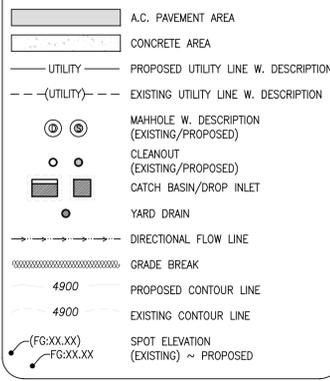
0 GS Richards Blvd
APN: 007-461-19
Carson City, Nevada

Project # 22.032
Drawn HBA
Checked MWV
Date 11.8.2022
Revisions

PROFESSIONAL ENGINEER-STATE OF NEVADA
MICHAELA VICKS
Exp. 6.30.2024
CIVIL
No. 21025
November 8, 2022

C1.0

GRADING LEGEND



ABBREVIATIONS

- AC - ASPHALT CONCRETE
- AGG - AGGREGATE
- BC - BEGIN CURVE
- BVC - BACK FACE OF CURB
- BW - BEGIN VERTICAL CURVE
- CL - CENTERLINE
- CB - CATCH BASIN
- CFS - CUBIC FEET PER SECOND
- CO - CLEAN OUT
- CONC - CONCRETE
- CONST - CONSTRUCT
- COORD - COORDINATE
- DET - DETAIL
- DI - DROP INLET
- DIP - DUCTILE IRON PIPE
- DOM - DOMESTIC
- E - EXISTING
- EC - END CURVE
- EG - EXISTING GRADE
- ELEV - ELEVATION
- EVC - END VERTICAL CURVE
- FDC - FIRE DEPARTMENT CONNECTION
- FF - FINISHED FLOOR ELEVATION
- FFC - FRONT FACE OF CURB
- FG - FINISHED GRADE
- FH - FIRE HYDRANT
- FL - FLOW LINE
- FLG - FLANGE
- FT - FOOT
- GB - GRADE BREAK
- GF - GARAGE FLOOR ELEVATION
- GV - GATE VALVE
- HC - HANDICAPPED
- HP - HIGH POINT
- IE - INVERT ELEVATION
- IN - INCH
- INT - INTERSECTION
- IRR - IRRIGATION
- L - LENGTH
- LAT - LATERAL
- LF - LINEAR FEET
- LP - LOW POINT
- LT - LEFT
- MAX - MAXIMUM
- MDD - MAXIMUM DRY DENSITY
- MH - MANHOLE
- MIN - MINIMUM
- MISC - MISCELLANEOUS
- NPWL - NON POTABLE WATER LINE
- NTS - NOT TO SCALE
- OD - OUTSIDE DIAMETER
- P - PROPOSED
- PAD - PAD GRADE
- PCC - PORTLAND CEMENT CONCRETE
- PI - POINT OF INTERSECTION
- PIV - POST INDICATOR VALVE
- PL - PROPERTY LINE
- PO - PUSH ON
- PRC - POINT OF REVERSE CURVATURE
- PUE - PUBLIC UTILITY EASEMENT
- PVC - POLYVINYL CHLORIDE
- PVI - POINT OF VERTICAL INTERSECTION
- Q₅ - FIVE YEAR FLOW RATE
- Q₁₀₀ - ONE HUNDRED YEAR FLOW RATE
- Q_{cap} - CAPACITY FLOW RATE
- R - RADIUS
- REF - REFERENCE
- RJ - RESTRAINED JOINT
- RP - RADIUS POINT
- RT - RIGHT
- RW - RIGHT-OF-WAY
- S - SLOPE
- SCH - SCHEDULE
- SD - STORM DRAIN
- SF - SQUARE FOOT
- SS - SANITARY SEWER
- STA - STATION
- STD - STANDARD
- SW - SIDEWALK
- T - TANGENT
- TB - THRUST BLOCK
- TC - TOP OF CURB
- TOE - TOE OF SLOPE
- TOP - TOP OF SLOPE
- TI - TOP OF INTERSECTION
- TYP - TYPICAL
- V - VELOCITY
- W - WATER
- YD - YARD DRAIN

GRADING & DRAINAGE NOTES

- ALL GRADING SHALL BE IN ACCORDANCE WITH A GEOTECHNICAL REPORT.
- ALL ELEVATIONS IDENTIFIED ARE TO FINAL SURFACE FINISH GRADE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ADJUST GRADING TO ACCOMMODATE THE DEPTH OF ANY RIP-RAP PROTECTION, LANDSCAPE SURFACE TREATMENTS OR THE LIKE TO ENSURE THE IDENTIFIED GRADES ARE ESTABLISHED WITH COMPLETE SITE STABILIZATION.
- ANY RETAINED HEIGHTS INDICATED ARE FROM SURFACE TO SURFACE UNLESS OTHERWISE NOTED. MVC IS NOT RESPONSIBLE FOR ANY STRUCTURAL DESIGN OF SITE RETAINING WALLS OR FEATURES. REFERENCE APPLICABLE STRUCTURAL/ARCHITECTURAL DESIGN BY OTHERS FOR DESIGN AND DETAIL.
- BACKFILL ESTABLISHING SEPARATION AS REQUIRED BY ARCHITECTURAL AND STRUCTURAL DESIGN BETWEEN FINISH GRADE AND SIDING (8" MIN SEPARATION TYP.).
- UNLESS SPECIFIED OTHERWISE, ALL DRAINAGE IMPROVEMENTS ARE PRIVATE AND SHALL BE MAINTAINED BY THE PROPERTY OWNER.
- ADD 4700' TO ALL ELEVATIONS.

THIS PLAN IS INTENDED FOR PRELIMINARY REVIEW ONLY NOT FOR CONSTRUCTION

FLOOD ZONE

THIS SITE LIES IN FEMA FLOOD ZONE X (SHADED) (3200010084F). MODERATE FLOOD HAZARD AREAS, LABELED ZONE X (SHADED) IS DEFINED AS A MODERATE FLOOD HAZARD AREA AND IS BETWEEN THE LIMITS OF THE BASE FLOOD AND THE 0.2-PERCENT-ANNUAL-CHANCE (OR 500-YEAR) FLOOD.

EARTHWORK ANALYSIS

SITE AREA	6.2 AC
SITE DISTURBANCE	6.4 AC
PROPOSED CUT	2,100 YD ³
PROPOSED FILL	14,000 YD ³
NET EARTHWORK	11,900 YD ³ FILL

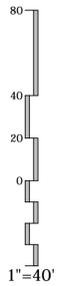
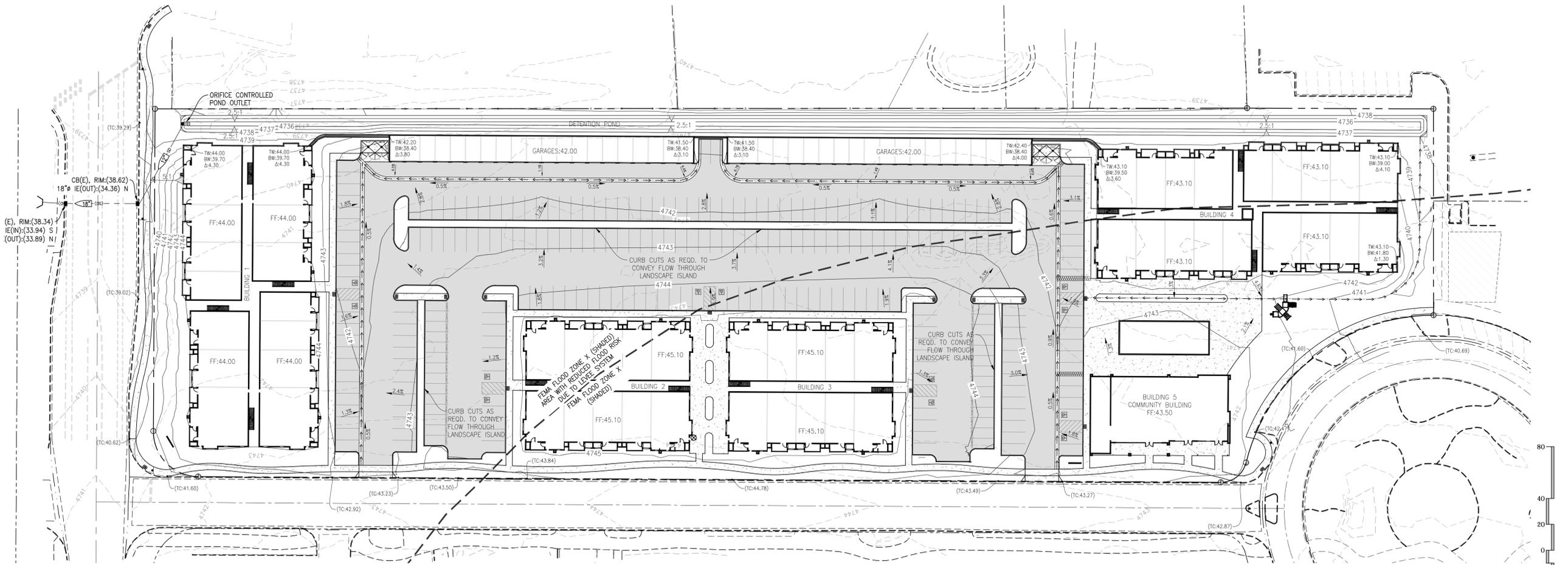
THIS ANALYSIS COMPARES THE EXISTING FINISH GRADE SURFACE TO THE PROPOSED FINISH GRADE SURFACE AND IS INTENDED FOR PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL PREPARE AN INDEPENDENT EARTHWORK ANALYSIS INCORPORATING ANY OVER EXCAVATION, SHRINKAGE, EXPANSION AND/OR STRUCTURAL SECTIONS, ETC.



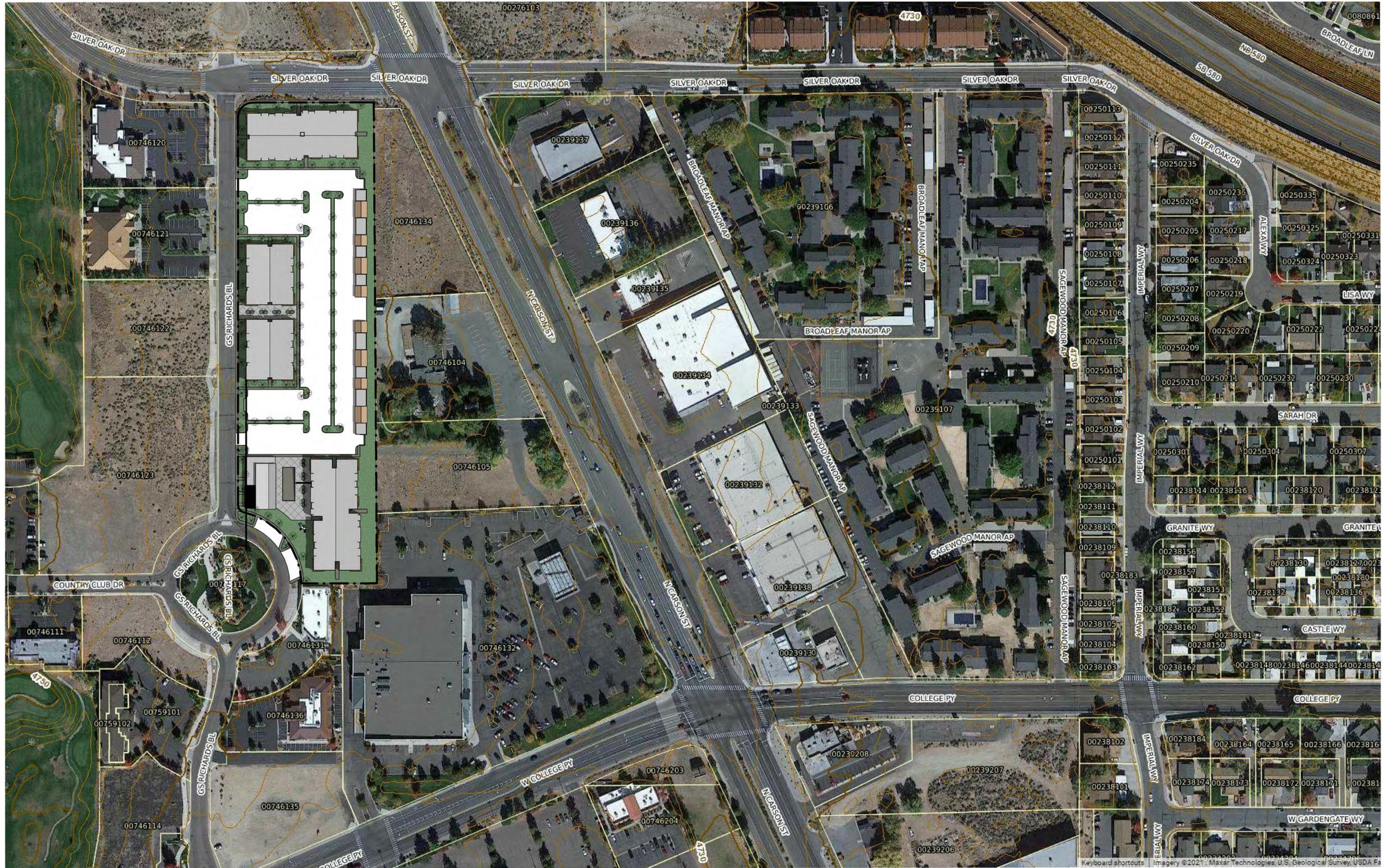
Silver Oak Apartments
Preliminary Grading Plan

0 GS Richards Blvd
APN: 007-461-19
Carson City, Nevada

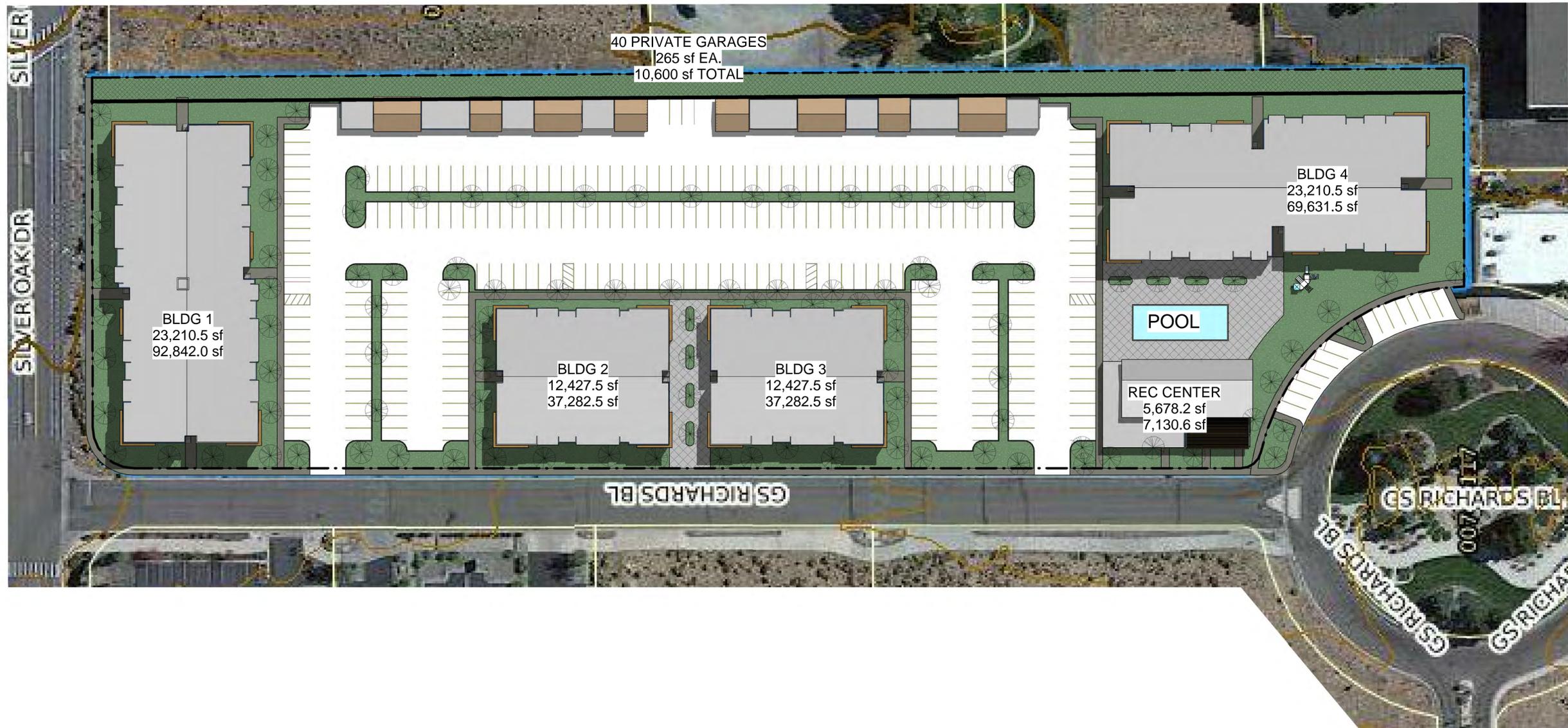
Project # 22.032
Drawn HBA
Checked MWV
Date 11.8.2022
Revisions



SILVER OAK
0 GS RICHARDS BLVD



NO.	DATE	DESCRIPTION
1	Date 1	REV 9-20-22



BUILDING SF BY BLDG					
BLDG	UNIT TYPE	TOTAL SF	COUNT	TOTAL UNIT SF	AV UNIT SF
BLDG 1	1B/1B	28356.00 SF	32	24800	775.00
BLDG 1	2B/2B	13950.00 SF	16	16000	1000.00
BLDG 1	3B/2.5B	30160.00 SF	24	31200	1300.00
		72466.00 SF	72		

BUILDING SF BY BLDG					
BLDG	UNIT TYPE	TOTAL SF	COUNT	TOTAL UNIT SF	AV UNIT SF
BLDG 2	1B/1B	10746.00 SF	12	9300	775.00
BLDG 2	2B/2B	12953.00 SF	12	12000	1000.00
BLDG 2	3B/2.5B	7580.00 SF	6	7800	1300.00
		31279.00 SF	30		

BUILDING SF BY BLDG					
BLDG	UNIT TYPE	TOTAL SF	COUNT	TOTAL UNIT SF	AV UNIT SF
BLDG 3	1B/1B	10746.00 SF	12	9300	775.00
BLDG 3	2B/2B	12953.00 SF	12	12000	1000.00
BLDG 3	3B/2.5B	7580.00 SF	6	7800	1300.00
		31279.00 SF	30		

BUILDING SF BY BLDG					
BLDG	UNIT TYPE	TOTAL SF	COUNT	TOTAL UNIT SF	AV UNIT SF
BLDG 4	1B/1B	12820.32 SF	14	10850	775.00
BLDG 4	2B/2B	21879.00 SF	20	20000	1000.00
BLDG 4	3B/2.5B	19936.00 SF	12	15600	1300.00
		54635.32 SF	46		

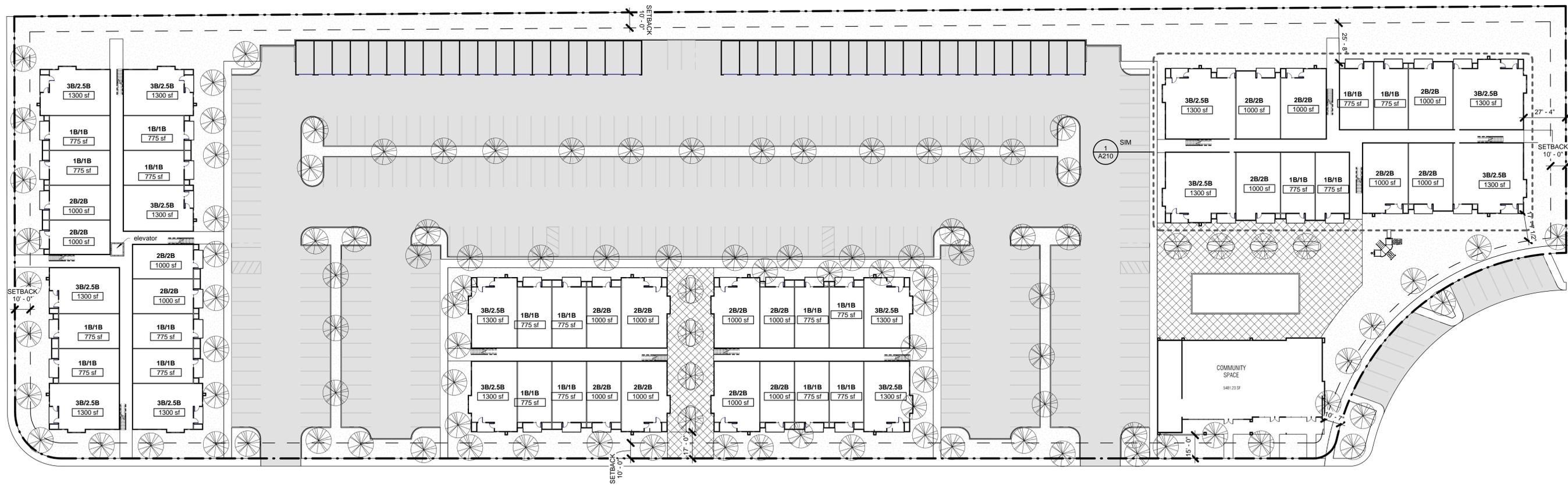
BUILDING SF BY BLDG					
BLDG	UNIT TYPE	TOTAL SF	COUNT	TOTAL UNIT SF	AV UNIT SF
COMMUNITY	COMMUNITY SPACE	7130.60 SF	1	7130.6	7130.60
		7130.60 SF			
		196789.92 SF			

PARKING AND UNIT TOTALS

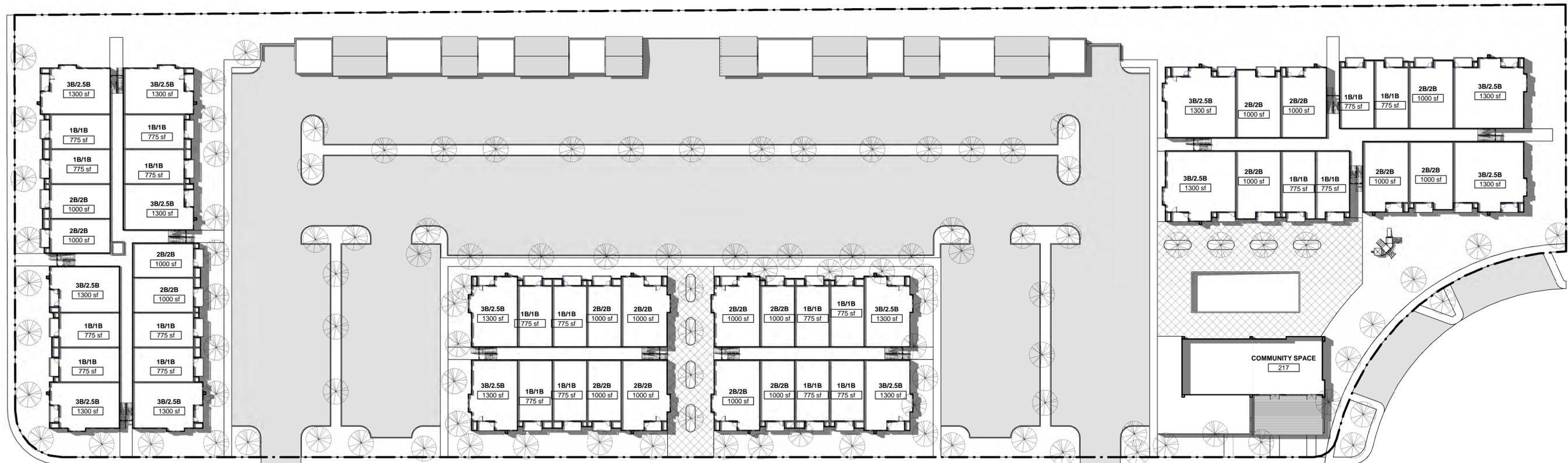
178 UNITS TOTAL = 217,250 SF TOTAL

Please see civil site plan for parking totals.





1 - GROUND LEVEL
1/32" = 1'-0"



2 - SECOND LEVEL
1/32" = 1'-0"

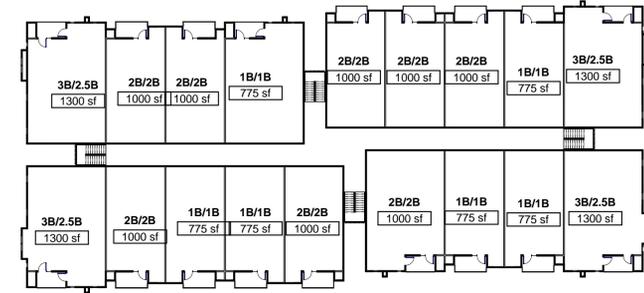
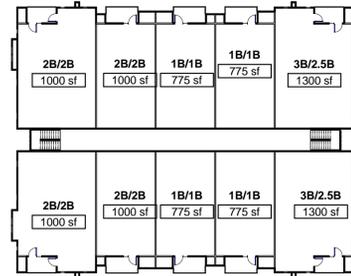
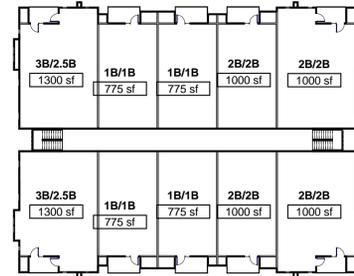
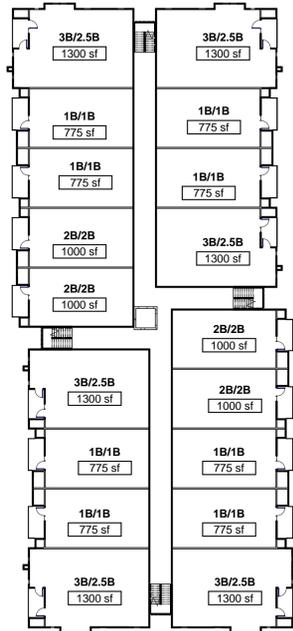
NO.	DATE	DESCRIPTION
1	Date 1	REV 9-20-22



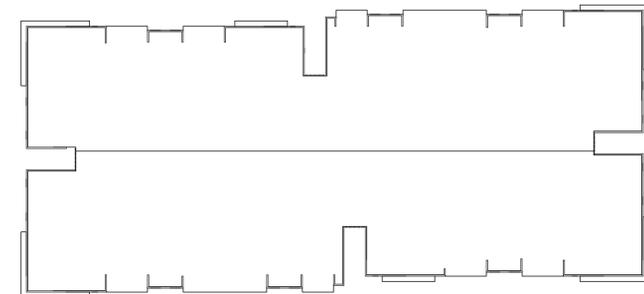
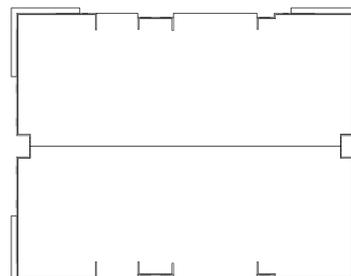
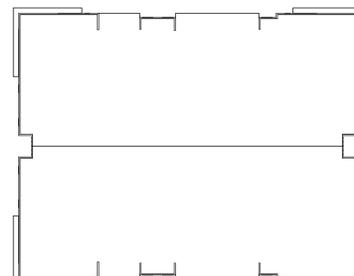
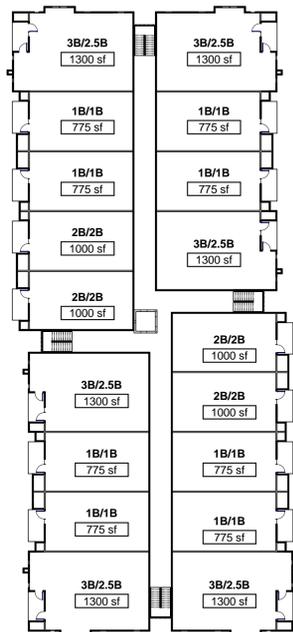
NO.	DATE	DESCRIPTION
1	Date 1	REV 9-20-22



3 - THIRD LEVEL
1/32" = 1'-0"



4TH STORY UNITS (IN BLDG 4)



4 LEVEL 4
1/32" = 1'-0"



1 ENLARGED - BLDG 1

1/8" = 1'-0"



12-14-22

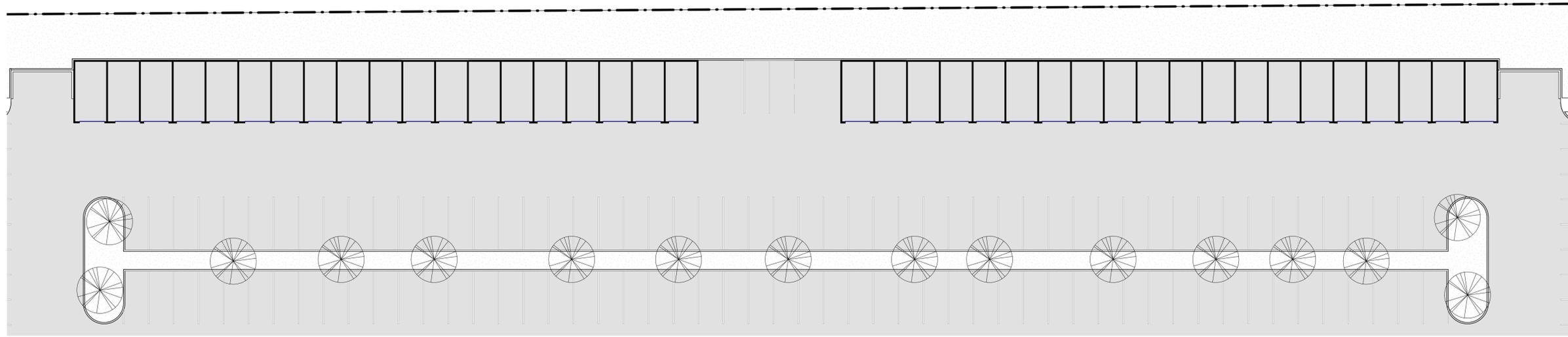
November 9, 2022

[sheet title]

GARAGES - ENLARGED PLANS

[sheet number]

A216



1 ENLARGED - GARAGE PLANS

1" = 20'-0"



12-14-22

November 9, 2022

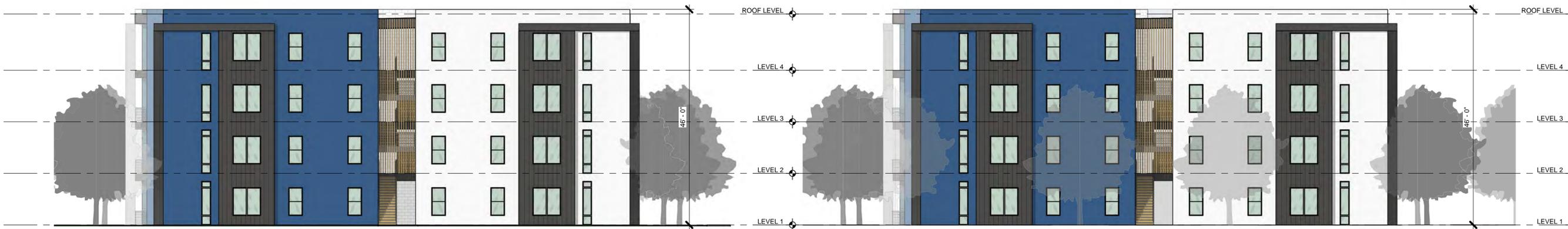
[sheet title]
ELEVATIONS - BLDG 1

[sheet number]

A301



1 BLDG 1 - NORTH
3/32" = 1'-0"



2 BLDG 1 - EAST
3/32" = 1'-0"

3 BLDG 1 - WEST
3/32" = 1'-0"



4 BLDG 1 - SOUTH
3/32" = 1'-0"



12-14-22

November 9, 2022

[sheet title]
ELEVATIONS - BLDG 2 & 3

[sheet number]

A302



1 BLDG 2 - NORTH (SIM 3 SOUTH)
3/32" = 1'-0"



2 BLDG 2 - SOUTH (SIM 3 NORTH)
3/32" = 1'-0"



3 BLDG 2 - EAST (SIM 3 EAST)
3/32" = 1'-0"



4 BLDG 2 - WEST (SIM 3 WEST)
3/32" = 1'-0"



12-14-22

November 9, 2022

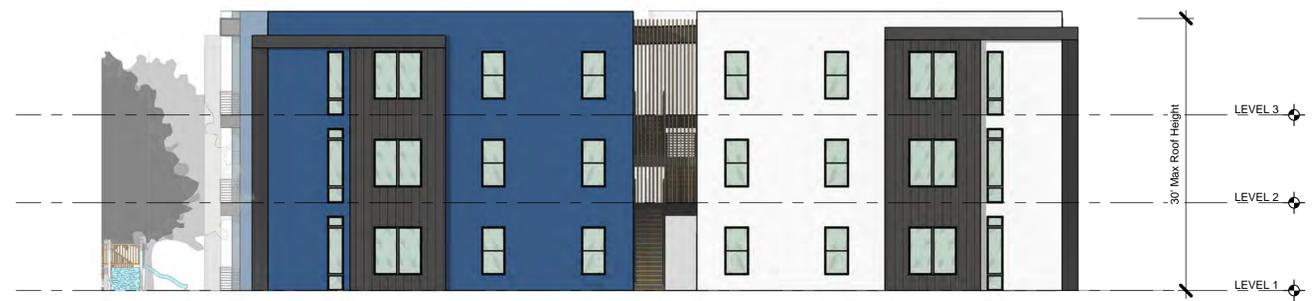
ELEVATIONS - BUILDING 4

[sheet number]

A303



1 BLDG 4 - NORTH
3/32" = 1'-0"



2 BLDG 4 - SOUTH
3/32" = 1'-0"



3 BLDG 4 - EAST
3/32" = 1'-0"



4 BLDG 4 - WEST
3/32" = 1'-0"



12-14-22

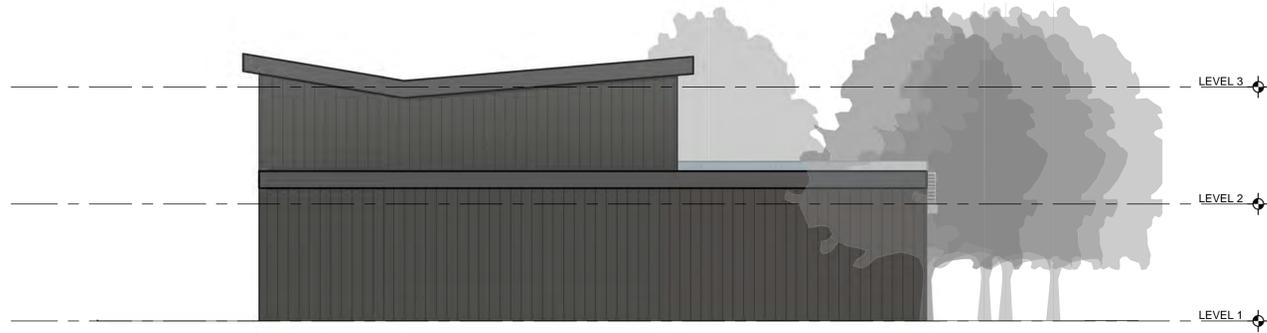
November 9, 2022

[sheet title]

ELEVATIONS - CLUBHOUSE

[sheet number]

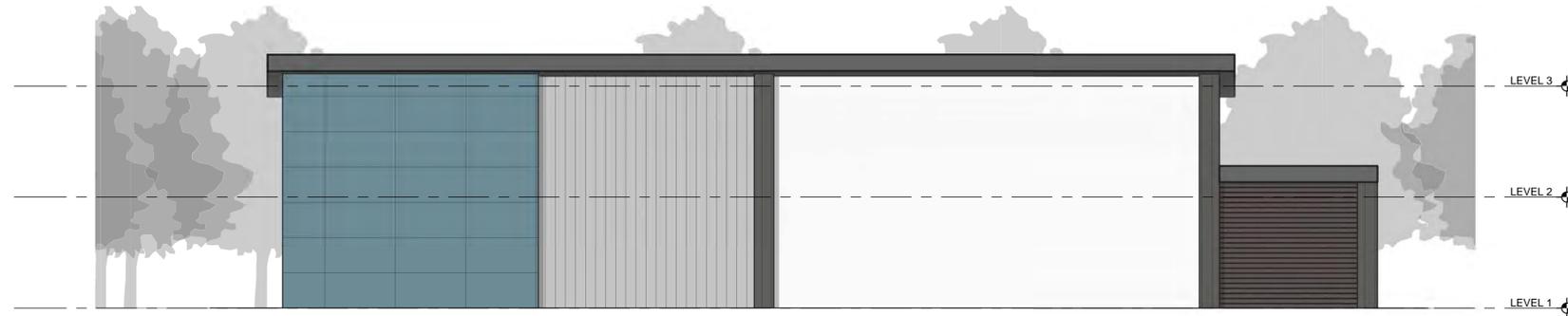
A304



1 CLUBHOUSE - NORTH
1/8" = 1'-0"



3 CLUBHOUSE - SOUTH
1/8" = 1'-0"



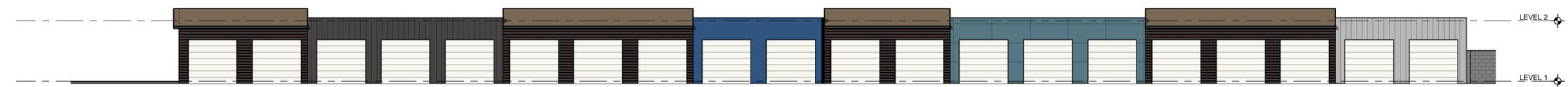
2 CLUBHOUSE - EAST
1/8" = 1'-0"



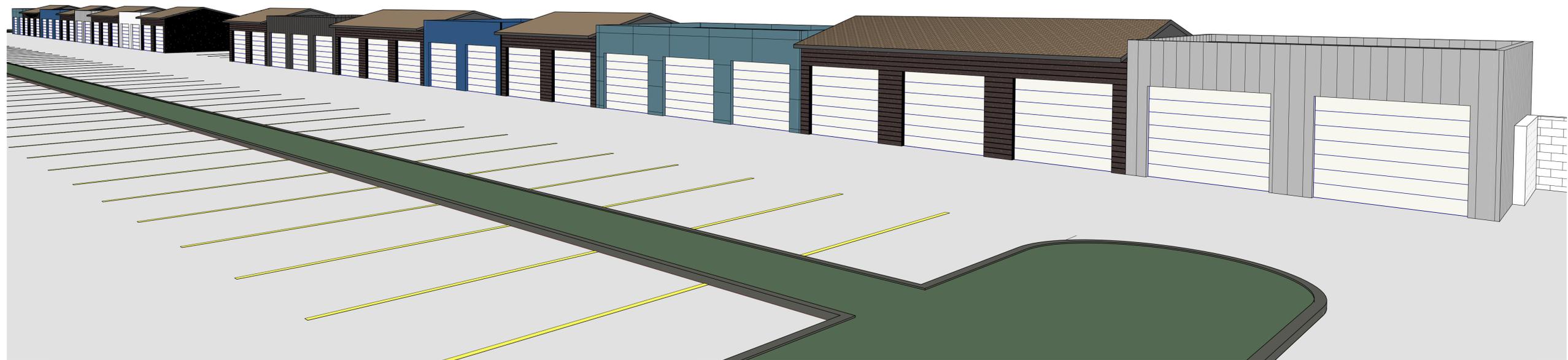
4 CLUBHOUSE - WEST
1/8" = 1'-0"



1 GARAGES - WEST ELEVATION
1" = 10'-0"



2 GARAGES - WEST ELEVATION (CONT)
1" = 10'-0"



3 3D View 2

Section 4

Alta Consulting, Ltd.
Attn: Mark Neuffer
P.O. Box 1263
Verdi, NV 89439

November 8, 2022

**Silver Oak Apartments – Sanitary Sewer
Generation Letter**


**MONTE VISTA
CONSULTING**
575 E. Plumb Lane
Suite 101
Reno, NV 89502
775.636.7905

The Silver Oak Apartments are located at the corner of Silver Oak Drive and GS Richards Boulevard (APN: 007-461-19). The site is currently an undeveloped parcel which has been planned for in the Silver Oak PUD. The proposed project will include the construction of 178 multi-family residential units and associated driveways, parking, utility improvements, and landscaping. In order to determine the sanitary sewer generation quantities, the Carson City daily sewer system contribution rate of one hundred fifty (150) gallons per day for a multi-family residential unit been utilized to determine the proposed sanitary sewer contributions based on the following equation:

$$(178 \text{ Apartments}) * (150 \text{ GPD/unit})(2.5) = 66,750 \text{ GPD}$$

There are two diverging existing sanitary sewer mains in GS Richards Boulevard both of which are maintained by Carson City. One main flows to the north while the other main flows to the south. The project will connect to both of the existing sanitary sewer mains in GS Richards Boulevard through private sanitary sewer laterals. Based on information provided by the Carson City Public Works Department, the existing main in GS Richards Boulevard that flows north has no flow in it. The existing main in Silver Oak Drive is at 35% capacity (d/D) and the existing main in College Parkway is at 50% capacity (d/D). The Carson City Public Works Department is requiring a pro rata share for the sanitary sewer impact of this project and to upsize the existing sewer main in College Parkway. Ultimately, all sanitary sewer contributions from this site will be treated at the Carson City Waste Water Treatment Plant. No additional sanitary sewer study or analysis has been completed.

Please contact Monte Vista Consulting if you have any questions or if there is anything else I can help with.

Sincerely,

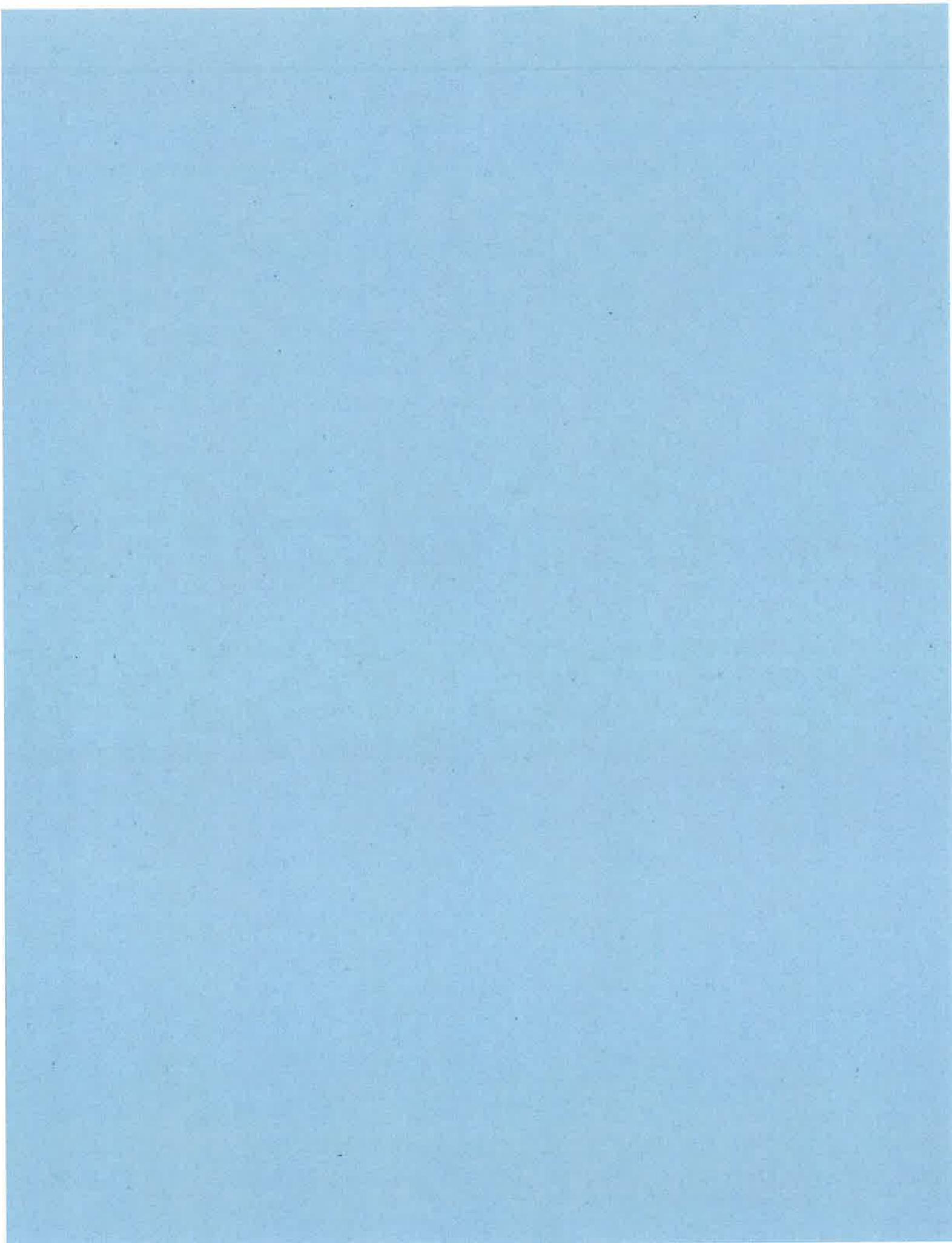
Monte Vista Consulting


Michael Vicks
2022.11.09
07:50:11 -08'00'

Michael Vicks, P.E.

Principal





PRELIMINARY ONSITE DRAINAGE REPORT

FOR

Silver Oak Apartments



Michael Vicks
2022.11.09
07:52:59
-08'00'

A handwritten signature in black ink, appearing to be "M. Vicks", written over the printed name and date.

Prepared For:

Alta Consulting, Ltd.
Mark Neuffer
P.O. Box 1263
Verdi, NV 89439

Prepared By:



575 E. Plumb Lane, Suite 101
Reno, NV 89502
775.636.7905

June 2022

22.032

Table of Contents

- Preliminary Onsite Drainage Report
- Preliminary Onsite Drainage Calculations
- Vicinity Map
- Appendix
 - FEMA FIRM Map
 - NOAA Atlas 14 Point Precipitation Frequency Estimates

References

- Carson City Drainage Manual
- Truckee Meadows Regional Drainage Manual (TMRDM)

Preliminary Onsite Drainage Report

Project: Silver Oak Apartments

Date: June 2022

Description: The project will consist of the construction of four apartment buildings totaling ±178 units, one community building, associated driveways, parking lot, walkways, landscaping, utility connections and drainage improvements.

Location: 0 GS Richards Blvd

APN: 007-461-19

Site Area: 6.2 ac

Developed Area: 6.2 ac

Disturbance: 6.2 ac

Flood Zone: X (Shaded)

Firm: 3200010084F

Restrictions: Yes

Pre-Development Discussion

Existing Development & Drainage Facilities:

The site is currently undeveloped and part of the Silver Oak planned development. Existing improvements surrounding the site include access roads, sidewalks, and utilities that have been previously designed and constructed. The site slopes prominently from west to east at slopes between 1-5% and there is a high point in the middle of the site with slopes to the north and south. There is minimal vegetation consisting of native grasses and brush which are a result of revegetation. Onsite flow generated by the site flows to either the north east or south east corners of the site where it discharged onto the adjacent properties. Ultimately all existing flow contributes to the Carson River.

Surrounding Properties:

- North: Silver Oak Drive & undeveloped commercial
- South: Developed commercial
- East: Developed & undeveloped commercial
- West: GS Richard Blvd, developed & undeveloped commercial

Offsite Contributing Flow: N/A

Post-Development Discussion

Proposed Drainage Improvements:

The developed site will maintain existing drainage patterns. The proposed structures will be elevated to allow conveyance of 100-year storm flows around the proposed structures in accordance with the standards for development in the FEMA Shaded X Flood Zone. The majority of the site will be graded to direct storm flows east to the detention pond along the eastern property line. The pond is sized to accommodate the 10-Year 24-Hour storm event in accordance with Carson City drainage standards and will have an orifice-controlled outlet structure connected to the existing public storm drain system in Silver Oak Drive. The outlet structure will release flow into the existing storm drain network at the pre-development rate while detaining the additional flow generated by the development. The small remainder of flow from the site will be discharged to the curb and gutter along Silver Oak Dr or GS Richards Blvd. where it will be captured by existing drainage infrastructure.

Low Impact Development Features:

This site will utilize a bio-retention pond to promote sedimentation and infiltration addressing LID requirements.

Conclusions:

The proposed development will be constructed in accordance with Carson City Design Standards. Peak flow from the site will be limited to pre-development conditions and the proposed bio-detention basin will address the post construction stormwater quality requirements. A more detailed drainage analysis will be performed in association with the required Special Use Permit application and ultimately the building permit application.

Preliminary Onsite Drainage Calculations - Rational Method

Project: Silver Oak Apartments

Hydrology Methodology

Rational Method Analysis is used for all calculations in this report. Peak runoff is determined using equation 708 of the TMRDM:

$$Q = \text{Peak Flow (cfs)} \quad Q = CiA$$

C = Runoff Coefficient

The runoff coefficient is determined by land use type and surface type. For typical surfaces standard runoff coefficients can be determined utilizing Table 701 of the TMRDM. For this analysis, a composite runoff coefficient can be determined utilizing weighted averaging of the individual surface runoff coefficients.

i = Rainfall Intensity (in/hr)

Rainfall intensity is determined utilizing the NOAA Atlas Point Precipitation Frequency Estimates which give rainfall intensities based on average recurrence intervals and duration. The duration of a storm is also known as the time of concentration. For small urbanized paved areas shall be 5 minutes & 10 minutes for vegetated landscape areas.

A = Basin Area (acres)

Site Runoff Coefficients & Rainfall Intensities

5-Year	$C_{\text{Undeveloped}} = 0.2$	$C_{\text{Impervious}} = 0.88$	$C_{\text{Landscape}} = 0.2$
100-Year	$C_{\text{Undeveloped}} = 0.5$	$C_{\text{Impervious}} = 0.93$	$C_{\text{Landscape}} = 0.5$
5-min	$i_2 = 1.488$	$i_5 = 1.992$	$i_{100} = 4.8$
10 min	$i_2 = 1.134$	$i_5 = 1.512$	$i_{100} = 3.654$
24 hr	$i_{10}(24 \text{ hr}) = 0.094$		

Pre-Development Condition

1.1 Composite Runoff Coefficient

Basin	Area (s.f.)	Impervious Area (s.f.)	Undeveloped Area (s.f.)	C_5	C_{100}
X1	270071	0	270071	0.20	0.50
Totals	270071	0	270071	0.20	0.50

1.2 Rational Flow Calculations

Basin	Area (ac)	i_2 (in/hr)	i_5 (in/hr)	i_{100} (in/hr)	Q_2 (cfs)	Q_5 (cfs)	Q_{100} (cfs)	$Q_{10}(24\text{hr})$ (cfs)	Target
X1	6.20	1.134	1.512	3.654	1.406	1.875	11.327	0.292	Offsite
Totals	6.20				1.406	1.875	11.327	0.292	

Post-Development Condition

2.1 Composite Runoff Coefficient

Basin	Area (s.f.)	Impervious Area (s.f.)	Landscape Area (s.f.)	C_5	C_{100}
1	270071	204127	65944	0.71	0.83
Totals	270071	204127	65944	0.71	0.83

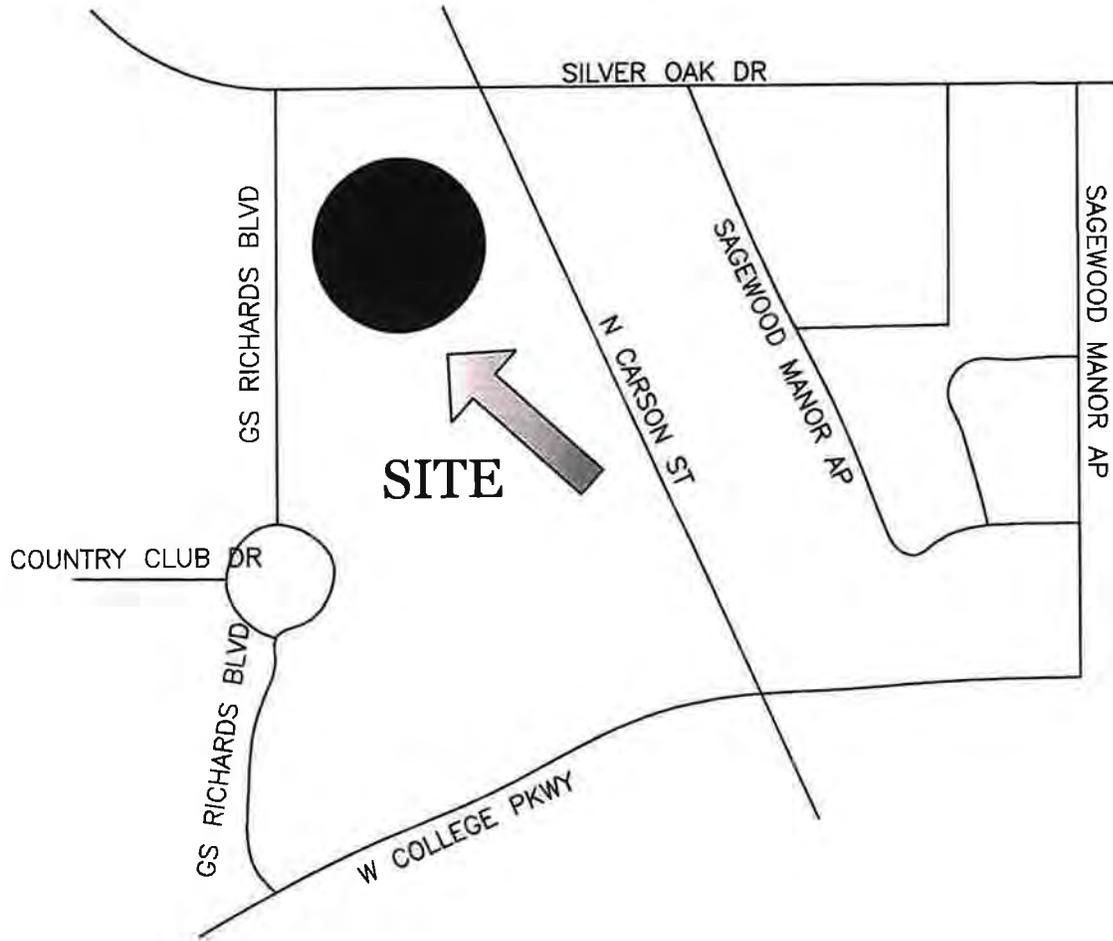
2.2 Rational Flow Calculations

Basin	Area (ac)	i_2 (in/hr)	i_5 (in/hr)	i_{100} (in/hr)	Q_2 (cfs)	Q_5 (cfs)	Q_{100} (cfs)	$Q_{10}(24\text{hr})$ (cfs)	Target Inlet
1	6.20	1.488	1.992	4.8	6.587	8.818	24.552	0.482	Pond
Totals	6.20				6.587	8.818	24.552	0.482	

2.5 Retention Calculations

Event	Pre-Dev Q_{10} (cfs)	Post-Dev Q_{10} (cfs)	Required Detention (cfs)	Required Detention (ft^3)
24 hr	0.29	0.48	0.19	16394

Pond	Area (ft^2)	Depth (ft)	Volume (ft^3)	Volume Capacity (cfs)	Factor of Safety
1	13613	2	17270	0.20	1.05



Silver Oak Apartments

o GS Richards Blvd

APN: 007-461-19

22.032

Vicinity Map



575 E. Plumb Lane #101, Reno, NV 89502

775.636.7905

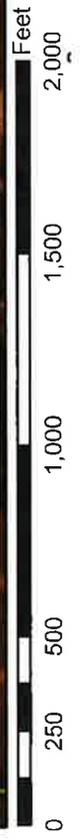
montevistaconsulting.com

Appendix

National Flood Hazard Layer FIRMette



119°46'53"W 39°11'47"N



119°46'16"W 39°11'9"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with draining areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes, Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS

- NO SCREEN
- Area of Minimal Flood Hazard Zone X
- Effective LOMRS
- Area of Undetermined Flood Hazard Zone X

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/24/2022 at 2:51 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



NOAA Atlas 14, Volume 1, Version 5
 Location name: Carson City, Nevada, USA*
 Latitude: 39.1932°, Longitude: -119.7763°
 Elevation: 4743.84 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitana, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Urruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchon

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aeriels](#)

PF tabular

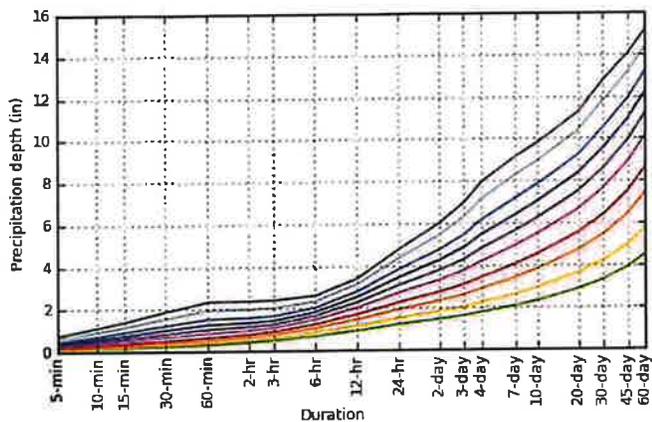
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.100 (0.086-0.116)	0.124 (0.109-0.148)	0.186 (0.142-0.197)	0.205 (0.175-0.243)	0.270 (0.223-0.320)	0.329 (0.263-0.393)	0.400 (0.308-0.482)	0.484 (0.358-0.594)	0.618 (0.432-0.775)	0.740 (0.492-0.945)
10-min	0.152 (0.131-0.180)	0.188 (0.164-0.225)	0.252 (0.216-0.299)	0.313 (0.268-0.370)	0.411 (0.339-0.487)	0.501 (0.400-0.598)	0.609 (0.469-0.733)	0.736 (0.548-0.903)	0.940 (0.657-1.18)	1.13 (0.749-1.44)
15-min	0.188 (0.163-0.223)	0.235 (0.203-0.276)	0.313 (0.268-0.371)	0.388 (0.329-0.458)	0.510 (0.420-0.604)	0.621 (0.496-0.741)	0.754 (0.582-0.909)	0.913 (0.676-1.12)	1.17 (0.815-1.46)	1.40 (0.928-1.78)
30-min	0.254 (0.219-0.300)	0.316 (0.274-0.375)	0.421 (0.361-0.499)	0.522 (0.444-0.617)	0.687 (0.566-0.814)	0.837 (0.668-0.998)	1.02 (0.784-1.23)	1.23 (0.911-1.51)	1.57 (1.10-1.97)	1.88 (1.25-2.40)
60-min	0.314 (0.271-0.371)	0.391 (0.339-0.464)	0.521 (0.447-0.618)	0.646 (0.549-0.794)	0.850 (0.700-1.01)	1.04 (0.827-1.24)	1.26 (0.970-1.52)	1.52 (1.13-1.87)	1.94 (1.36-2.44)	2.33 (1.55-2.97)
2-hr	0.421 (0.376-0.483)	0.524 (0.465-0.599)	0.666 (0.587-0.760)	0.793 (0.691-0.904)	0.983 (0.835-1.13)	1.15 (0.957-1.34)	1.35 (1.09-1.58)	1.58 (1.24-1.88)	1.99 (1.49-2.46)	2.36 (1.71-3.00)
3-hr	0.506 (0.454-0.569)	0.630 (0.559-0.711)	0.789 (0.705-0.887)	0.918 (0.814-1.03)	1.10 (0.961-1.25)	1.26 (1.08-1.44)	1.44 (1.21-1.65)	1.66 (1.37-1.95)	2.04 (1.62-2.46)	2.39 (1.86-3.03)
6-hr	0.706 (0.634-0.788)	0.881 (0.792-0.987)	1.09 (0.976-1.22)	1.26 (1.12-1.41)	1.48 (1.30-1.67)	1.66 (1.43-1.88)	1.83 (1.58-2.10)	2.04 (1.70-2.36)	2.34 (1.90-2.75)	2.61 (2.07-3.12)
12-hr	0.937 (0.835-1.05)	1.18 (1.05-1.32)	1.48 (1.31-1.66)	1.71 (1.51-1.92)	2.03 (1.77-2.30)	2.28 (1.96-2.59)	2.53 (2.14-2.91)	2.78 (2.32-3.24)	3.12 (2.53-3.71)	3.39 (2.69-4.08)
24-hr	1.23 (1.11-1.36)	1.54 (1.39-1.71)	1.94 (1.75-2.14)	2.26 (2.04-2.50)	2.71 (2.43-3.00)	3.06 (2.73-3.39)	3.43 (3.03-3.82)	3.81 (3.34-4.26)	4.34 (3.74-4.89)	4.75 (4.04-5.40)
2-day	1.47 (1.32-1.66)	1.85 (1.65-2.08)	2.35 (2.10-2.64)	2.75 (2.45-3.10)	3.32 (2.94-3.76)	3.78 (3.32-4.28)	4.26 (3.71-4.85)	4.76 (4.10-5.46)	5.46 (4.62-6.33)	6.02 (5.02-7.05)
3-day	1.62 (1.45-1.83)	2.04 (1.82-2.31)	2.62 (2.33-2.97)	3.09 (2.74-3.50)	3.76 (3.30-4.26)	4.29 (3.75-4.88)	4.86 (4.20-5.55)	5.46 (4.67-6.26)	6.30 (5.29-7.30)	6.98 (5.77-8.17)
4-day	1.78 (1.59-2.01)	2.24 (1.99-2.54)	2.89 (2.56-3.29)	3.43 (3.03-3.89)	4.19 (3.67-4.76)	4.80 (4.17-5.47)	5.46 (4.70-6.24)	6.15 (5.24-7.06)	7.14 (5.96-8.28)	7.94 (6.53-9.29)
7-day	2.07 (1.84-2.35)	2.63 (2.33-2.98)	3.41 (3.02-3.87)	4.04 (3.57-4.58)	4.92 (4.33-5.60)	5.63 (4.91-6.41)	6.37 (5.50-7.29)	7.16 (6.12-8.22)	8.25 (6.95-9.57)	9.12 (7.57-10.7)
10-day	2.31 (2.04-2.61)	2.94 (2.60-3.33)	3.83 (3.36-4.33)	4.52 (3.98-5.12)	5.48 (4.79-6.21)	6.23 (5.42-7.08)	7.01 (6.05-7.99)	7.82 (6.69-8.94)	8.93 (7.53-10.3)	9.79 (8.16-11.4)
20-day	2.87 (2.56-3.22)	3.65 (3.26-4.10)	4.73 (4.22-5.31)	5.56 (4.94-6.23)	6.67 (5.89-7.47)	7.51 (6.60-8.44)	8.38 (7.31-9.45)	9.24 (8.01-10.5)	10.4 (8.90-11.9)	11.3 (9.55-13.0)
30-day	3.30 (2.95-3.70)	4.20 (3.75-4.71)	5.44 (4.85-6.08)	6.37 (5.67-7.12)	7.62 (6.74-8.52)	8.57 (7.54-9.61)	9.54 (8.33-10.7)	10.5 (9.10-11.9)	11.8 (10.1-13.5)	12.8 (10.8-14.7)
45-day	3.88 (3.49-4.34)	4.97 (4.44-5.52)	6.41 (5.74-7.13)	7.48 (6.66-8.31)	8.88 (7.89-9.87)	9.90 (8.76-11.0)	10.9 (9.61-12.2)	11.9 (10.4-13.3)	13.1 (11.4-14.8)	14.0 (12.1-15.9)
60-day	4.49 (4.00-5.00)	5.74 (5.12-6.40)	7.41 (6.61-8.25)	8.59 (7.66-9.57)	10.1 (8.97-11.2)	11.2 (9.89-12.5)	12.2 (10.8-13.7)	13.2 (11.6-14.8)	14.3 (12.5-16.2)	15.1 (13.2-17.2)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
 Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
 Please refer to NOAA Atlas 14 document for more information.

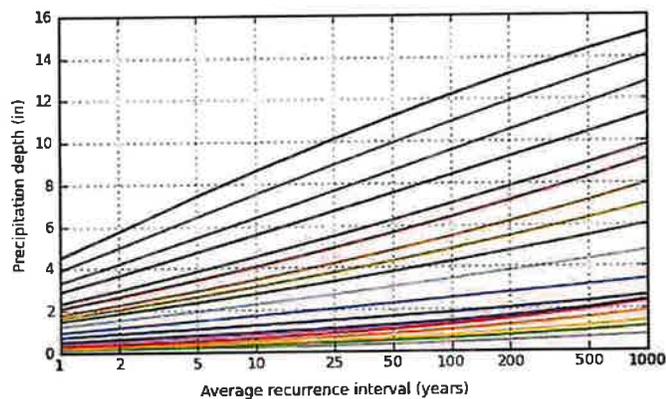
[Back to Top](#)

[PF graphical](#)

PDS-based depth-duration-frequency (DDF) curves
 Latitude: 39.1932°, Longitude: -119.7763°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



Duration
5-min
10-min
15-min
30-min
60-min
2-hr
3-hr
6-hr
12-hr
24-hr
2-day
3-day
4-day
7-day
10-day
20-day
30-day
45-day
60-day

NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Tue May 24 18:49:23 2022

[Back to Top](#)

Maps & aerials

Small scale terrain



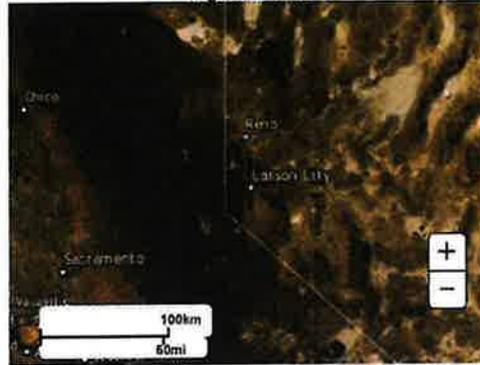
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)



Mark Neuffer
Principal
Alta Consulting, Ltd.
PO Box 1263
Verdi, NV 89439

November 22nd 2022
Revised December 14th 2022

RE: Silver Oaks Proposed 178-Unit Multi-Family Water Service Availability

Dear Mr. Neuffer,

SB Engineering (SBE) was engaged by the Alta Consulting (Client) to determine the availability of water service to the Project site. The Project is located within the service territory of the Carson City Public Works – Water Division.

The Project demands are estimated in Table 1. The total maximum day demand is estimated at 60 gpm, while peak hour is assumed to be 100 gpm. Per the Preliminary Site Utility Plan prepared by Monte Vista Consulting dated November 8th 2022 the largest fire flow demand is 2,750 gpm for 2 hours. The Project maximum fire flow demand of 2,750 gpm can be reduced below 2,600 gpm with the addition of a fire wall to the largest structure.

Table 1: Estimated Maximum Day Demand for the Silver Oaks Apartments

Description	Number of Units	Assumed Maximum Day Demand per Unit, gpm	Total Maximum Day Demand, gpm
Apartments	178	0.30	53.4
Irrigation Assumed at 10% Domestic	NA	NA	5.4

Total Maximum Day Demand = 58.9 gpm round up to **60 gpm**

SBE contacted Michael Friend, PE and Project Manager with the Water Division to evaluate the anticipated residual pressures in this area with the added Project demands utilizing the water system hydraulic model. The modeled residual pressures are summarized in Table 2. The maximum day pressure is on the order of 76-psi, while the peak hour residual pressure is approximately 58-psi (refer to Appendix A for email dated 12/1/22 from Michael Friend regarding the model results). The modeled available fire flow to the Project point of connection (POC) is on the order of 2,600 gpm, while the hydrant test conducted in this area indicates a 2,900-gpm fire flow is available (refer to Appendix B for fire hydrant test results). The modeled available fire flow of 2,600 gpm is deemed more accurate due to the fire flow test being conducted during low demands, and it unknown to SBE if the water system was in the state for the design fire flow condition.



Table 2: Modeled Residual Project Pressures and Hydraulic Grade Lines (HGLs)

Description	Residual Pressure, psi	Residual HGLs, feet NAVD 88
Maximum Day Scenario	76	4,914
Peak Hour Scenario	58	4.874

The peak hour residual pressure is below the 60-psi minimum required per Carson City, but per email from Michael Friend dated 12/9/22 Carson City Public Works deems this sufficient.

From a phone conversation with Michael Friend, there is adequate storage and total capacity to add this Project to the system at this time.

The available fire flow at the current POC is slightly deficient for the current largest building design. It is anticipated the Project fire flow may not need to be provided on-site, and the adjacent fire hydrants would provide the coverage needed. At this time, final design of the hydrant layout has not been completed. In addition, upsizing and/or looping off-site mains will increase fire flows, but this will need to be evaluated by Carson City Public Works. Essentially there are four options to meet the Project fire flow demand:

- No on-site fire hydrants are needed and meet the 2,750 gpm fire flow from adjacent public fire hydrants. This will be evaluated during final design of the Project in coordination with Carson City Fire.
- Upsize, or loop main(s) as required to meet the Project fire flow demand. With the small deficit in fire flow, it is not anticipated this will require significant main improvements. This evaluation will need to be completed by Carson City Public Works.
- Relocating the POC can possibly achieve a higher available fire flow. This evaluation will need to be completed by Carson City Public Works.
- Add a fire wall, or modify the building construction to reduce the maximum fire flow demand less than the 2,600 gpm currently available. This will be done if deemed the most economical/viable solution. At this time, this is the assumed course of action since the outcome is known, while the above will be evaluated during final design.

Based on the information provided by Carson City Public Works and the fire hydrant test, it is SBE's opinion that water service to the Project can be provided by Carson City. At this time, it is assumed the building design will be adjusted to reduce the Project fire flow below what is currently available at the POC (2,600 gpm). During final design options to increase the fire flow, and/or meet with existing public fire hydrants will be investigated. If a solution that meets the Project fire demand of 2,750 gpm is deemed more viable than modifying the building construction it will be implemented subject to review/approval from Carson City.

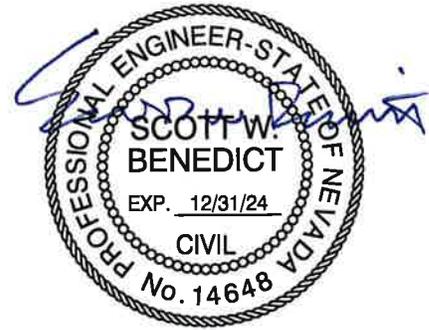


Please feel free to contact me at 775-223-0922 if you have any questions, comments or if additional information is needed to facilitate your review.

Sincerely,

A handwritten signature in blue ink that reads "Scott W. Benedict".

Scott Benedict, PE
Principal



Cc: Michael Vicks, PE Monte Vista Consulting (via email)
Jason Durr, KRI (via email)
Michael Friend, PE Carson City Public Works (via email)
Stacie Huggins, Wood Rodgers (via email)

12/14/22

Scott
Benedict

Digitally signed by
Scott Benedict
Date: 2022.12.14
16:35:08 -08'00'



Appendix A

**Email Chain Dated 12/1/2022 to 12/9/2022 from Project Team with Michael Friend,
PE regarding Project Pressures and Fire Flow Available**

Scott Benedict

From: Michael Friend <MFriend@carson.org> on behalf of Michael Friend
Sent: Friday, December 9, 2022 12:12 PM
To: Scott Benedict
Cc: Michael Vicks; mark neuffer; Stacie Huggins; Tom Grundy; Edmund Quaglieri
Subject: RE: Silver Oaks Apartments - Water Service Availability

Scott,

I talked this over with our water department. We are okay with the 58 psi at peak. Carson City will not allow parallel lines in GS Richards. We can't propose/design one way over another in meeting fire flow demands. The design engineer will need to propose some options and then we can take a look at them. There could be several options (we haven't verified that any of these work yet) as such as looping a private line through the property into Silver Oak Dr., upsizing the line in GS Richards, change the type of construction, change the square footage of the largest buildings, and I am sure there are more.

It is also noted that the parcel had gone through the MPR process in June of 2021 with less units than what is being proposed now. A water analysis was requested then and fire flow data was provided to them and their engineer. That fire flow data is now expired (past the 5 years per the IFC 2018), hence using the new fire flow data. However Carson City never received a water study or analysis then.

Thanks,

Michael P. Friend P.E., Project Manager
(775-283-7713)

From: Scott Benedict <scott@sbcivilengineering.com>
Sent: Monday, December 5, 2022 4:45 PM
To: Michael Friend <MFriend@carson.org>
Cc: Michael Vicks <mike@montevistaconsulting.com>; mark neuffer <mrdsnacho@sbcglobal.net>; Stacie Huggins <shuggins@woodrogers.com>; Tom Grundy <TGrundy@carson.org>; Edmund Quaglieri <EQuaglieri@carson.org>
Subject: RE: Silver Oaks Apartments - Water Service Availability

This message originated outside of Carson City's email system. Use caution if this message contains attachments, links, or requests for information.

Thanks Michael!...very much appreciated..

Scott Benedict, PE
Principal/Owner
SB Engineering
Ph 775-223-0922

From: Michael Friend <MFriend@carson.org>
Sent: Monday, December 5, 2022 4:41 PM
To: Scott Benedict <scott@sbcivilengineering.com>
Cc: Michael Vicks <mike@montevistaconsulting.com>; mark neuffer <mrdsnacho@sbcglobal.net>; Stacie Huggins

<shuggins@woodrogers.com>; Tom Grundy <TGrundy@carson.org>; Edmund Quaglieri <EQuaglieri@carson.org>

Subject: RE: Silver Oaks Apartments - Water Service Availability

Scott,

Let me meet with the rest of the water group and utility manager so we can go over some options and provide some feedback.

Thanks,

Michael P. Friend P.E., Project Manager
(775-283-7713)

From: Scott Benedict <scott@sbcivilengineering.com>

Sent: Monday, December 5, 2022 4:24 PM

To: Michael Friend <MFriend@carson.org>

Cc: Michael Vicks <mike@montevistaconsulting.com>; mark neuffer <mrdsnacho@sbcglobal.net>; Stacie Huggins <shuggins@woodrogers.com>

Subject: RE: Silver Oaks Apartments - Water Service Availability

This message originated outside of Carson City's email system. Use caution if this message contains attachments, links, or requests for information.

Hi Michael,

I am not sure the issue with this and what is the concern about adding parallel mains, if needed? What do you think is the best option to increase fire flows to the POC (not adding new hydrants?). Is Carson City Public Works ok with 58 psi peak hour?

How do we get you going on evaluating the potential water offsites needed?, do you have a process to complete a preliminary water service plan to the extent needed to get the SUP approved? At this point there is nothing more I can do on my end..

Cheers,

Scott Benedict, PE
Principal/Owner
SB Engineering
Ph 775-223-0922

From: Stephen Pottey <SPottey@carson.org>

Sent: Monday, December 5, 2022 4:04 PM

To: Stacie Huggins <shuggins@WoodRodgers.com>; Heather Manzo <HManzo@carson.org>

Cc: Michael Vicks <mike@montevistaconsulting.com>; mark neuffer <mrdsnacho@sbcglobal.net>; Scott Benedict <scott@sbcivilengineering.com>; Michael Friend <MFriend@carson.org>

Subject: RE: Silver Oaks Apartments - Water Service Availability

Stacie,

Sorry for not responding sooner. Unfortunately this doesn't change things. My understanding is that the fire flow is based on system capacity, so it wouldn't matter if extra hydrants were added. Also, adding parallel mains would not be

allowed. Scott can coordinate with Mike on modeling potential solutions, but in order to make findings I will need a report that shows what the proposed mitigation is and what the estimated resultant flow will be.



Stephen Pottéy, PE | Senior Project Manager
Public Works Department | Carson City
108 E. Proctor Street, Carson City, NV 89701
Direct: 775-283-7079 | Email: spottey@carson.org



From: Stacie Huggins <shuggins@WoodRodgers.com>
Sent: Friday, December 2, 2022 7:42 AM
To: Heather Manzo <HManzo@carson.org>; Stephen Pottey <SPottey@carson.org>
Cc: Michael Vicks <mike@montevistaconsulting.com>; mark neuffer <mrdsnacho@sbcglobal.net>; Scott Benedict <scott@sbcivilengineering.com>; Michael Friend <MFriend@carson.org>
Subject: RE: Silver Oaks Apartments - Water Service Availability
Importance: High

This message originated outside of Carson City's email system. Use caution if this message contains attachments, links, or requests for information.

Stephen/Heather – I didn't see any response from Staff yesterday regarding the additional information provided below so I just want to double check...is there any chance the information below is adequate to move forward?

If not, can you please let us know what additional information or further analysis needs to be provided for you to be comfortable moving forward. Can you also let us know when you would need that information to be scheduled for the January 25th PC meeting.

Thank you...we look forward to hearing from you.

Stacie Huggins | Senior Planner

Wood Rodgers, Inc. | www.woodrogers.com |
775.823.5258 Direct
775.250.8213 Mobile
shuggins@WoodRodgers.com

| Please note that our offices will be closed from 12/26/2022 to 1/03/2023. Enjoy the holidays! |

From: Scott Benedict <scott@sbcivilengineering.com>
Sent: Thursday, December 1, 2022 12:52 PM
To: Michael Friend <MFriend@carson.org>; Heather Manzo <HManzo@carson.org>; Stephen Pottey <SPottey@carson.org>
Cc: Michael Vicks <mike@montevistaconsulting.com>; Stacie Huggins <shuggins@WoodRodgers.com>; mark neuffer <mrdsnacho@sbcglobal.net>
Subject: RE: Silver Oaks Apartments - Water Service Availability

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Thanks Michael,

So at this point would seem Carson City Public Works will need to determine if OK with the peak hour pressure at this location, or if they are going to require additional offsites to get to 60 psi. I am not going to debate the 60 psi peak hour criteria, but I have no issues with 58 psi and typically folks plan for something less than that in most public water systems.

It remains to be seen if water off-sites are needed for fire, based on where this is at that would seem to be a function if they need to add private fire hydrants on-site, if no the existing hydrants in GS Richards can likely work since fire flows from a single hydrant are usually limited to 1,000-1,500 gpm, so for 2,750 gpm thinking at least 2 hydrants and do not need to put the demand at the POC.

Based on the information/analysis you provided this Project can be served, but to determine if/what improvements may be needed Cason will need to complete the analysis in-house. At this point I have nothing more to add on this and will move on...

Cheers,

Scott Benedict, PE
Principal/Owner
SB Engineering
Ph 775-223-0922

From: Michael Friend <MFriend@carson.org>
Sent: Thursday, December 1, 2022 12:16 PM
To: Scott Benedict <scott@sbcivilengineering.com>; Heather Manzo <HManzo@carson.org>; Stephen Pottey <SPottey@carson.org>
Cc: Michael Vicks <mike@montevistaconsulting.com>; Stacie Huggins <shuggins@woodrogers.com>; mark neuffer <mrdsnacho@sbcglobal.net>
Subject: RE: Silver Oaks Apartments - Water Service Availability

Scott,

I didn't send the pressures with the revised fire flow and accurately updating the PRV in the model. See below the revised numbers:

MDD = 76.5 psi HGL 4,914.8
PHD = 58.9 psi HGL 4,874.2
Fire Flow Available was 2,600 gpm

The 60 psi is a requirement for PHD at the meter.

Michael P. Friend P.E., Project Manager
(775-283-7713)

From: Scott Benedict <scott@sbcivilengineering.com>
Sent: Thursday, December 1, 2022 11:18 AM
To: Heather Manzo <HManzo@carson.org>; Stephen Pottey <SPottey@carson.org>
Cc: Michael Vicks <mike@montevistaconsulting.com>; Michael Friend <MFriend@carson.org>; Stacie Huggins

<shuggins@woodrogers.com>; mark neuffer <mrdsnacho@sbcglobal.net>

Subject: RE: Silver Oaks Apartments - Water Service Availability

This message originated outside of Carson City's email system. Use caution if this message contains attachments, links, or requests for information.

Just received the attached updated hydrant fire flow, to get the 2,750 gpm to the POC will need to add some parallel main in GS Richards per the model results. Can almost get there with 2,600 gpm available. I am not sure how much parallel main and/or if best option, that is a question for Carson City Public Works.

Michael Friend,

Can you clarify that the 60 psi minimum pressure requirement is intended to be for the maximum day demand condition.

Scott Benedict, PE

Principal/Owner
SB Engineering
Ph 775-223-0922

From: Scott Benedict <scott@sbcivilengineering.com>

Sent: Thursday, December 1, 2022 11:08 AM

To: 'Heather Manzo' <HManzo@carson.org>; 'Stephen Pottety' <SPottety@carson.org>

Cc: 'Michael Vicks' <mike@montevistaconsulting.com>; MFriend@carson.org; 'Stacie Huggins' <shuggins@WoodRodgers.com>; 'mark neuffer' <mrdsnacho@sbcglobal.net>

Subject: RE: Silver Oaks Apartments - Water Service Availability Memo

Hi Stephen/Heather,

An updated hydrant test is in progress and once that is complete Michael Friend will re-visit the hydraulic model to determine the current available fire flow. If insufficient, yes Carson City Public Works will need to determine the offsite mitigation needed. From what I understand, if offsite water improvements are needed to increase fire flows Silver Oaks will complete. On the 60 psi minimum pressure requirement Carson City needs to clarify if this is for the maximum day or the peak hour condition, from discussions with Michael Friend this historically has been interpreted as the maximum day demand condition. 60 psi peak hour is twice the State requirement of 30 psi, and would seem overly conservative for peak hour. I do not have access to the Carson City water system model to evaluate the fire flows available to the Project, typically the hydraulic model is the primary tool to evaluate the water service available, hydrant test should only be used to calibrate the model in my opinion. From what I understand, there is a pressure regulator station that can support the fire flow needed for the Project that did not open in the model and not sure why we cannot just set this as needed?, once again I do not have access to the system model or operational constraints to conduct the analysis needed, at this point we are at the mercy of others to fill in the blanks.

Best,

Scott Benedict, PE

Principal/Owner
SB Engineering
Ph 775-223-0922

From: Heather Manzo <HManzo@carson.org>

Sent: Thursday, December 1, 2022 10:49 AM

To: mark neuffer <mrdsnacho@sbcglobal.net>; Stacie Huggins <shuggins@WoodRodgers.com>
Cc: Michael Vicks <mike@montevistaconsulting.com>; Stephen Pottey <SPottey@carson.org>; Scott Benedict <scott@sbcivilengineering.com>
Subject: RE: Silver Oaks Apartments - Water Service Availability Memo

Good Morning Mark and Stacie,

Staff has worked with your team on various issues and you have presented timely alternatives to address identified concerns. We are committed to continue to work with you on this project in order to be able to make a favorable recommendation to the Planning Commission, however based on the information provided this morning, it appears additional information is needed for staff to make the findings to support the request.

Please respond today to let us know how you wish to proceed. Again, staff believes with adequate information, this project will move forward with a favorable recommendation. A time waiver will allow the additional information to be brought forward in a manner that will allow staff time to review additional provided.

Sincerely,

Heather Manzo

Associate Planner
108 E. Proctor Street
Carson City, NV 89701
(775) 283-7075
hmanzo@carson.org



From: Stephen Pottey <SPottey@carson.org>
Sent: Thursday, December 1, 2022 10:34 AM
To: Scott Benedict <scott@sbcivilengineering.com>
Cc: mark neuffer <mrdsnacho@sbcglobal.net>; Michael Vicks <mike@montevistaconsulting.com>; Heather Manzo <HManzo@carson.org>; Stacie Huggins <shuggins@WoodRodgers.com>
Subject: FW: Silver Oaks Apartments - Water Service Availability Memo
Importance: High

Scott and Silver Oak Apartments Team,

Upon reviewing the attached water main analysis this morning, the Engineering Division has determined that the analysis has the following issues:

- The hydrant flow test is out of date. A new flow test needs to be completed to validate the available pressure and flow.
- The analysis states that there is insufficient fire flow and states that off-site improvements may be required but does not state what mitigations or improvements will be implemented and what the pressures and flows will be after these changes.
 - Please note that the analysis states that the pressure during the peak hour is 51-psi rather than the 60-psi required. After the above mitigations & improvements this pressure must meet the 60-psi requirement.

Unfortunately there is not sufficient time to receive an updated study and review it with Public Works staff prior to issuing our recommendation to the Planning Commission, so if the project moves forward we would not be able to meet findings and would need to recommend denial.

I know that your team was under a time crunch after the application was marked incomplete, but the water main analysis was called out as a required impact report in the July MPR and the Special Use Permit application does state that all required Impact Reports must be submitted with the application.

Any proposed mitigations should be discussed with the water department prior to submitting an analysis. If you have any questions for me, feel free to reach out.



Stephen Pott y, PE | Senior Project Manager
Public Works Department | Carson City
108 E. Proctor Street, Carson City, NV 89701
Direct: 775-283-7079 | Email: spottey@carson.org



From: Stacie Huggins <shuggins@WoodRodgers.com>
Sent: Thursday, December 1, 2022 8:38 AM
To: Stephen Pott y <SPottey@carson.org>
Cc: mark neuffer <mrdsnacho@sbcglobal.net>; Scott Benedict <scott@sbcivilengineering.com>; Michael Vicks <mike@montevistaconsulting.com>
Subject: Silver Oaks Apartments - Water Service Availability Memo
Importance: High

This message originated outside of Carson City's email system. Use caution if this message contains attachments, links, or requests for information.

Hi Stephen – thanks for the call this morning. As follow up, here is a copy of the water service availability memo as requested on Nov 17th via email from Heather. As you are likely aware, we are planning to resubmit the application packet tomorrow so in the interest of time, I have copied Scott Benedict, who prepared the letter, and Mike Vicks, who prepared the civil plans, on this email.

Please reach out to anyone on this string if you have questions or need clarification on anything today.

Thanks.

Stacie Huggins | Senior Planner

Wood Rodgers, Inc. | www.woodrodgers.com |

775.823.4068 Main

775.823.5258 Direct

775.250.8213 Mobile

775.823.4066 Fax

shuggins@WoodRodgers.com

Appendix B

Fire Hydrant Flow Test Results



Fire Flow Test Data Sheet

Location of Test (Street and Cross Street): GS Richards and Silver Oak
 Address Nearest Residual Hydrant: 3860 GS Richards Blvd
 Test Date: 11/30/2022 Test Time: 8:35
 Testing Personnel: JR, SW, AN
 Pressure Zone: 4960 Main Size: 8
 Comments: _____

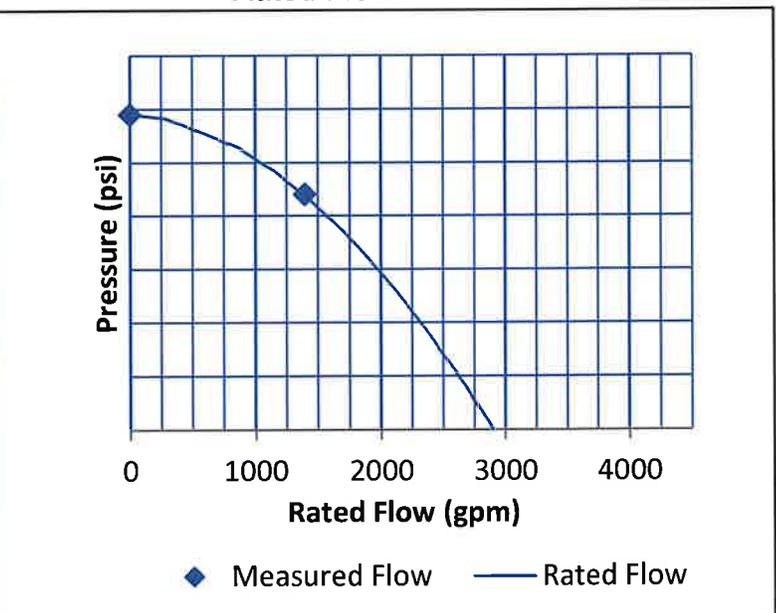
Test Results:

Residual Hydrant		Flow Hydrant(s)						
Static:	79 psi		Testing Apparatus	Pitot Pressure (psi)	Discharge Diameter (in)	Outlet Coeff. (c)	Pitot Flow (gpm)	
Residual:	64 psi							
Pressure Drop:	15 psi	Flow 1	HM1	19	2	1.307	680	
	19 %	Flow 2	HM2	21	2	1.307	715	
		Flow 3						
							Total	1395

Area Map



Rated Flow



Rated Pressure (for Rated Capacity Calculation) **20 psi**

Rated Capacity at 20 psi residual pressure. 2,900 gpm

Based on NFPA 291 - 2019 Edition and APWA Manual 17 - Fourth Edition
 Pursuant to NFPA 291, fire flow test data over five years old should not be used.

Hydrant OBJECTID: 1174
 Data Sheet File Name: GS Richards_Silver Oak2.pdf

