STAFF REPORT FOR PLANNING COMMISSION MEETING OF AUGUST 29, 2018

FILE: MPA-18-109 and ZMA-18-110 **AGENDA ITEM: E.3 & E.4**

STAFF CONTACT: Kathe Green, Assistant Planner

AGENDA TITLE:
MPA-18-109: For Possible Action: To adopt a Resolution making a recommendation to the Board of Supervisors regarding a Master Plan Amendment to change the Master Plan Land Use designation from Industrial (I) to Community/Regional Commercial (C/RC) on property located at 1588 Old Hot Springs Road, APN 008-123-23.

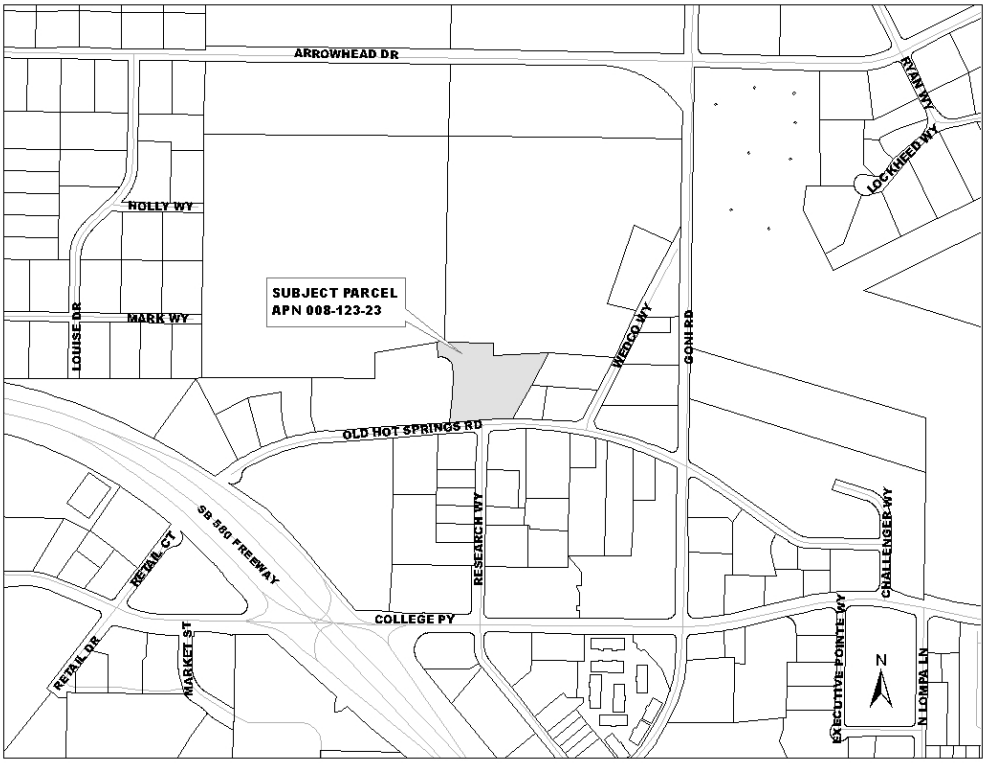
ZMA-18-110 For Possible Action: To make a recommendation to the Board of Supervisors regarding a Zoning Map Amendment to change the zoning from General Industrial (GI) to Tourist Commercial (TC) on property located at 1588 Old Hot Springs Road, APN 008-123-23.

STAFF SUMMARY: The applicant is seeking to both modify the Master Plan designation as well as to amend the zoning map. This will restore the property to the Master Plan designation and the Zoning designation to what was in effect prior to both being amended in 2015. .

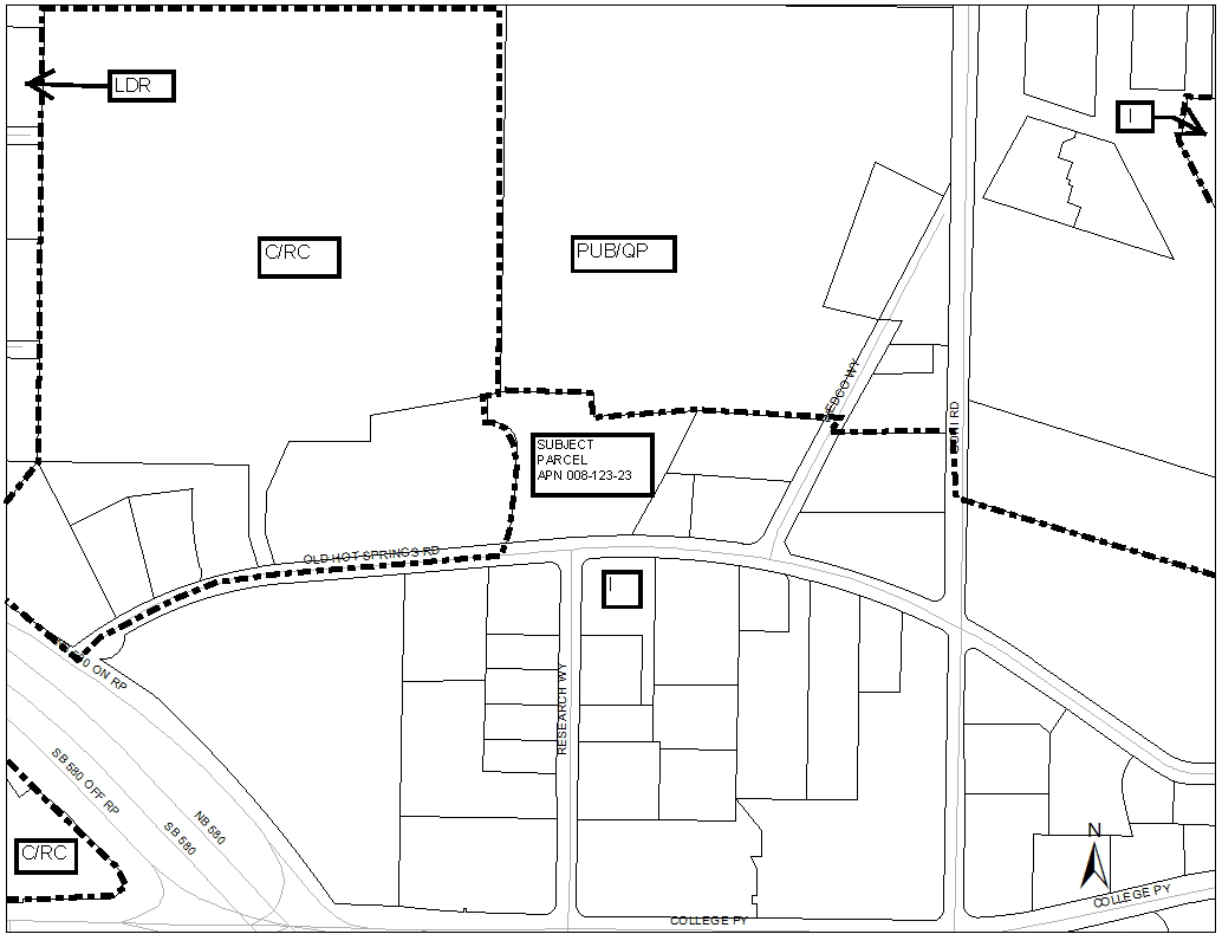
MASTER PLAN RECOMMENDED MOTION: "I move to adopt Resolution No. 2018-PC- R-4 recommending to the Board of Supervisors approval of MPA-18-109, a Master Plan Amendment to change the land use designation from Industrial to Community/Regional Commercial on property located at 1588 Old Hot Springs Road, APN 008-123-23, based on the findings contained in the staff report."

ZONING MAP AMENDMENT RECOMMENDED MOTION: "I move to recommend to the Board of Supervisors approval of ZMA-18-110, a Zoning Map Amendment to change the zoning from General Industrial to Tourist Commercial on property located at 1588 Old Hot Springs Road, APN 008-123-23 based on the findings contained in the staff report."

VICINITY MAP:



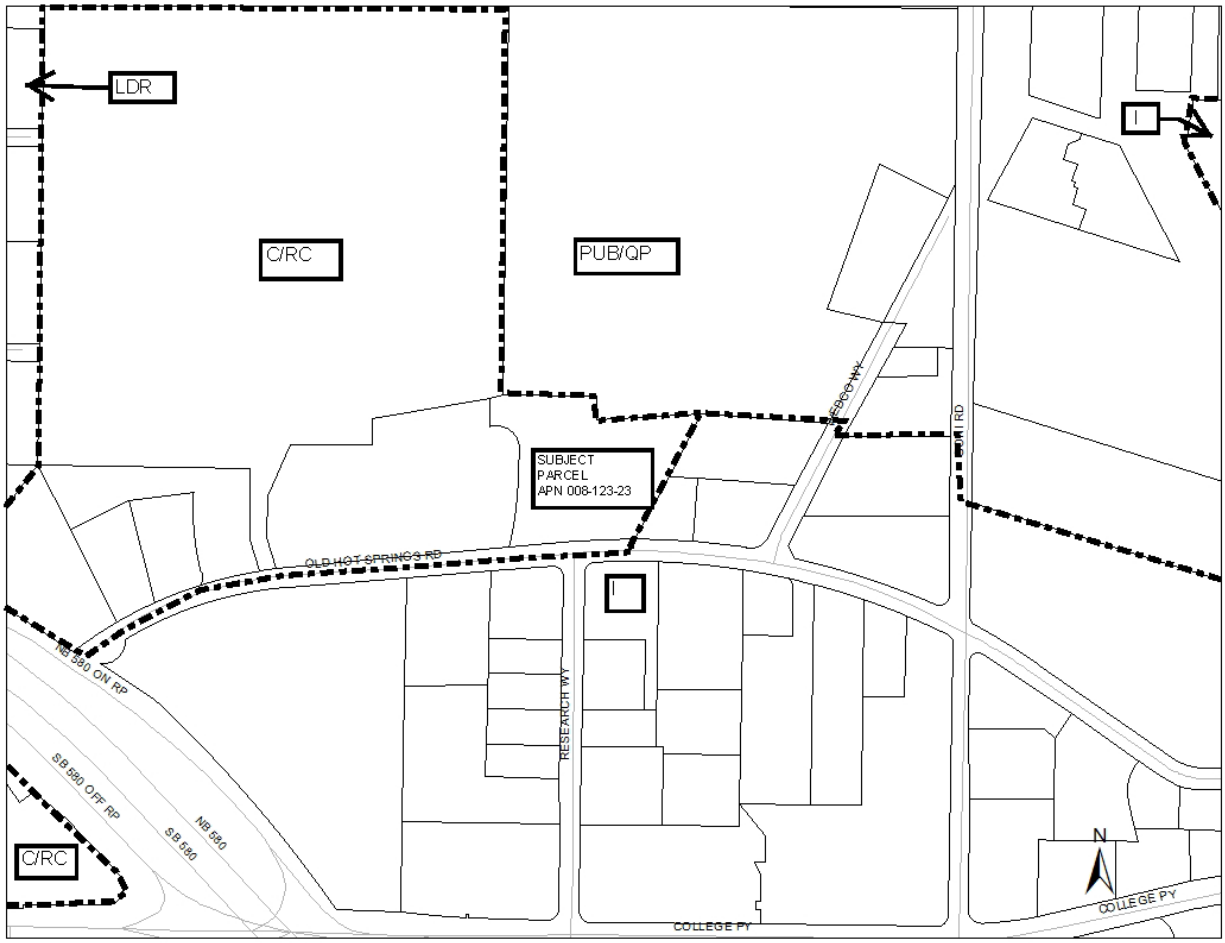
EXISTING MASTER PLAN



LEGEND:

C/RC	Community/Regional Commercial
I	Industrial
LDR	Low Density Residential
PUB/QP	Public/Quasi Public

PROPOSED MASTER PLAN



LEGEND:

C/RC	Community/Regional Commercial
I	Industrial
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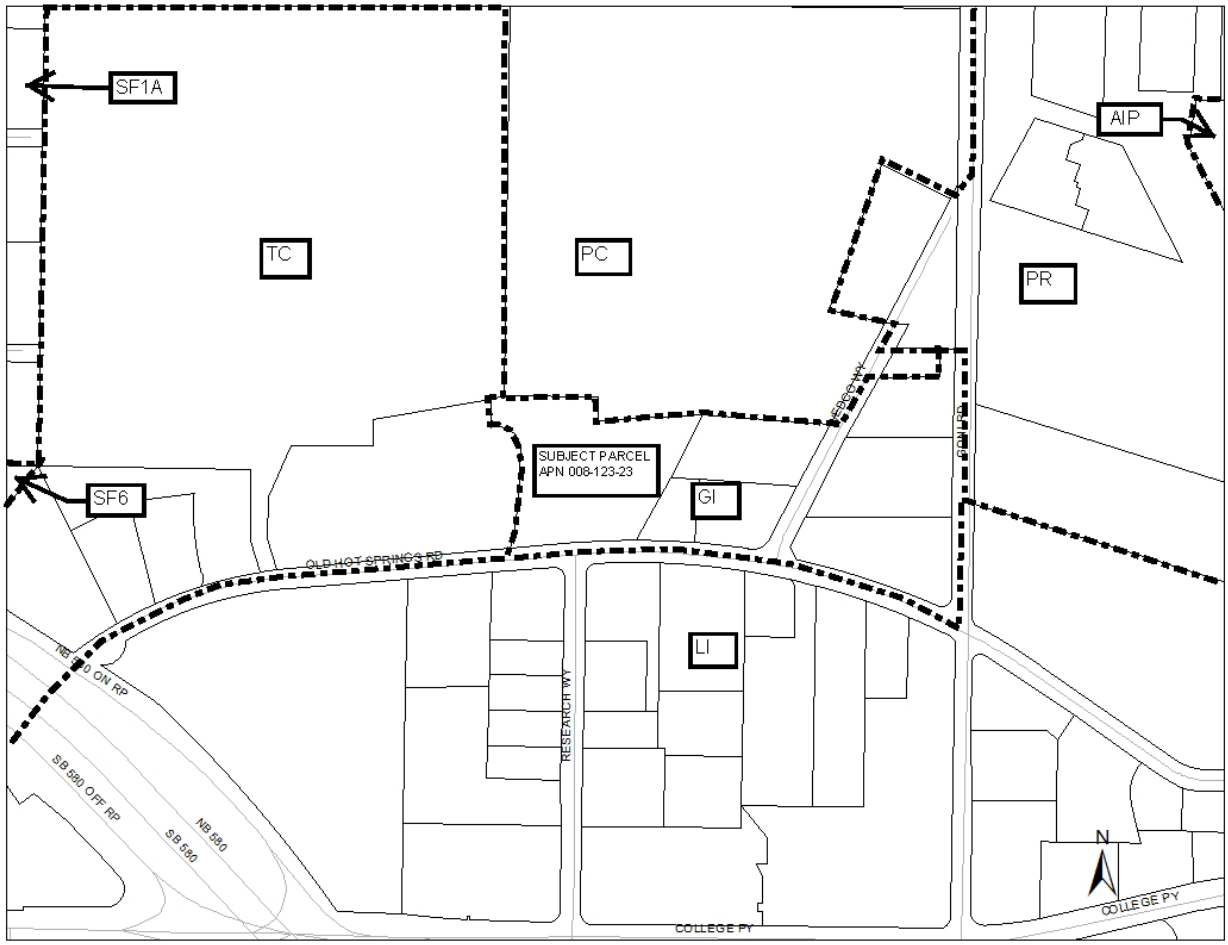
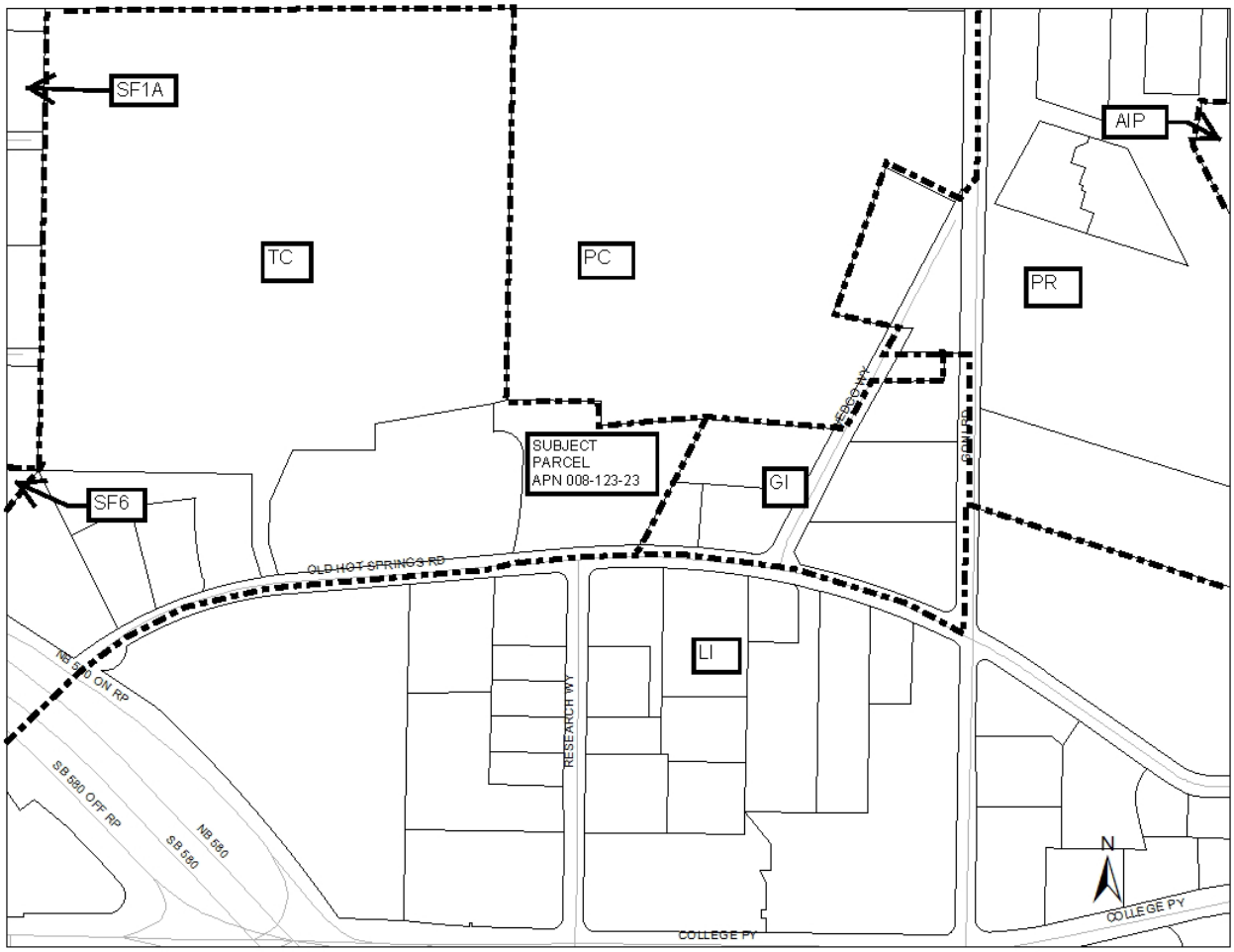
EXISTING ZONING



LEGEND:

AIP	Airport Industrial Park
GI	General Industrial
LI	Limited Industrial
PC	Public Community
PR	Public Regional
SF6	Single Family 6,000
SF1A	Single Family 1 Acre
TC	Tourist Commercial

PROPOSED ZONING



LEGEND:

AIP	Airport Industrial Park
GI	General Industrial
LI	Limited Industrial
PC	Public Community
PR	Public Regional
SF6	Single Family 6,000
SF1A	Single Family 1 Acre
TC	Tourist Commercial

LEGAL REQUIREMENTS: CCMC 18.02.050 (Review); 18.02.070 (Master Plan); 18.02.075 Zoning Map Amendments and Zoning Code Amendments

DISCUSSION:
The subject parcel is located at 1588 Old Hot Springs Road and is approximately 3.94 acres in size. A 5,000 square foot warehouse sits at the northwest corner of the property, and was previously used as a bottling plant. The current Master Plan designation is Industrial, and the current zoning is General Industrial. The applicant is proposing to change the Master Plan designation to Community/Regional Commercial and the zoning to Tourist Commercial. The Board of Supervisors may amend the Master Plan and amend the Zoning Map. The Planning Commission makes a recommendation to the Board.

This request will cause the land use and zoning designations to revert to those which were in effect prior amendment in 2015 by the Board of Supervisors. The site has not been re-developed since the amendments. The Commercial/Regional Community master plan designation and Tourist Commercial zoning are consistent with the designation of parcels to the west of the subject parcel.

Initially, the subject property along with property to the west and northwest were designated as Community / Regional Commercial and zoned Tourist Commercial with the intention of developing a large resort in the area, in conjunction with the existing natural hot springs. These designations occurred before the alignment and on/off ramp locations for the I-580 freeway were finalized, and it was anticipated that the freeway would incorporate an on/off ramp in the general vicinity of Old Hot Springs Road.

The freeway has been constructed, and does not provide for an on/off ramp to Old Hot Springs Road, nor does it have an underpass to allow for the connection of Old Hot Springs Road, eliminating direct access from the west. The indirect access to a major commercial corridor was thought to be a limiting factor in commercial development, thus the concept of development of this area with tourist related uses was thought to be a non-viable option. Therefore, the subject property was re-designated to industrial, and rezoned to general industrial.

Since the re-designation of the subject property in 2015, despite the access issues, the Tourist Commercial area has received considerable investment and interest as a commercial area. In 2015, Sassafras Restaurant took occupancy of the vacant restaurant space to the west of the natural hot springs. In 2016, the hot springs remodeled the bathrooms. In 2017, Shoe Tree Brewing Company constructed a brewery and tasting room to the west of Sassafras. Currently, the hots springs has a building permit pending for a new spa.

In terms of interest, there have been three Major Project Reviews (MPRs) in this area for RV Parks. Two were for the property to the rear of Sassafras, one in April 2016 and the other in April 2018. The third MPR was to place a RV Park on the subject property.

The adjacent property to the east is currently zoned General Industrial and the property to the south is zoned Limited Industrial. The property to the north is zoned Public Community and is vacant to allow for a runway protection zone for the Carson City Airport.

PUBLIC COMMENTS: Public notices were mailed to 33 adjacent property owners within 1,100 feet of the subject parcels in accordance with the provisions of NRS and CCMC 18.02.045 on August 10, 2018. At the time of the writing of this report, no comments have been received in support or opposition to this request. Any comments that are received after this report is

completed will be submitted prior to or at the Planning Commission meeting, depending on their submittal date to the Planning Division.

OTHER CITY DEPARTMENT OR OUTSIDE AGENCY COMMENTS:
Engineering Division: No concerns.
Building Division: No concerns.
Fire Department: No concerns.
Environmental Control: No concerns.
Health Department: No concerns.

FINDINGS: Staff recommends the following findings for approval of the Master Plan Amendment and the Zoning Map Amendment pursuant to the Carson City Municipal Code Section 18.02.070, Master Plan and 18.02.075, Zoning Map Amendments and Zoning Code Amendments.

Master Plan Amendment Findings

1. The proposed amendment is in substantial compliance with the goals, policies and action programs of the Master Plan.

The proposed amendment is in substantial compliance with the following goals and policies of the Master Plan:

Guiding Principle 1: A compact and efficient pattern of growth.
"Carson City will have a compact pattern that makes efficient use of the limited land area and water resources it has available for urban growth, that fosters the provision of infrastructure and services in a cost-effective manner, and that balances development with conservation of the natural environment – particularly where public lands abut the urban interface…"

Goal 1.1: Promote the efficient Use of Available Land and Resources.
Goal 1.2: Promote Infill and Redevelopment in targeted areas.

This principle, goals and associated policies advises that growth should be directed to areas served by urban services including water and sewer. It also discusses prioritizing infill development. The subject property is in an area served by water and sewer, and constitutes infill.

Guiding Principle 2: Balanced Land Use.
"The City will work to broaden and diversity its mix of land uses in targeted areas as well as citywide. Particular emphasis will be placed on expanding housing, retail, and service options to better serve both existing residents and the City's large non-resident workforce – achieving a better balance as a place to live as well as work.

Goal 2.1a – Range of Land Use Opportunities
Ensure that the Land Use Map provides opportunities for a range of mixed-use, residential, commercial, and employment uses at a variety of scales and intensities.
The requested map amendment will provide for increased commercial uses to improve the vitality of this portion of the City.

Guiding Principle 5: A strong diversified economic base.

"… The City will also seek opportunities to promote its historic and recreational resources and overall quality of life as a means of generating tourism revenue and attracting new employers to the community. The City will strive to approach economic development activities using a collaborative and innovative approach that encourages cooperation between the public and private sector, and with other jurisdictions as appropriate to achieve the objectives of this Master Plan."

The proposed amendment will create for increased commercial activity in an area where commercial uses have recently established, thus creating complementary uses.

2. The proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.

The proposed amendment would allow the development of the site as a commercial use that will attract outside consumers. This is consistent with the established hot springs, which is experiencing investment in the form of new amenities, and the newly established restaurant and brewery. Staff finds that although this site is adjacent to industrially designated areas, it will help create a commercial focus that can co-exist with the industrial uses while strengthening the commercial uses in this area.

3. The proposed amendment is in response to changed conditions that have occurred since the plan was adopted and the requested amendment represents a more desirable use of land.

When the Master Plan was amended in 2015, it was thought that commercial uses would not thrive in this area due to the lack of a convenient freeway on / off ramp, and a lack of direct access to the west side of the freeway. Since 2015, Sassafras Restaurant has established in the area, Shoe Tree Brewery has established in the area, and the hot springs have made and are planning more improvements in its facility. The applicant believes that this is an area that will thrive commercially, as evidenced by the success of the existing businesses. This area can be a vibrant, commercial area.

4. The requested amendment will promote the desired pattern of orderly physical growth and guides development based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

The area that is subject to consideration for re-designation would constitute an infill area, located in an area currently served by public infrastructure including water and sewer. The proposed designation would allow for a continuation of the commercial development currently occurring in this area of the City. The proposed designation will not compromise natural resources.

Zoning Map Amendment Findings

1. The proposed amendment is in substantial compliance with and supports the goals and policies of the Master Plan.

The proposed amendment is in substantial compliance with the following goals and policies of the Master Plan:

Guiding Principle 1: A compact and efficient pattern of growth.
"Carson City will have a compact pattern that makes efficient use of the limited land area and water resources it has available for urban growth, that fosters the provision of infrastructure and services in a cost-effective manner, and that balances development with conservation of the natural environment – particularly where public lands abut the urban interface…"

Goal 1.1: Promote the efficient Use of Available Land and Resources.
Goal 1.2: Promote Infill and Redevelopment in targeted areas.

This principle, goals and associated policies advises that growth should be directed to areas served by urban services including water and sewer. It also discusses prioritizing infill development. The subject property is in an area served by water and sewer, and constitutes infill.

Guiding Principle 2: Balanced Land Use.
"The City will work to broaden and diversity its mix of land uses in targeted areas as well as citywide. Particular emphasis will be placed on expanding housing, retail, and service options to better serve both existing residents and the City's large non-resident workforce – achieving a better balance as a place to live as well as work."

Goal 2.1a – Range of Land Use Opportunities
"Ensure that the Land Use Map provides opportunities for a range of mixed-use, residential, commercial, and employment uses at a variety of scales and intensities.
The requested map amendment will provide for increased commercial uses to improve the vitality of this portion of the City."

Guiding Principle 5: A strong diversified economic base.
"… The City will also seek opportunities to promote its historic and recreational resources and overall quality of life as a means of generating tourism revenue and attracting new employers to the community. The City will strive to approach economic development activities using a collaborative and innovative approach that encourages cooperation between the public and private sector, and with other jurisdictions as appropriate to achieve the objectives of this Master Plan."

The proposed amendment will create for increased commercial activity in an area where commercial uses have recently established, thus creating complementary uses.

2. That the proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.

The proposed amendment would extend the Tourist Commercial zoning in an easterly direction, thus complementing the other Tourist Commercially zoned uses to the west of the site. The naturally occurring hot springs are a unique feature in this land, and do not have flexibility in terms of location. To identify that as a resource, and allow complementary uses to surround it will increase land use compatibility.

It is recognized that there are industrially zoned parcels and uses in the area. Given the Tourist Commercial is one of the only commercial districts that does not allow for residential uses, staff finds that the proposed zoning will be compatible with the industrial uses as it will involve visitors to the area as opposed to residents.

3. That the proposed amendment will not negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare.

The proposed amendment is not anticipated to negatively impact existing or planned public services or facilities as public services and facilities, including public water and sewer, exist in the area. The subject property was previously zoned for Tourist Commercial, and was only re-zoned to industrial because of concerns relative to the potential vitality of the site given vehicular access limitations. It seems the access limitations do not disqualify this area from being a successful commercial area.

Attachments:

Planning Commission Master Plan Amendment Resolution 2018-PC-R-4
Draft Zoning Map Amendment Ordinance
Engineering comments
Applications (MPA-18-109 and ZMA-18-110)

RESOLUTION 2018-PC-R-4

A RESOLUTION RECOMMENDING TO THE BOARD OF SUPERVISORS APPROVAL OF MPA-18-109, A MASTER PLAN AMENDMENT TO CHANGE THE LAND USE MAP DESIGNATION FROM INDUSTRIAL TO COMMUNITY/REGIONAL COMMERCIAL FOR PROPERTY LOCATED AT 1588 OLD HOT SPRINGS ROAD, CHANGING APN 008-123-23.

.

WHEREAS, NRS 278.210 requires that any adoption of a Master Plan Amendment shall be by resolution of the Planning Commission; and

WHEREAS, the Planning Commission has given proper notice of the proposed amendment in accordance with the provisions of NRS and CCMC 18.02.070, and is in conformance with City and State legal requirements; and

WHEREAS, on August 29, 2018, the Planning Commission obtained public testimony and duly considered recommendations and findings for the proposed master plan amendment and approved Master Plan Amendment MPA-18-109 by an affirmative vote of a two-thirds majority of the Commission, at least four members of the six-member Commission, pursuant to NRS 278.210, based on four findings of fact; and

WHEREAS, the proposed Master Plan land use designations would be consistent with the existing and intended uses of the property;

NOW, THEREFORE, the Carson City Planning Commission hereby recommends to the Board of Supervisors approval of the Master Plan Amendment to change the Land Use Map designation from Industrial (I) to Community/Regional Commercial (C/RC) as illustrated in the attached "Exhibit A" of property located at 1588 Old Hot Springs Road, APN 008-123-23.

ADOPTED this 29th day of August, 2018.

VOTE: AYES: _____

_____

_____

_____

_____

NAYS: _____

_____

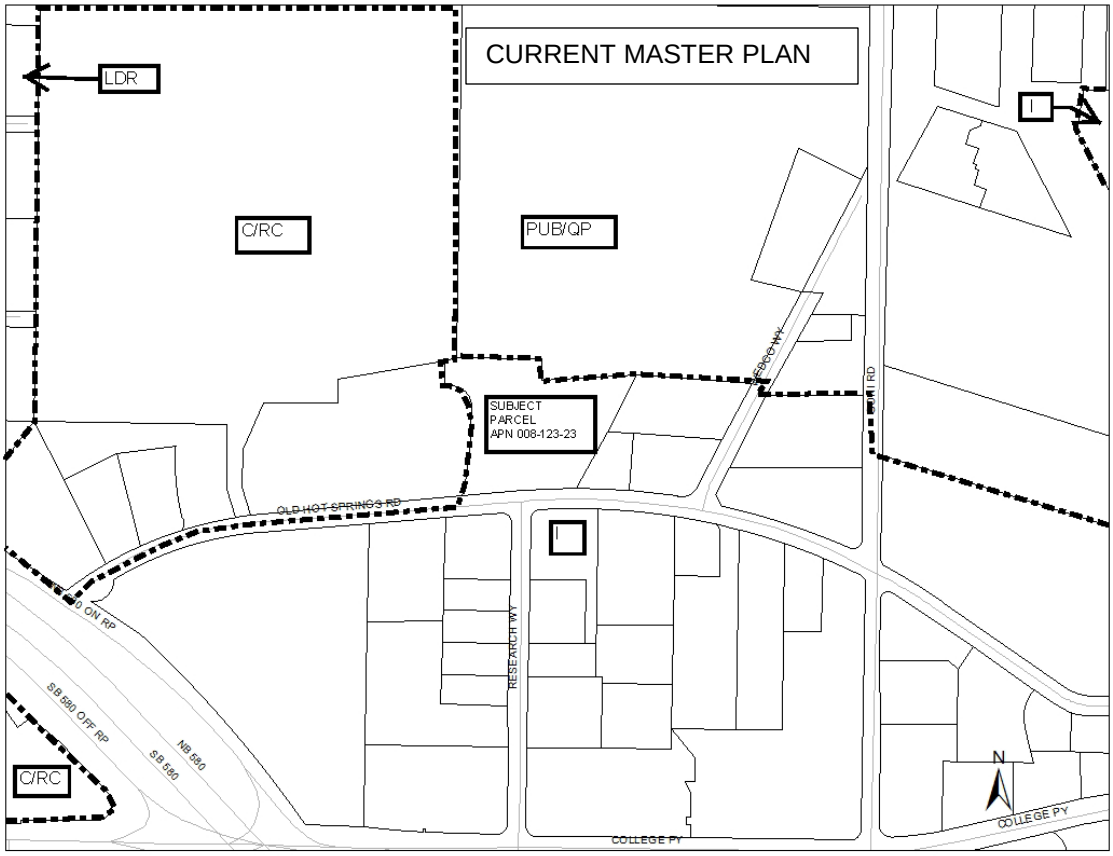
ABSENT: _____

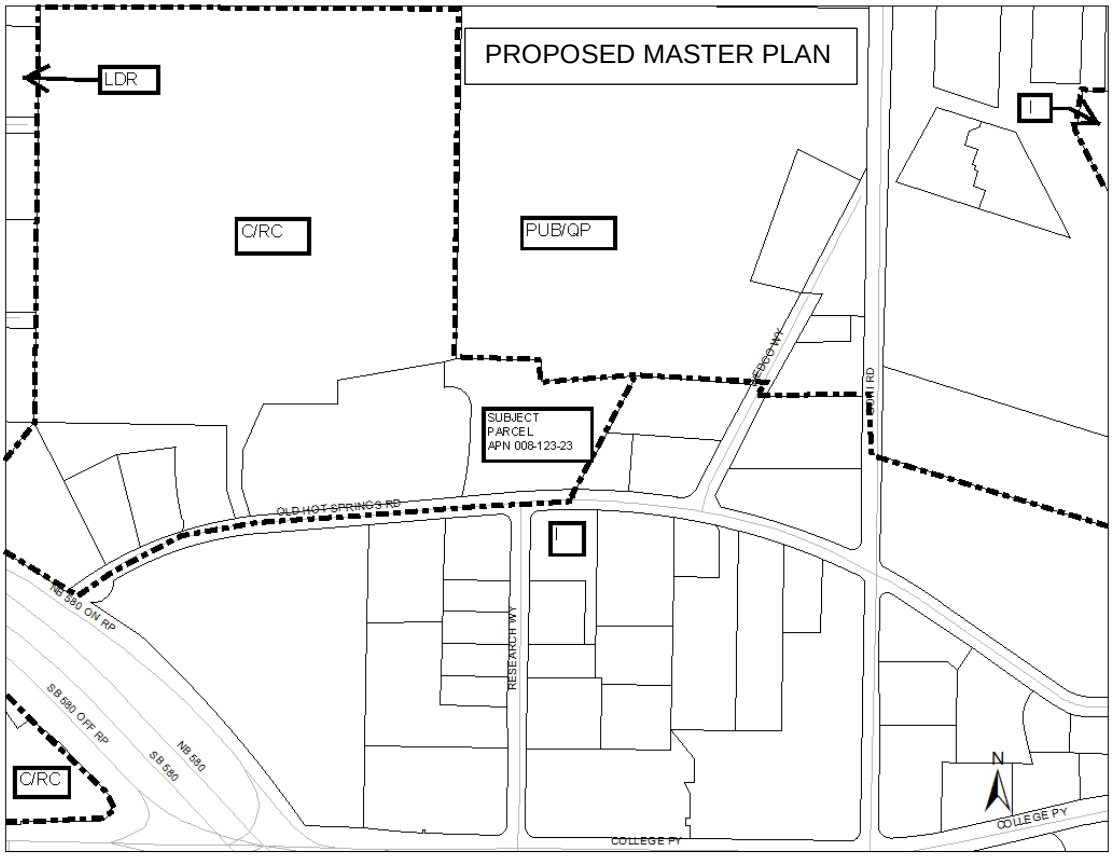
_____
Mark Sattler, Chairman

ATTEST:

_____
LEE PLEMEL, AICP, Community Development Director

EXHIBIT A


CURRENT MASTER PLAN
LDR
C/RC
PUB/QP
I
SUBJECT
PARCEL
APN 008-123-23
OLD HOT SPRINGS RD
RESEARCH WY
FIRST RD
SB 580 ON RP
SB 580 OFF RP
NB 580
SB 580
C/RC
COLLEGE PY
N


PROPOSED MASTER PLAN
LDR
C/RC
PUB/QP
I
SUBJECT
PARCEL
APN 008-123-23
OLD HOT SPRINGS RD
RESEARCH WY
FIRST RD
NB 580 ON RP
SB 580 OFF RP
NB 580
SB 580
C/RC
COLLEGE PY
N

Summary: This Ordinance is to amend the zoning map.

BILL NO. ___

ORDINANCE NO. 2018- _____

AN ORDINANCE TO CHANGE THE ZONING FROM GENERAL INDUSTRIAL (GI) TO TOURIST COMMERCIAL (TC) OF PROPERTY LOCATED AT 1588 OLD HOT SPRINGS ROAD, APN 008-123-23.

Fiscal Effect: None

THE CARSON CITY BOARD OF SUPERVISORS DO ORDAIN:

SECTION I:

An application for a Zoning Map Amendment on Assessor's Parcel Number 008-123-23, property owned by Richard Langson, Trustee of the D. R. L. Living Trust 11/7/12 located at 1588 Old Hot Springs Road, was duly submitted by the Carson City Planning Division in accordance with Section 18.02.075, et seq. of the Carson City Municipal Code (CCMC). The request will result in the zoning designation changing from General Industrial (GI) to Tourist Commercial (TC) on property located at 1588 Old Hot Springs Road, APN 008-123-23. After proper noticing pursuant to NRS 278 and CCMC Title 18, on August 29, 2018, the Planning Commission, during a public hearing, reviewed the Planning Division staff report, took public comment and voted ___ ayes and ___ nays to recommend to the Board of Supervisors approval of the Zoning Map Amendment.

SECTION II:

Based on the findings that the Zoning Map Amendment would be in substantial compliance with the goals, policies and action programs of the Master Plan, that the amendment will provide for land uses compatible with existing adjacent land uses and

will not have detrimental impacts to other properties in the vicinity, that the Amendment will not negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare, and that the request satisfied all other requirements for findings of fact enumerated in CCMC Section 18.02.075(5), the zoning map of Carson City is amended, changing the zoning of property located at 1588 Old Hot Springs Road, APN 008-123-23, from General Industrial (GI) to Tourist Commercial (TC) as shown on "Exhibit A" attached.

PROPOSED this _____ day of _____, 2018.

PROPOSED BY Supervisor _____

PASSED on the _____ day of _____, 2018.

VOTE: AYES: _____
_____
_____
_____
_____

NAYS: _____
_____

ABSENT: _____

_____
ROBERT L. CROWELL, Mayor

ATTEST:

_____
SUSAN MERRIWETHER, Clerk-Recorder

This ordinance shall be in force and effect from and after the _____ of _____, 2018.

Exhibit A

EXISTING ZONING

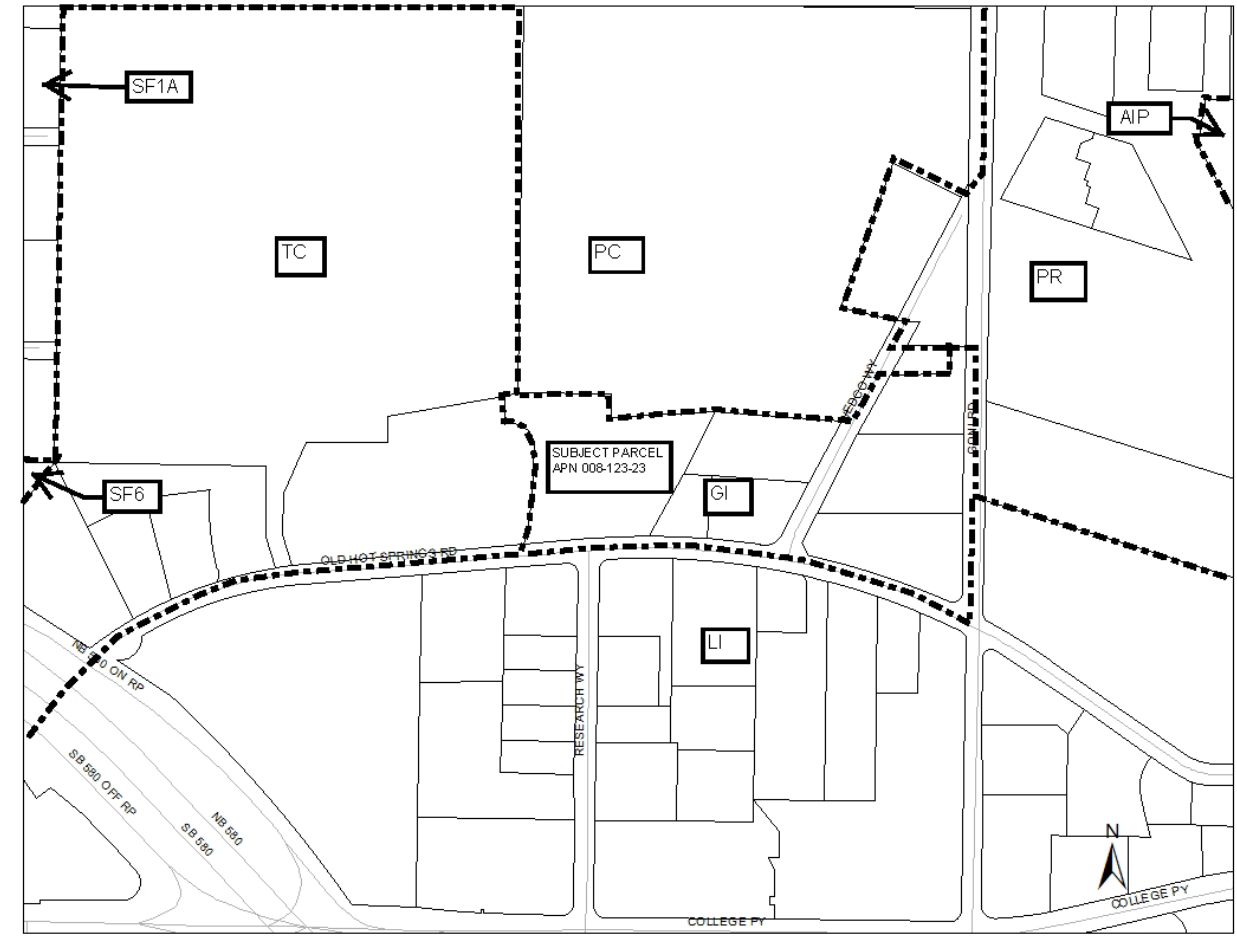
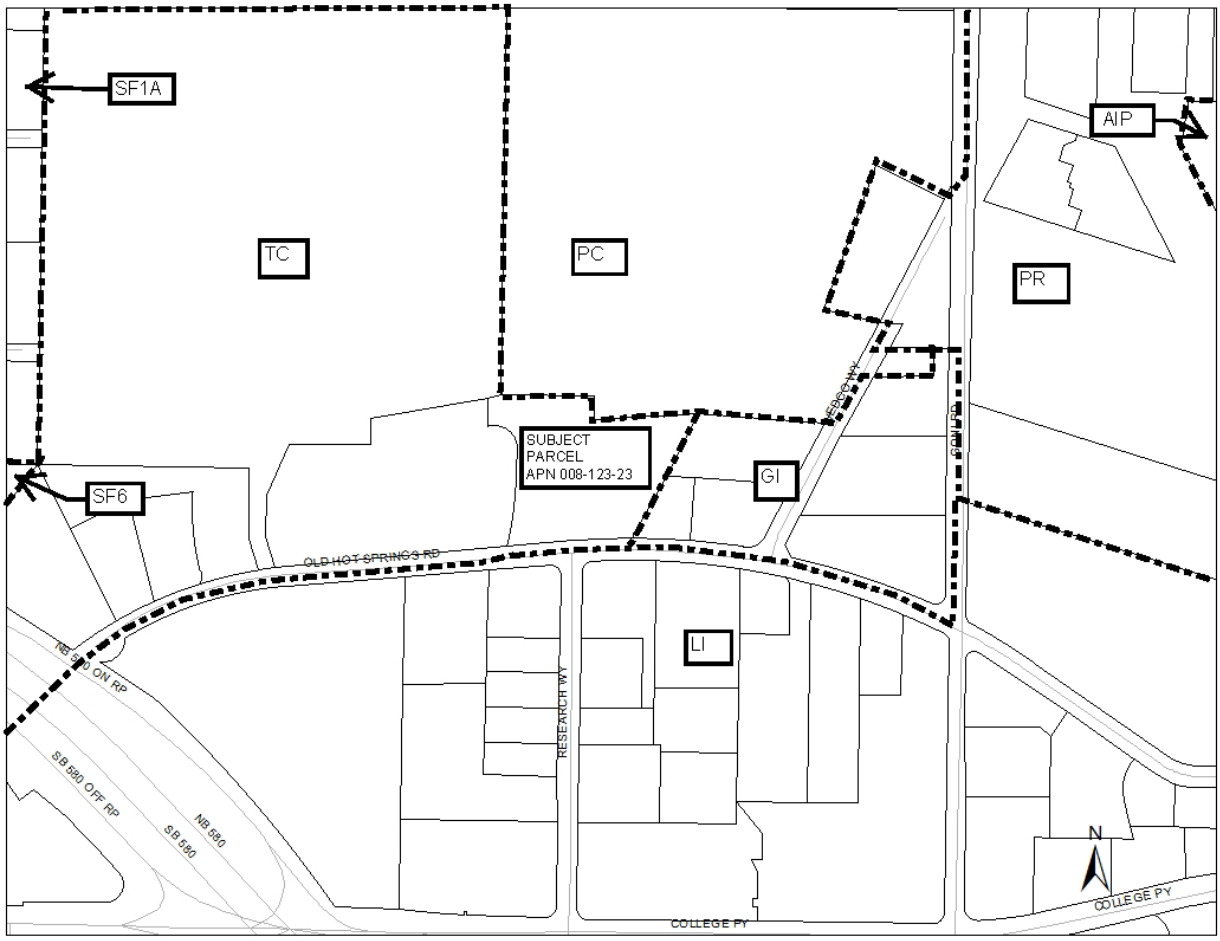


Exhibit A, Continued

PROPOSED ZONING



Engineering Division
Planning Commission Report
File Number MPA-18-109 and ZMA 18-110

TO: Hope Sullivan - Planning Department

FROM: Stephen Pottéy, P.E. - Development Engineering Dept.

DATE: August 16, 2018 **MEETING DATE:** August 29, 2018

SUBJECT TITLE:
Action to consider a change in zoning for parcel 08-123-23 at 1588 Old Hot Springs Rd from General Industrial to Tourist Commercial and a master plan amendment from industrial to community/regional commercial.

RECOMMENDATION:
The Engineering Division has no preference or objection to the zoning change or master plan change requested. Information submitted with the application has demonstrated that infrastructure can support the request within standard development practices and is not in conflict with any engineering related master plans.

DISCUSSION:
The Engineering Division has reviewed the request within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.070 Master Plan, and 18.02.075 Zoning map amendments and zoning code amendments. The following discussion is offered.

CCMC 18.02.070 (10a&e) – Consistency with Present Elements of the Master Plan
The master plan amendment is not in conflict with the intent of master plan elements for water, sewer, transportation, or storm water.

CCMC 18.02.070 (10b-d) – Consistency with Master Plan, Compatible Land Use, Response to Changed Condidtions, Desired Pattern of Growth
Development Engineering has no comment on these findings.

CCMC 18.02.075 (5.b.1) – Compliance with Master Plan
The zoning map amendment is not in conflict with the intent of master plan elements for water, sewer, transportation, or storm water.

CCMC 18.02.075 (5.b.2&3) – Compatible Land Use
Development Engineering has no comment on these findings.

CCMC 18.02.075 (5.b.4) – Impact on Public Services, Facilities, Health and Welfare
The capacities of the City sewer, water, storm drain, and transportation systems

appear to be sufficient to meet the demand that may potentially be imposed by a project allowed by the proposed zoning. Any new project, however, must complete project impact reports to show that existing facilities can meet demands within the standards set by municipal code. Any project approved in the new zoning area that would cause impacts beyond those allowed by municipal code, would be required by municipal code to mitigate those impacts as part of the design of the new development. The above conditions of approval must also be met to ensure safe and efficient use of these facilities

Carson City Planning Division
108 E. Proctor Street- Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FILE # ZMA – 18 -

APPLICANT **PHONE #**
Doug Hus 916-719-0543

MAILING ADDRESS, CITY, STATE, ZIP
3941 Park Dr., Suite 20-127, El Dorado Hills, CA 95762

EMAIL ADDRESS
doughus61@gmail.com

PROPERTY OWNER **PHONE #**
DRL Living Trust (Richard Langston)

MAILING ADDRESS, CITY, STATE, ZIP
3121 W. Coast Hwy #7A, Newport Beach, CA 92663

EMAIL ADDRESS

APPLICANT AGENT/REPRESENTATIVE **PHONE #**
Angela Fuss/Lumos & Associates 775-827-6111

MAILING ADDRESS, CITY, STATE, ZIP
9222 Prototype Drive, Reno, NV 89521

EMAIL ADDRESS
afuss@lumosinc.com

FOR OFFICE USE ONLY:

ZONING MAP AMENDMENT

FEE: $2,450.00 + noticing fee

SUBMITTAL PACKET

- Application Form
- Written Project Description
- Site Plan
- Proposal Questionnaire With Both Questions and Answers Given, Supporting Documentation
- Applicant's Acknowledgment Statement
- 6 Completed Application Packets (1 Original + 5 Copies)
- Documentation of Taxes Paid-to-Date (1 copy)
- Project Impact Reports (Engineering-4 copies)
- CD containing application data (all to be submitted once application is deemed complete by staff)

Application Reviewed and Received By:

_____

Submittal Deadline: See attached PC application submittal schedule.
Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional information may be required.

Project's Assessor Parcel Number(s)	Street Address	ZIP Code
00812323	1588 Old Hot Springs Road, Carson City, NV	89706

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
Industrial	General Industrial	Research Way

Briefly describe the components of the proposed project: in accordance with Carson City Municipal Code (CCMC), Section 18.02.075. In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal.

This is a request for a Zoning Map Amendment from General Industrial to Tourist Commercial.

PROPERTY OWNER'S AFFIDAVIT

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

Richard Langston, Trustee. 3121 W. Coast Hwy. #A Newport Beach Ca. 7-11-18
Signature Address Date

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

On July 11th, 2018, Richard Langston, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public

JOSEPH GUILLEN
Notary Public - California
Orange County
Commission # 2244359
My Comm. Expires May 28, 2022

4. That sufficient consideration has been exercised by the applicant in adapting the project to existing improvements in the area. Be sure to indicate the source of the information that you are providing (private engineer, development engineering, title report, or other sources). Describe how your proposed Zoning Map Amendment will not adversely impact drainage, sewer, water, traffic, schools, emergency services, roadways and other city services.

   A. Is drainage adequate in the area to support the density that may occur with the rezoning? How will drainage be accommodated? How have you arrived at this conclusion?

   B. Are the water supplies in the area of your project adequate to meet your needs without degrading supply and quality to others? Is there adequate water pressure? Are the lines in need of replacement? Talk to the Utilities Department for the required information.

   C. Are roadways sufficient in the area to serve the density that may occur from the rezoning? How have you arrived at this conclusion?

   D. Will the school district be able to serve the student population that may occur from the rezoning? How have you arrived at this conclusion?

   E. Are adequate means of access available for emergency vehicles to serve the site? What is the approximate response time for emergency vehicles? If your application is approved to rezone the property, will additional means of access be required for increased density? Or will existing access ways be adequate? How have you arrived at this conclusion?

ACKNOWLEDGMENT OF APPLICATION

Please type the following signed statement at the end of your application questionnaire:

I certify that the foregoing statements are true and correct to the best of my knowledge and belief.

Applicant	Richard K. Langson	7-11-18
	Print Name	Date

Carson City Planning Division
108 E. Proctor Street• Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FILE # MPA - 18 -

APPLICANT	PHONE #
Doug Hus	916-719-0543

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APPLICANT AGENT/REPRESENTATIVE	PHONE #
Angela Fuss/Lumos & Associates	775-827-6111

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EMAIL ADDRESS
afuss@lumosinc.com

FOR OFFICE USE ONLY:

CCMC 18.02.070

MASTER PLAN AMENDMENT

FEE*: $3,050.00 + noticing fee
***Due after application is deemed complete by staff**

SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 copies) including:
- Application Form
- Written Project Description
- Site Plan
- Master Plan Amendment Findings
- Applicant's Acknowledgment Statement
- Master Plan Policy Checklist
- Documentation of Taxes Paid-to-Date
- Project Impact Reports (Engineering)

CD or USB DRIVE with complete application in PDF

Application Reviewed and Received By:

Submittal Deadline: See attached Planning Commission application submittal schedule. Master Plan Amendment applications are only accepted four times per year and must be submitted by the January, April, July and October deadline dates.

Note: Submittals must be of sufficient clarify and detail for all departments to adequately review the request. Additional information may be required.

Project's Assessor Parcel Number(s):	Street Address
00812323	1588 Old Hot Springs Road, Carson City, NV 89706

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
Industrial	General Industrial	Research Way

Briefly describe your proposed project and the amendment to the master plan that is being requested. In addition to the brief description below, provide additional pages to show a more detailed overview of your project and proposal.
This is a request for a Master Plan Amendment from Industrial to Community/Regional Commercial.

PROPERTY OWNER'S AFFIDAVIT

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

Signature | 3121 W. Coast Hwy Newport Beach. (Address) | 7-11-18 (Date)

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

STATE OF California)
COUNTY Orange)

On July 11th, 2018, Richard K Langston, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public

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

MASTER PLAN AMENDMENT APPLICATION FINDINGS

State law requires that the Planning Commission consider and support the statements below with facts in the record. These are called "FINDINGS". Since staff's recommendation is based on the adequacy of your findings, you need to complete and attach the required findings with as much detail as possible to ensure that there is adequate information supporting your amendment request.

THE FINDINGS BELOW ARE PROVIDED IN THE EXACT LANGUAGE FOUND IN THE CARSON CITY MUNICIPAL CODE (CCMC), FOLLOWED BY EXPLANATIONS TO GUIDE YOU IN YOUR RESPONSE. ON A SEPARATE SHEET TO BE INCLUDED WITH YOUR COMPLETE APPLICATION, LIST EACH FINDING AND PROVIDE A RESPONSE IN YOUR OWN WORDS. ANSWER THE QUESTIONS AS COMPLETELY AS POSSIBEL TO PROVIDE THE PLANNING COMMISSION WITH THE DETAILS NECESSARY TO CONSIDER YOUR REQUEST.

CCMC 18.02.070(10) COMMISSION FINDINGS. When forwarding its decision to the Board for adoption of the amendment, the Commission shall, at a minimum, make the following findings of fact:

a. Consistency with Master Plan. The proposed amendment is in substantial compliance with the goals, policies and action programs of the Master Plan.

Explanation: Please review the Goals and Policies listed in the Master Plan Policy Checklist at the back of this packet. Choose as many of the Goals and their accompanying Policies that you can find to support your request for a Master Plan Amendment. After listing each one, state in your own words how your request meets each listed Goal and Policy. For additional guidance, please refer to the Carson City Master Plan document on our website at www.carson.org/planning or you may contact the Planning Division to review the document in our office or request a copy.

b. Compatible Land Uses. The proposed amendment will provide for land uses compatible with existing adjacent land uses, and will not adversely impact the public health, safety or welfare.

Explanation: Describe the existing land uses and Master Plan land use designations of the adjacent properties. How will the proposed amendment be compatible with these uses? Explain how the approval of this amendment will not have an adverse impact on the public health, safety or welfare.

c. Response to Change Conditions. The proposed amendment addresses changed conditions that have occurred since the plan was adopted by the Board and the requested amendment represents a more desirable utilization of land.

Explanation: Has there been a change in conditions in the area of your property since the Master Plan was adopted by the Board? How will the proposed amendment to the Master Plan address a more desirable utilization of the land as a result of this change in conditions?

d. Desired Pattern of Growth. The proposed amendment will promote the desired pattern for the orderly physical growth of the City and guides development of the City based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

Explanation: Explain how your proposed amendment to the Master Plan will promote the desired pattern for orderly physical growth in the City. How will it allow for the efficient expenditure of funds for public services? Explain how the amendment will provide for the least amount of natural resource impairment.

INCLUDE THE FOLLOWING SIGNED ACKNOWLEDGMENT AT THE CONCLUSION OF YOUR FINDINGS:

ACKNOWLEDGMENT OF APPLICANT

I certify that the foregoing statements are true and correct to the best of my knowledge and belief.

Signature of Applicant	Richard K. Langson	9-11-18
	Print Name	Date

LUMOS
& ASSOCIATES

9222 Prototype Drive
Reno, Nevada 89521
Tel. 775.827.6111
Fax 775.827.6122
www.LumosInc.com

1588 OLD HOT SPRINGS ROAD MASTER PLAN & ZONING MAP AMENDMENTS

July 19, 2018

TABLE OF CONTENTS

Appendix

PROJECT DESCRIPTION

Project Summary

Applicant:	Doug Hus
APN Number:	008-123-23
Request:	This is a request for: • A Master Plan Amendment from Industrial to Community/Regional Commercial. • A Zoning Map Amendment from General Industrial to Tourist Commercial.
Location:	The ±3.94-acre site is located on the north side of Old Hot Springs Road, west of the Research Way and Old Hot Springs Road intersection.
Current Master Plan:	Industrial
Current Zoning:	General Industrial

Project Background

The project site (APN 008-123-23), totaling approximately 3.94 acres, is located on the north side of Old Hot Springs Road, west of the Research Way and Old Hot Springs Road intersection. The subject parcel has an Industrial master plan designation and is currently zoned General Industrial.

The proposed Master Plan Amendment to Community/Regional Commercial is being requested to allow for conformance between the proposed Tourist Commercial (TC) zoning designation and the Carson City Master Plan. The proposed amendments will return the parcel to the pre-2015 master plan/zoning designations (a Master Plan Amendment and a Zoning Map Amendment to their current designations were approved in 2015). No material changes have been made to the subject property since the 2015 ZMA and MPA approvals.

The site is adjacent to TC zoning to the west, Public Commercial (PC) zoning to the north, General Industrial (GI) zoning to the east and Light Industrial (LI) zoning to the south. The area is surrounded by vacant land to the north, Carson Hot Springs Resort to the west, small commercial business centers to the south and industrial/commercial uses to the east.

The requests follow a Major Project Review application detailing development of the property as an RV park with ±63 RV spaces. The RV park will feature a number of amenities, and will include a conversion of the 5,000 square-foot warehouse building currently existing on the property. The use as an RV park is allowed within the proposed TC zoning, and promotes the proposed Community/Regional Commercial master plan designation as a complementary use with a regional draw and adequate access (the site's location is just 1/3 of a mile from the I-580 interchange at E. College Parkway).

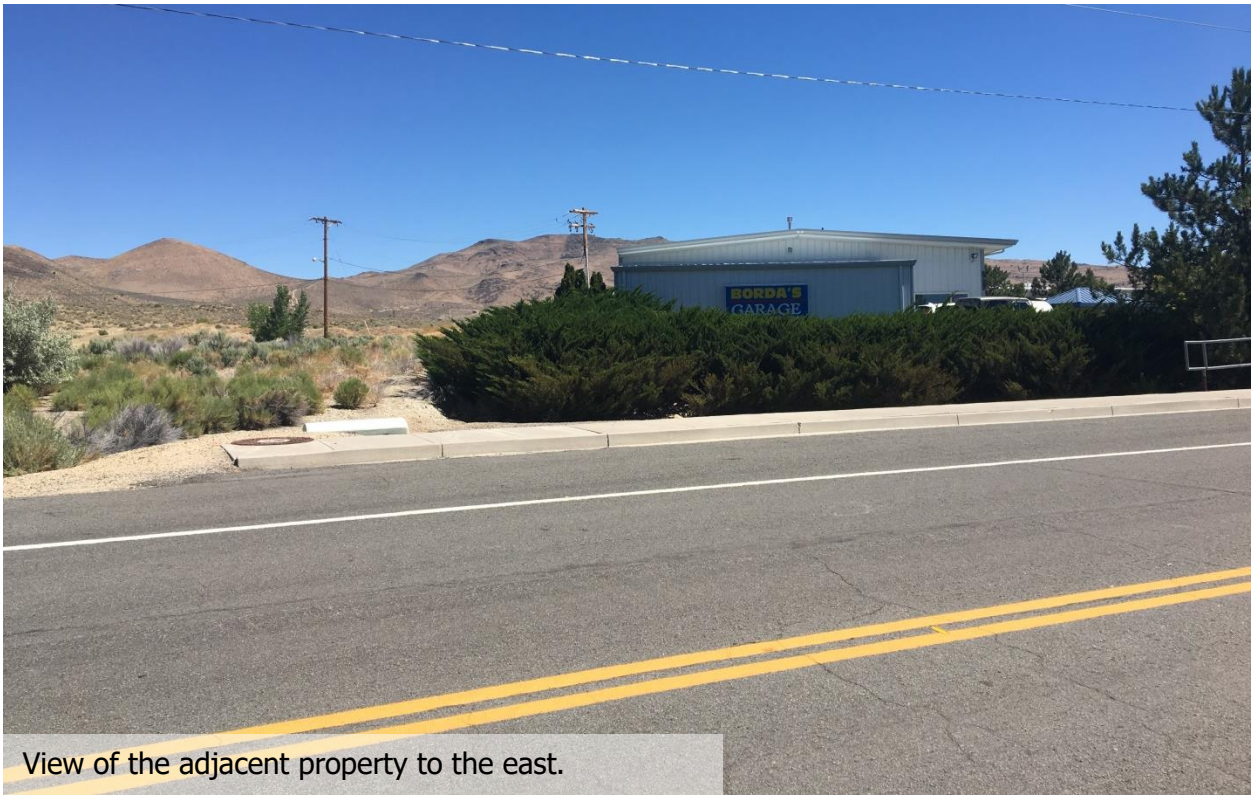
Figure 1 – Vicinity/Site Map

View of the site facing north.

View of the site facing south.

Figure 2 – Site Photos

View of the site facing west.



View of the adjacent property to the east.

Figure 3 – Site Photos

MASTER PLAN AMENDMENT FINDINGS

CCMC 18.02.070(10) COMMISSION FINDINGS. When forwarding its decision to the Board for adoption of the amendment, the Commission shall, at a minimum, make the following findings of fact:

a. Consistency with Master Plan. The proposed amendment is in substantial compliance with the goals, policies and action programs of the Master Plan.

RESPONSE: The proposed Master Plan Amendment promotes the following Goals and Policies from the Carson City Master Plan:

Chapter 3: A Balanced Land Use Pattern

- The site has access to existing water, sewer and improved roadways, with no new or improved off-site infrastructure anticipated with the proposed development. Therefore, no adverse impacts to levels of service are anticipated.
- Though not within an identified priority infill area, the development is an infill project.
- Location of the site is not adjacent to county, State or Federal boundaries or lands, thus does not create any land use conflicts potentially associated with such adjacencies.
- The project is within service boundaries for City fire and sheriff services and does not impact the School District since no additional student attendance is anticipated as a result of this tourism/recreation-oriented development.
- The project promotes a citywide range of uses by bringing a unique tourist/recreational amenity to the area, along with associated commercial business and employment opportunities.
- The proposed rezoning is logical in that adjacent parcels share this zoning designation as well. Land uses on adjacent properties will be complementary to the intended development, and the site is primarily surrounded by uses that operate during normal business hours (non-residential uses that would not be disturbed by any after-hours activity).
- The majority of the site is outside of any delineated FEMA flood zone. The southernmost portion of the site (adjacent to Old Hot Springs Road) is within Zone X (shaded), which is not considered a Special Flood Hazard Area, and is considered low risk for flooding. There are no known geologic hazard areas on the site.
- The proposed zoning designation (Tourist Commercial) is consistent with the proposed Land Use designation (Community/Regional Commercial) as a complementary use with a regional draw and adequate access that meets the Land Use's location criteria (the site's location is just 1/3 of a mile from the I-580 interchange at E. College Parkway).
- The site is not located within a Specific Plan Area.

Chapter 4: Equitable Distribution of Recreational Activities

- The proposed development will provide the City with a tourist-oriented recreational facility that will include amenities for all ages and varying interests, while serving visitors to the Carson City area.

- The project does not affect city-wide public open space, and is not located near the Carson River

Chapter 5: Economic Vitality

- The proposed amendment will support a development that enhances the City's job base by providing employment opportunities within the proposed RV park.
- The project will stand on its own as a center for tourism activities, and will also support heritage tourism activities associated with the adjacent Carson Hot Springs Resort.
- The project will implement the reuse of a 5,000 square-foot warehouse, creating space for recreational amenities that will support a tourist-based destination.

Chapter 6: Livable Neighborhoods and Activity Centers

- The proposed amendment supports a development that will be compatible with the existing surrounding development, and may likely provide benefit to the adjacent tourist, commercial and industrial uses through the increased presence of 'walk-in' customers or clients.
- The project will be a diverse addition to an area with many existing unique amenities, and providing a site for tourist-oriented visitors to stay is beneficial to the adjacent uses and the community as a whole.

Chapter 7: A Connected City

- The proposed amendment will support a development intended to provide amenities and commodities to tourists in the Carson City area, in an accessible transit-supportive location, just 1/3 of a mile from the I-580 interchange at E. College Parkway.
- The site is located along an existing paved street and is close to major arterials, making it suitable to facilitate future transit options. A nearby public transit bus stop is located less than ¼-mile east on Old Hot Springs Road.
- No new roadways or public roadway improvements are anticipated with the proposed development.
- The proposed development will connect the sidewalk on the parcel's southern boundary, adjacent to Old Hot Springs Road.

b. Compatible Land Uses. The proposed amendment will provide for land uses compatible with existing adjacent land uses, and will not adversely impact the public health, safety or welfare.

RESPONSE: The area is surrounded by vacant land to the north, Carson Hot Springs Resort to the west, small commercial business centers to the south and industrial/commercial uses to the east. The proposed amendments will allow for development that complements these land uses and/or allows them to coexist without adverse impact on one another. The development intended for this project site will provide additional amenities for visitors to the hot springs resort, while bringing general business to the surrounding commercial entities, as a result of increased population density in the area. Adjacent vacant land will be left undisturbed and unaffected by the project and its day-to-day operations. Public health, safety and welfare will

benefit as well, as the project will provide additional sidewalk connections to increase pedestrian-friendly connections along Old Hot Springs Road.

c. *Response to Change Conditions. The proposed amendment addresses changed conditions that have occurred since the plan was adopted by the Board and the requested amendment represents a more desirable utilization of land.*

RESPONSE: While much has changed with regard to the state of the local economy since the adoption of the City's master plan in 2006, the conditions of this particular site have remained relatively constant. Various uses for the 5,000 square-foot warehouse building on the subject site have come and gone, including indoor storage facilities and a water bottling operation. What has changed most significantly about the site, however, is its potential as a developable property. As the economy continues to recover, Carson City continues to see growth, including additions to the immediate area, such as Sassafras Eclectic Food Joint and Shoe Tree Brewing Company on the Carson Hot Springs Resort premises. Such amenities have proven successful in bringing a greater population of locals and tourists to the vicinity. The proposed amendment will allow for additional positive contributions to the Carson City economy by building a more vibrant community environment. An RV park will allow visitors to stay longer, explore more of what the region has to offer and spread the word about tourism and recreation in Carson City. These opportunities demonstrate how the amendment will make for a better utilization of the land as our economy continues to thrive.

d. *Desired Pattern of Growth. The proposed amendment will promote the desired pattern for the orderly physical growth of the City and guides development of the City based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.*

RESPONSE: The proposed Master Plan Amendment will promote the City's desired pattern for orderly physical growth because it supports the development of an infill project. The underutilized site will prove to be a logical, minimal and efficient expenditure of funds in that the necessary public services and infrastructure already exist in the vicinity. Through supporting the development of this project on an infill site, the proposed amendment will maintain and preserve the availability and quantity of natural resources in other areas of the City.

ZONING MAP AMENDMENT – APPLICATION QUESTIONNAIRE

GENERAL REVIEW OF PERMITS

CCMC 18.02.050 (Review) and 18.02.075 (ZMA). The Board of Supervisors and the Planning Commission in reviewing and judging the merit of a proposal for a variance, special use permit, or a zoning map amendment, shall direct its considerations to, and find that in addition to other standards in this title, the following conditions and standards are met:

1. *That the proposed amendment is in substantial compliance with and supports the goals and policies of the Master Plan.*

   a. *In reviewing the attached Carson City Master Plan Policy Checklist, determine which Policies are applicable to the proposal. Explain what features of the proposed project support your selection of Goals and Policies concerning land use and related policies for the neighborhood where the subject project is located.*

RESPONSE: The proposed Zoning Map Amendment is in compliance with, and supports the following Goals and Policies from, the Carson City Master Plan:

Chapter 3: A Balanced Land Use Pattern

- The site has access to existing water, sewer and improved roadways, with no new or improved off-site infrastructure anticipated with the proposed development. Therefore, no adverse impacts to levels of service are anticipated.
- Though not within an identified priority infill area, the development is an infill project.
- Location of the site is not adjacent to county, State or Federal boundaries or lands, thus does not create any land use conflicts potentially associated with such adjacencies.
- The project is within service boundaries for City fire and sheriff services and does not impact the School District since no additional student attendance is anticipated as a result of this tourism/recreation-oriented development.
- The project promotes a citywide range of uses by bringing a unique tourist/recreational amenity to the area, along with associated commercial business and employment opportunities.
- The proposed rezoning is logical in that adjacent parcels share this zoning designation as well. Land uses on adjacent properties will be complementary to the intended development, and the site is primarily surrounded by uses that operate during normal business hours (non-residential uses that would not be disturbed by any after-hours activity).
- The majority of the site is outside of any delineated FEMA flood zone. The southernmost portion of the site (adjacent to Old Hot Springs Road) is within Zone X (shaded), and is not considered a special flood hazard area. There are no known geologic hazard areas on the site.
- The proposed zoning (Tourist Commercial) is consistent with the proposed Land Use designation (Community/Regional Commercial) as a complementary use with a regional draw and adequate access that meets the Land Use's location criteria (the site's location is just 1/3 of a mile from the I-580 interchange at E. College Parkway).

Chapter 4: Equitable Distribution of Recreational Activities

- The proposed development will provide the City with a tourist-oriented recreational facility that will include amenities for all ages and varying interests, while serving visitors to the Carson City area.
- The project does not affect city-wide public open space, and is not located near the Carson River

Chapter 5: Economic Vitality

- The proposed amendment will support a development that enhances the City's job base by providing employment opportunities within the proposed RV park.
- The project will stand on its own as a center for tourism activities, and will also support heritage tourism activities associated with the adjacent Carson Hot Springs Resort.
- The project will implement the reuse of a 5,000 square-foot warehouse, creating space for recreational amenities that will support a tourist-based destination.

Chapter 6: Livable Neighborhoods and Activity Centers

- The proposed amendment supports a development that will be compatible with the existing surrounding development, and may likely provide benefit to the adjacent tourist, commercial and industrial uses through the increased presence of 'walk-in' customers or clients.
- The project will be a diverse addition to an area with many existing unique amenities, and providing a site for tourist-oriented visitors to stay is beneficial to the adjacent uses and the community as a whole.

Chapter 7: A Connected City

- The proposed amendment will support a development intended to provide amenities and commodities to tourists in the Carson City area, in an accessible transit-supportive location, just 1/3 of a mile from the I-580 interchange at E. College Parkway.
- The site is located along an existing paved street and is close to major arterials, making it suitable to facilitate future transit options. A nearby public transit bus stop is located less than ¼-mile east on Old Hot Springs Road.
- No new roadways or public roadway improvements are anticipated with the proposed development.
- The proposed development will connect the sidewalk on the parcel's southern boundary, adjacent to Old Hot Springs Road.

2. *That the proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.*

   a. *Describe the land uses and zoning adjoining your property (for example: North: two houses, Single-Family One Acre zoning; East: restaurant, Retail Commercial zoning, etc.), and how your zoning will be compatible with those uses and not cause detrimental impacts.*

RESPONSE: North: Vacant, Public Community (PC) zoning
South: Business/commercial centers, Light Industrial (LI) zoning
East: Commercial/industrial businesses, General Industrial (GI) zoning
West: Carson Hot Springs Resort, Tourist Commercial (TC) zoning

The proposed Zoning Map Amendment will allow for development that complements these land uses and/or allows them to coexist without adverse impact on one another. The development intended for the subject site will provide additional amenities for visitors to the resort, while bringing general business to the surrounding commercial entities as a result of increased population density in the area. Adjacent vacant land will be left undisturbed and unaffected by the project and its day-to-day operations.

b. Describe land use and zoning changes in the general vicinity which have occurred in the previous five-year period.

RESPONSE: The completed I-580 freeway alignment has eliminated direct access to Old Hot Springs Road from the west, leaving access to the site through College Parkway. There has been little change to the land use and zoning within the last five years, outside of this parcel going through a master plan and zoning map amendment in 2015. Several new uses have moved into the area, including Sassafras Eclectic Food Joint and Shoe Tree Brewing Company on the neighboring property.

3. That the proposed amendment will not negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare.

RESPONSE: Existing and/or planned public services or facilities will not be negatively impacted by the proposed amendment, as the project's anticipated needs can be fulfilled with the existing services/facilities, and will not require a demand increase beyond their current capacities.

Public health, safety and welfare will benefit from the project, as additional sidewalk connections to increase pedestrian-friendly connections along Old Hot Springs Road will be added as part of the site's improvements.

4. That sufficient consideration has been exercised by the applicant in adapting the project to existing improvements in the area. Be sure to indicate the source of the information that you are providing (private engineer, development engineering, title report, or other sources). Describe how your proposed Zoning Map Amendment will not adversely impact drainage, sewer, water, traffic, schools, emergency services, roadways and other city services.

a. Is drainage adequate in the area to support the density that may occur with the rezoning? How will drainage be accommodated? How have you arrived at this conclusion?

RESPONSE: The site generally drains from north to south and there is a ditch/culvert established as the southwest corner that extends under street level at Old Hot Springs Road. This is also a 4-foot rock ditch running half the property north to south on the east side to Old Hot Springs Road.

b. Are the water supplies in the area of your project adequate to meet your needs without degrading supply and quality to others? Is there adequate water pressure? Are the lines in need of replacement? Talk to the Utilities Department for the required information.

RESPONSE: The property owner will purchase all potable water from Carson City Public Works, at an estimated 8,000 to 10,000 gallons per day at full capacity. The site will also be served by hot springs water rights (to be used for landscaping, RV wash station, hot tub pools and other non-potable uses) secured from the owner via the Carson Hot Spring, which includes 15,000 gallons per day. These sources are anticipated to adequately service the site's water needs without degrading the supply/needs /quality to others. Discussion with Carson City Public Works has indicated good flows and pressures in the portion of the system the project will connect to, and final water use calculations will be completed and submitted with the site improvement plans and other project submittals.

c. Are roadways sufficient in the area to serve the density that may occur from the rezoning? How have you arrived at this conclusion?

RESPONSE: Trip generation for the site includes trips in and trips out based on the number of RV spaces. Based on typical trip generation values for RV Parks, the intended development will not exceed the 500 total daily trip capacity and will not exceed the 80 peak hour trip capacity (current estimate is 26 PM peak hour trips), and therefore does not trigger the need for a formal traffic study.

d. Will the school district be able to serve the student population that may occur from the rezoning? How have you arrived at this conclusion?

RESPONSE: The proposed Zoning Map Amendment does not impact the School District since no additional student population/attendance is anticipated as a result of this proposed tourism/recreation-oriented development.

e. Are adequate means of access available for emergency vehicles to serve the site? What is the approximate response time for emergency vehicles? If your application is approved to rezone the property, will additional means of access be required for increased density? Or will existing access ways be adequate? How have you arrived at this conclusion?

RESPONSE: Access to the subject property is already provided off of Old Hot Springs Road. The proposed main entrance from Old Hot Springs Road will be two-way and 26 feet wide (curb face to curb face) to accommodate large RVs, but will also make for generous accessibility for emergency vehicles.

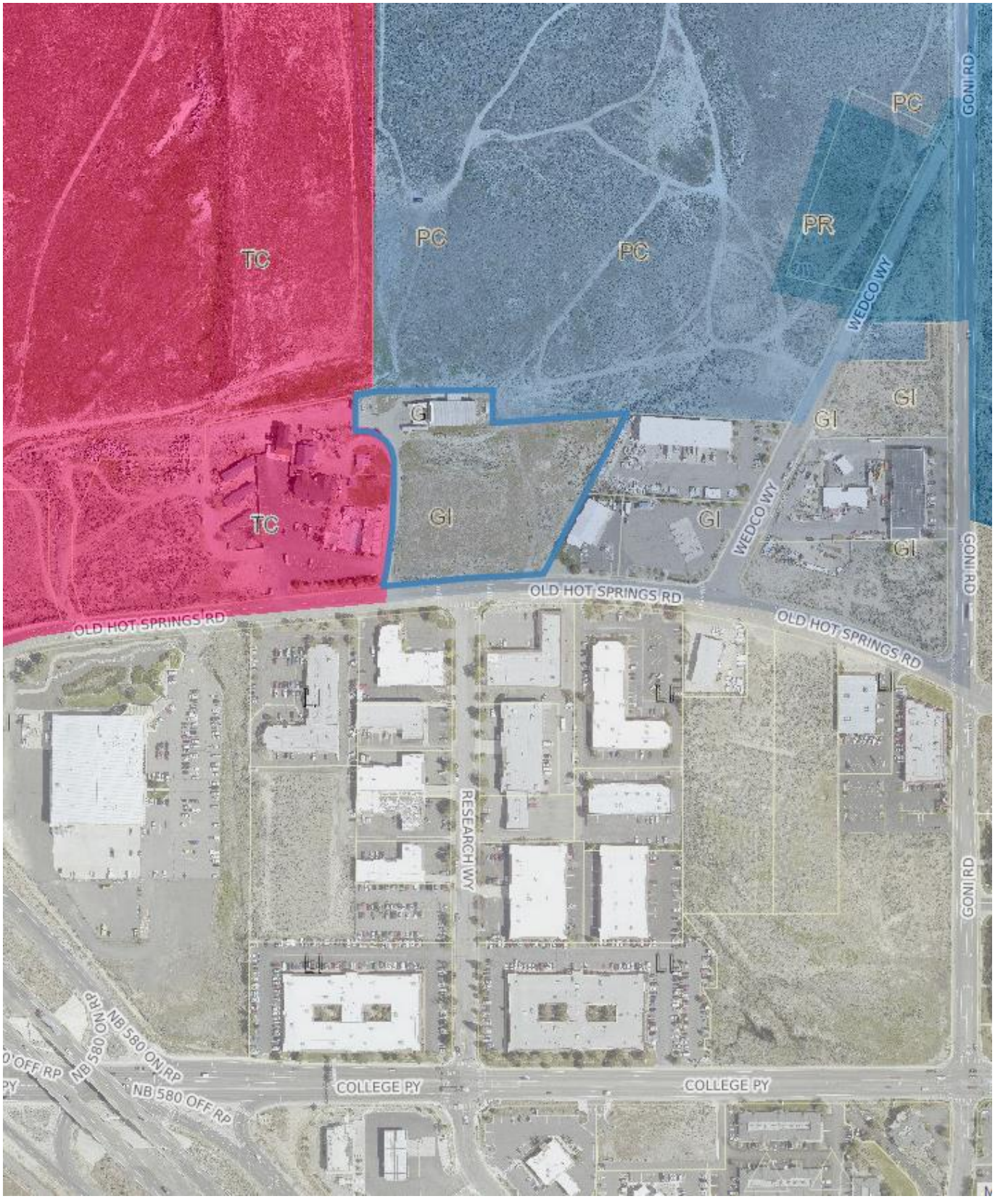


Figure 4 – Existing Zoning

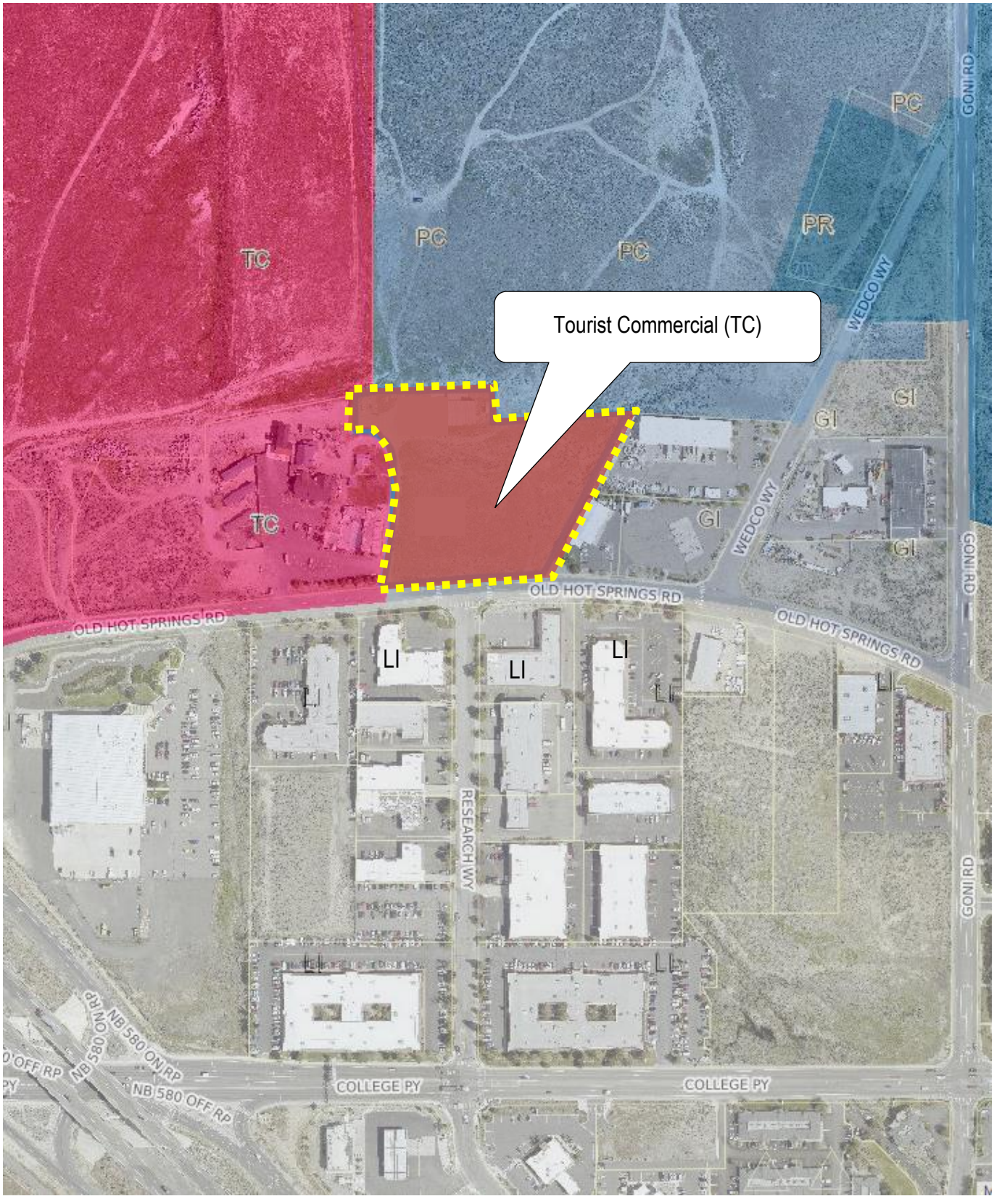


Figure 5 – Proposed Zoning

Figure 6 – Existing Master Plan Map

Figure 7 – Proposed Master Plan Map

Master Plan Policy Checklist

Master Plan and Zoning Map Amendments

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 Master Plan Map Amendments and Zoning Map Amendments. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: 1588 Old Hot Springs Road Master Plan and Zoning Map Amendme

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 Master Plan or Zoning Map Amendment can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed amendment 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 amendment:

- ☐ Discourage growth outside areas planned to be served by community water and wastewater facilities as identified in the Water and Wastewater Master Plans (1.1b)?
- ☐ Promote infill and redevelopment in an identified priority area (1.2a)?
- ☐ At adjacent county boundaries, minimize potential land use conflicts with adjacent properties (1.5a)?

- ☐ Adjacent to State or Federal lands, ensure compatibility with planned adjacent uses and access (1.5b)
- ☒ Located to be adequately served by city services including fire and sheriff services, and coordinated with the School District to ensure the adequate provision of schools (1.5d)?
- ☒ Promote a citywide range of mixed-use, residential, commercial and employment uses at a variety of scales and intensities (2.1a)?
- ☐ 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)?
- ☒ Discourage rezoning of properties that create "friction zones" between adjacent land uses, particularly industrial and residential uses (2.1d)?
- ☒ Encourage development outside the primary floodplain and away from geologic hazard areas (3.3d, e)?
- ☒ Provide for zoning consistent with the Land Use designation (Land Use table descriptions)?
- ☒ Meet the location criteria for the applicable Land Use designation (Land Use descriptions)?
- ☐ If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

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.

Is or does the proposed amendment:

- ☒ Provide opportunities to expand parks and recreation opportunities (4.2a)?
- ☐ 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 amendment:

- ☒ Help maintain and enhance the primary job base (5.1)?

- [X] 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)?
- [ ] Encourage the incorporation of additional housing in and around the Downtown (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 amendment:

- [X] Promote 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 or m area, provide for the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?
- [ ] Encourage an appropriate mix of housing models and densities based upon the location, size and surrounding neighborhood context (9.1a)?
- [X] Discourage "spot" rezoning of parcels within established rural neighborhoods that have not been identified as higher density on the Land Use Map or that are not contiguous with lots zoned for a comparable density (9.4b)?

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

Is or does the proposed amendment:

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

Treasurer Home | Assessor Data Inquiry | Back to Last Page

Secured Tax Inquiry Detail for Parcel # 008-123-23

Property Location: 1588 OLD HOT SPRINGS RD
Billed to: D R L LIVING TRUST 11/7/12
% RICHARD LANGSON, TRUSTEE
3121 W COAST HWY #7A
NEWPORT BEACH, CA 92663-0000

Tax Year: 2018-19
Roll #: 004429
District: 2.4
Tax Service:
Land Use Code: 400

Code Table

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due	
No Prior Year Taxes						
Current Year						
08/20/18	1,765.54		1,765.54	.00	1,765.54	<--Pay
10/01/18	1,763.00		1,763.00	.00	3,528.54	<--Pay
01/07/19	1,763.00		1,763.00	.00	5,291.54	<--Pay
03/04/19	1,763.00		1,763.00	.00	7,054.54	<--Pay
Totals:	**7,054.54**	**.00**	**7,054.54**	**.00**		

Payment Cart | History

Additional Information

	2018-19	2017-18	2016-17	2015-16	2014-15
Tax Rate	3.5700	3.5700	3.5200	3.5200	3.5400
Tax Cap Percent	4.2	2.6	.2	3.2	3.0
Abatement Amount	1,244.70	1,978.66	1,192.57	1,023.40	1,375.82

CONCEPTUAL DRAINAGE STUDY

for the

Carson City Hot Springs RV Park
APN 008-123-23
Carson City, Nevada

Prepared For:

Doug Hus

3941 Park Drive, Suite 20-127
El Dorado Hills, CA 95762

Prepared By:

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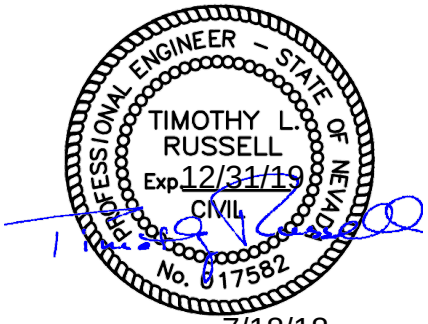
308 N. Curry Street, Suite 200
Carson City, Nevada 89703
Phone: (775) 883-7077
FAX: (775) 883-7114

July, 2018
Job No. 9493.000



7/18/18

Contents

Appendices

I. Introduction

A. Description of Project

This conceptual drainage report presents the findings of the preliminary drainage study for the Zone change and Master Plan Amendment of APN 008-123-23 located in Section 5, Township 15N, Range 20E of the Mount Diablo Meridian. It identifies the existing and conceptually proposed site conditions, and the potential drainage improvements. This study has been conducted in accordance with the Carson City Municipal Code and Carson City Development Standards.

The proposed project consists of the construction of an RV Resort and associated facilities. The RV Resort would include approximately 63 RV spaces, club house, restroom area and necessary roadway and utility improvements to support the development. The property is currently undeveloped, disturbed, and overgrown with invasive weeds.

B. Existing Site Conditions

The property, located at 1588 Old Hot Springs Road, is currently undeveloped on a majority of the property, with an existing building located at the north end. It is bound by an undeveloped property to the north, the Carson City Hot Springs to the west, industrial buildings to the east, and Old Hot Springs Road to the south. The majority of the site is covered by native brush and minor dirt roads other than a 5,000 SF existing building on the north end. From the NRCS soil report seen in Appendix C, a majority of the site (64%) consists of Bishop loam, while Haybourne sandy loam make up 6.3%, and Indiano variant gravelly fine sandy loan make up 29.7%. The site slopes down from north to south at an average slope of 2-3%.

C. General Location Map

See Appendix A for an APN Map and Location Map.

II. Existing and Proposed Hydrology

A. Discuss existing and proposed drainage basin boundaries

Existing
All 3.94 acres of the existing site are within the same drainage basin, the entire site slopes in the same direction without anything to divert runoff. Off-site flows from the north enter the site as they are also part of the same drainage basin.

Proposed
The proposed drainage will be graded so that the entire property continues to be within the same drainage basin. All runoff that is generated on site will be directed to a detention basin located at the south end of the site. See Appendix A for conceptual drainage improvements.

B. Design Storm and 100-Year, 24-Hour Flow Calculations

Table 1: Flow Calculations

	Pre-Development (cfs)		**Post-Development (cfs)**		**Increase (cfs)**	
	5-Year	100-Year	5-Year	100-Year	5-Year	100-Year
On-Site	0.092	0.164	0.237	0.423	0.145	0.259
Off-Site	0.433	0.771				

Off-site flows currently run onto the property from the north and into the existing detention areas at the southwest corner of the site, where they are discharged into the existing storm drain infrastructure in Old Hot Springs Road.

Volume calculations were performed in order to determine a preliminary size for the detention basin. The increased runoff during the 5-year 24-hour storm event due to the increase in impervious area is approximately 1,048 cubic feet. Volume calculations are provided in Appendix B along with the Rational Method calculations. Supplemental information used for calculations is included in Appendix C.

C. Existing Drainage Problems

There are no known drainage problems on-site.

D. On-site and Downstream Drainage

The entire site currently sheet flows from the northeast corner to the southwest corner. At the southwest corner of the site there are two small detention areas that collect runoff from the entire site, as well as off-site flows that have traveled on site. This runoff is collected in a swale that travels along Old Hot Springs Road at the south end of the property. See the existing site conditions map in Appendix A. Runoff collected in the two detention areas enter a storm drain pipe that diverts flow into the existing storm drainage infrastructure on Old Hot Springs Road.

E. Floodplain

A portion of the site in the southwest corner is located within the 100 year floodplain. A FEMA FIRM for the project location is included in Appendix C.

III. Proposed Drainage Facilities (on-site and off-site)

A. Routing of flow in and/or around site, downstream, and location of drainage facilities

On-Site Flow

On-site runoff will sheet flow from north to south to enter the new retention basin at the south end of the property. This retention pond will have an outlet to allow flow to enter the existing retention basin and storm drain at the southwest corner of the property. The new detention pond will be sized to detain the increase in storm water runoff for a 5-year 24-hour event as required by Carson City Code. Above ground drainage features, like valley gutters, will be kept to a minimum for RV friendly access roads and vehicle spaces, but may be used if necessary to direct flow to the new retention pond.

Off-Site Flow

Off-site flows will be collected in a 4' wide rock lined runoff ditch that runs along the property line. These flows will be routed south to discharge into the existing infrastructure on Old Hot Springs Road. This will not affect the current infrastructure as off-site flows already enter the storm drainage infrastructure in place on Old Hot Springs Road.

B. Mitigation Measures

Best Management Practices techniques should be implemented to manage the quantity and improve the quality of storm water runoff, minimize local erosion, and minimize potential discharges to adjacent properties.

C. Floodplain Modifications

The Carson Hot Springs RV Resort improvements will not require any modification of the floodplain.

D. Exhibit

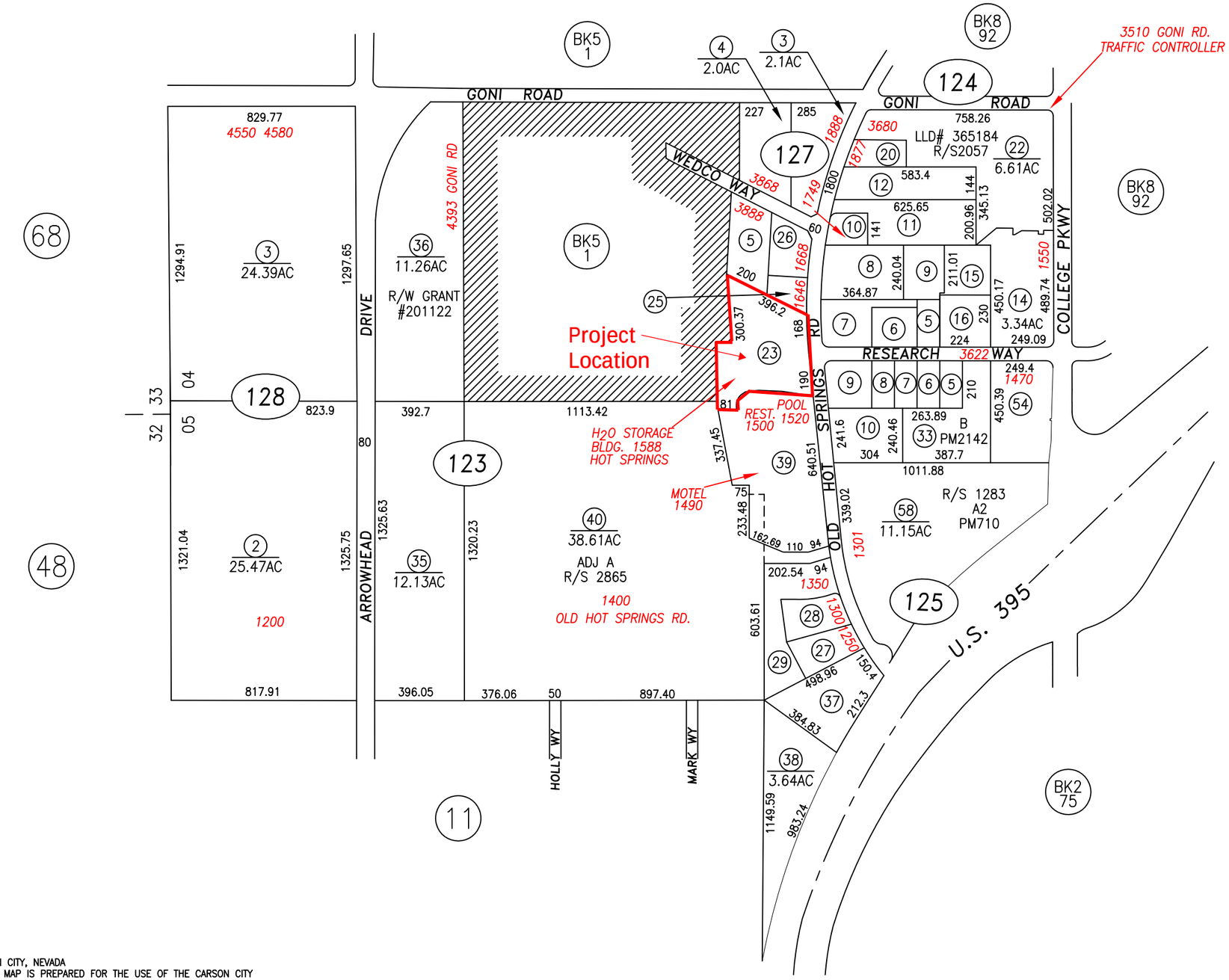
A copy of the SUP map showing proposed improvements and drainage features is included in Appendix A.

IV. Conclusions

The Carson Hot Springs RV Resort improvements will be designed in accordance with Carson City Municipal Code and Carson City Development Standards. The project will not have a detrimental effect on surrounding properties in terms of storm water. The increase in storm water runoff will be detained on-site and will not affect the downstream storm water system.

Appendix A

Maps



PARCELS 008-123-24 & 34 ARE NOW 008-123-39 & 40 R/S 2865
UPDATE PARCELS 008-123-37 & 38 PER DOC #465731 062816

CARSON CITY, NEVADA
THIS MAP IS PREPARED FOR THE USE OF THE CARSON CITY ASSESSOR FOR ASSESSMENT AND ILLUSTRATIVE PURPOSES ONLY, IT DOES NOT REPRESENT A SURVEY. NO LIABILITY IS ASSUMED AS TO THE SUFFICIENCY OR ACCURACY OF THE DATA DELINEATED HEREON. YOU CAN VIEW AND PRINT OUR MAPS AT NO CHARGE FROM OUR WEBSITE AT: http://ccapps.org/publicgis/

BLOCK 123

APN	PARCEL INFO	LAND AREA AC
8-123-05	A PM 1882	1.50
8-123-23	R/S 2307 LL ADJ	3.94
8-123-25	1 PM 2335	0.50
8-123-26	2 PM 2335	0.97
8-123-27	3A PM 2366	1.00
8-123-28	3B PM 2366	1.02
8-123-29	3C PM 2366	2.24
8-123-37	4 PM 2143	2.62
8-123-39	ADJ 2A R/S 2865	5.94

BLOCK 124

APN	PARCEL INFO	LAND AREA AC
8-124-05	1B PM 1058	0.48
8-124-06	LL ADJ BK 410 PG 367	0.80
8-124-07	LL ADJ BK 410 PG 367	1.23
8-124-08	1A-1 PM 1816	1.97
8-124-09	1A-2 R/S 1844	0.98
8-124-10	1 PM 952	0.56
8-124-11	2 PM 952	2.42
8-124-12	2 PM 670	2.00
8-124-14	2-C R/S 2359	3.34
8-124-15	2-A PM 2007	1.04
8-124-16	2-B PM 2007	1.18
8-124-20	3-A PM 2011	0.68

BLOCK 125

APN	PARCEL INFO	LAND AREA AC
8-125-05	3B PM 1446	0.48
8-125-06	4D PM 1057	0.48
8-125-07	4C PM 1057	0.48
8-125-08	4B-2 PM 1066	0.48
8-125-09	4B-1 PM 1066	0.97
8-125-10	4A-1 PM 1636	1.74
8-125-33	B PM 2142	2.74
8-125-54	A PM 2142	2.81

BLOCK 127

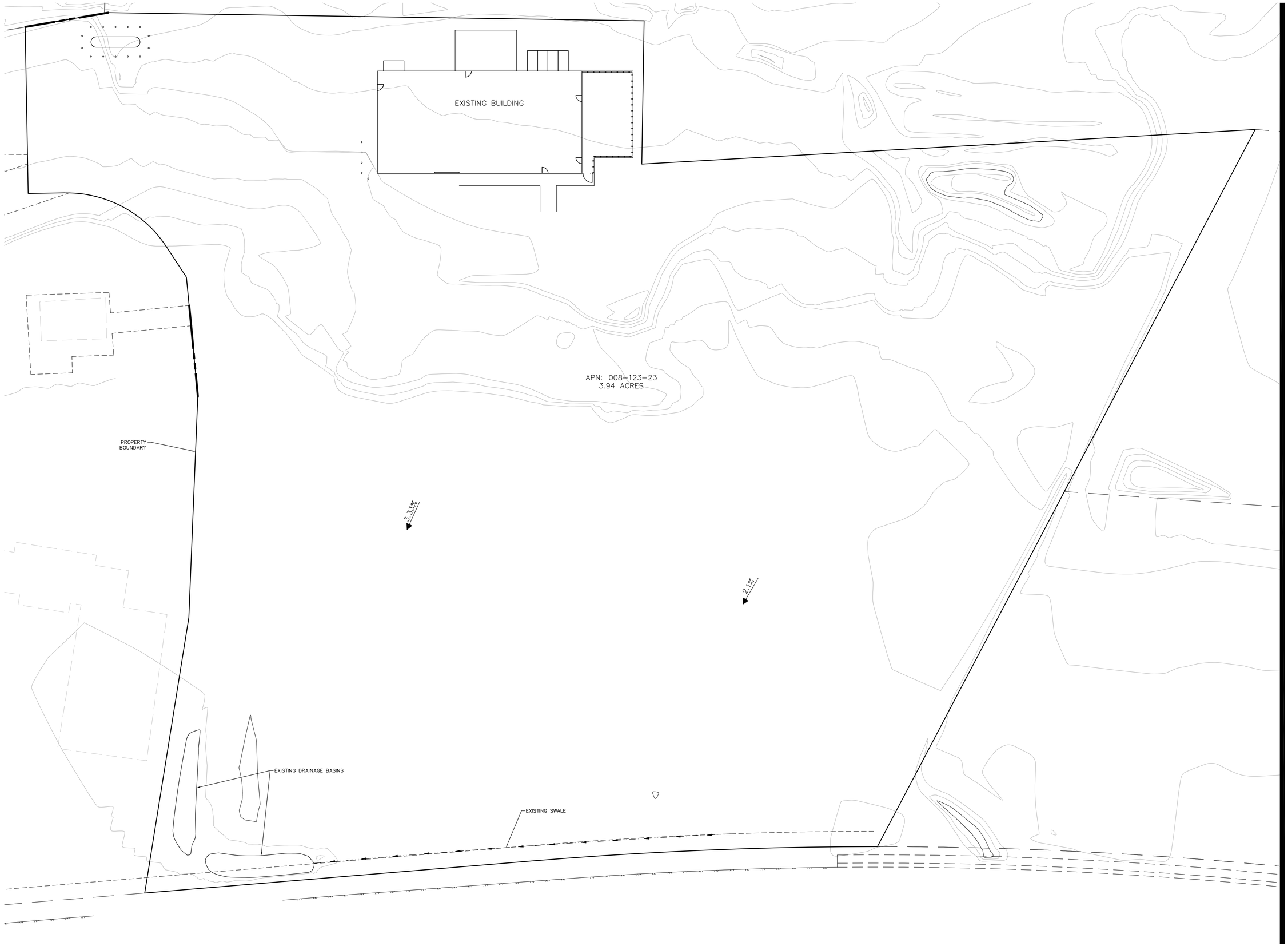
APN	PARCEL INFO	LAND AREA AC
8-127-03	B-3 PM1054 LESS R/W	2.10
8-127-04	B-2 PM1054 LESS R/W	2.10

SCALE:1" = 500'
REVISED:06/30/2016

FIGURE 1

LOCATION MAP

FIGURE 2



LUMOS & ASSOCIATES

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CARSON CITY, NEVADA 89706
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WWW.LUMOSINC.COM

CIVIL ENGINEERING
STRUCTURAL ENGINEERING
GEOTECHNICAL ENGINEERING
PLANNING LANDSCAPE
ARCHITECTURE SURVEYING / GIS
CONSTRUCTION SERVICES
MATERIALS TESTING

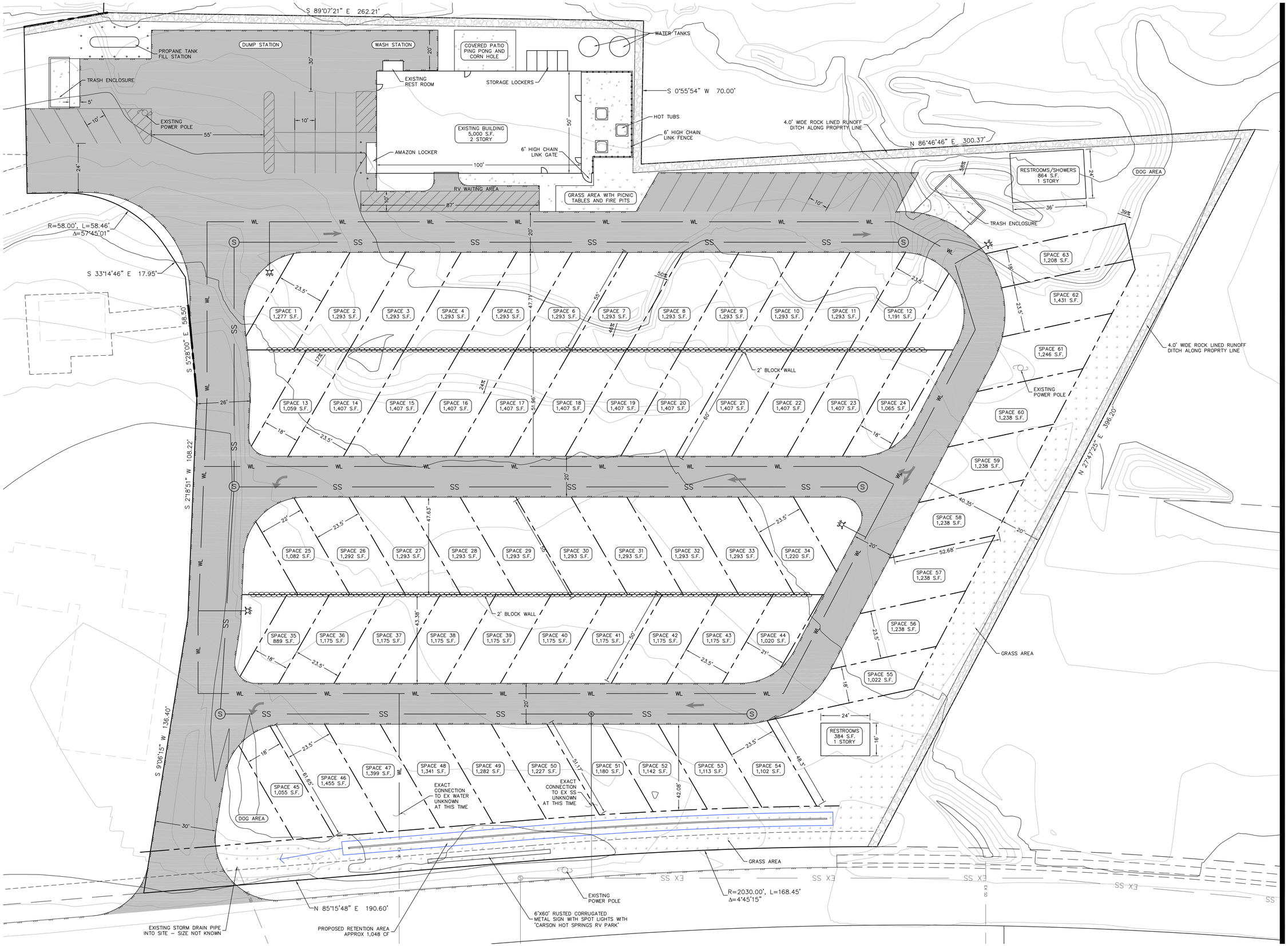
CARSON HOT SPRINGS RV PARK
CONCEPTUAL DRAINAGE
EXISTING CONDITIONS

CARSON CITY NEVADA

REV	DATE	DESCRIPTION	BY

FIGURE 3

DATE:	6-5-2018
DRAWN BY:	RHH
DESIGNED BY:	TR
CHECKED BY:	TR
JOB NO.:	JOB NUMBER



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MATERIALS TESTING

CARSON HOT SPRINGS RV PARK
CONCEPTUAL DRAINAGE
PROPOSED DRAINAGE

CARSON CITY NEVADA

REV	DATE	DESCRIPTION	BY

FIGURE 4

DATE:	6-5-2018
DRAWN BY:	RHH
DESIGNED BY:	TR
CHECKED BY:	TR
JOB NO.:	JOB NUMBER

Appendix B

Calculations

Carson Hot Springs RV Resort
Drainage Calculation
Rational Method
July 2018

Basin Pre-Development

5-year, 24-hr Storm Event
Formula: Q = C * i * A

1) Runoff Coefficient C	Range	Design Value
Impervious Areas =	.7 - .95	0.9
Pervious Areas =	0.1 - 0.3	0.3

2) Total Area (A)	Impervious	Pervious	Units
	0	171,626	Sq. Ft.
	0.00	3.94	Acres

3) Weighted "C" Value	Design Value	Areas (Acres)	Total
Impervious Areas =	0.9	0.00	0.00
Pervious Areas =	0.3	3.94	1.182
Total		3.94	1.18
C (Total/Total Area) =		0.30	

4) Peak Flow Rate (Q = CiA)	Intensity @ 5 yr / 24 hr	Peak Flow Rate (cfs)
	0.078	0.092

100-year, 24-hr Storm Event
Formula: Q = C * i * A

1) Runoff Coefficient C	Range	Design Value
Impervious Areas	.7 - .95	0.90
Pervious Areas =	0.1 - 0.3	0.3

2) Total Area (A)	Impervious	Pervious	Units
	0	171,626	Sq. Ft.
	0.00	3.94	Acres

3) Weighted "C" Value	Design Value	Areas (Acres)	Total
Impervious Areas =	0.9	0.00	0.00
Pervious Areas =	0.3	3.94	1.182
Total		3.94	1.18
C (Total/Total Area) =		0.30	

4) Peak Flow Rate (Q = CiA)	Intensity @ 100 yr / 24 hr	Peak Flow Rate (cfs)
	0.139	0.164

Carson Hot Springs RV Resort
Drainage Calculation
Rational Method
July 2018

Basin Post-Development

5-year, 24-hr Storm Event
Formula: Q = C * i * A

1) Runoff Coefficient C

	Range	Design Value
Impervious Areas =	.7 - .95	0.9
Pervious Areas =	0.1 - 0.3	0.3

2) Total Area (A)

Impervious	Pervious	Units
135,242	36,384	Sq. Ft.
3.10	0.84	Acres

3) Weighted "C" Value

	Design Value	Areas (Acres)	Total
AC and Concrete =	0.9	3.10	2.79
Pervious Areas =	0.3	0.84	0.251
Total		3.94	3.04
C (Total/Total Area) =		0.77	

4) Peak Flow Rate (Q = CiA)

Intensity @ 5 yr / 24 hr	Peak Flow Rate (cfs)
0.078	0.237

100-year, 24-hr Storm Event
Formula: Q = C * i * A

1) Runoff Coefficient C

	Range	Design Value
Impervious Areas =	.7 - .95	0.9
Pervious Areas =	0.1 - 0.3	0.3

2) Total Area (A)

Impervious	Pervious	Units
135,242	36,384	Sq. Ft.
3.10	0.84	Acres

3) Weighted "C" Value

	Design Value	Areas (Acres)	Total
AC and Concrete =	0.9	3.10	2.79
Pervious Areas =	0.3	0.84	0.251
Total		3.94	3.04
C (Total/Total Area) =		0.77	

4) Peak Flow Rate (Q = CiA)

Intensity @ 100 yr / 24 hr	Peak Flow Rate (cfs)
0.139	0.423

Carson Hot Springs RV Resort
Drainage Calculation
Rational Method
July 2018

Off-Site

5-year, 24-hr Storm Event
Formula: Q = C * i * A

1) Runoff Coefficient C

	Range	Design Value
Impervious Areas =	.7 - .95	0.9
Pervious Areas =	0.1 - 0.3	0.3

2) Total Area (A)

Impervious	Pervious	Units
0	805,860	Sq. Ft.
0.00	18.50	Acres

3) Weighted "C" Value

	Design Value	Areas (Acres)	Total
Impervious Areas =	0.9	0.00	0.00
Pervious Areas =	0.3	18.50	5.55
Total		18.50	5.55
C (Total/Total Area) =		0.30	

4) Peak Flow Rate (Q = CiA)

Intensity @ 5 yr / 24 hr	Peak Flow Rate (cfs)
0.078	0.433

100-year, 24-hr Storm Event
Formula: Q = C * i * A

1) Runoff Coefficient C

	Range	Design Value
Impervious Areas	.7 - .95	0.90
Pervious Areas =	0.1 - 0.3	0.3

2) Total Area (A)

Impervious	Pervious	Units
0	805,860	Sq. Ft.
0.00	18.50	Acres

3) Weighted "C" Value

	Design Value	Areas (Acres)	Total
Impervious Areas =	0.9	0.00	0.00
Pervious Areas =	0.3	18.50	5.55
Total		18.50	5.55
C (Total/Total Area) =		0.30	

4) Peak Flow Rate (Q = CiA)

Intensity @ 100 yr / 24 hr	Peak Flow Rate (cfs)
0.139	0.771

Carson Hot Springs RV Resort
Retention Basin Calculations
5 Year Frequency @ 24 Duration

$$Volume = c * depth * area$$

	c (Runoff Coefficient)	d (Depth, ft)	a (Area, sf)	Volume (cu. Ft)
Future	0.77	0.156	171626.4	1716.1
Existing	0.30	0.156	171626.4	668.6
Design Volume	Volumes based the delta value of the existing vs proposed			1047.5

Appendix C

Supplemental Information

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0084F

FIRM

FLOOD INSURANCE RATE MAP

CARSON CITY, NEVADA
INDEPENDENT CITY

PANEL 84 OF 275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CARSON CITY	320001	0084	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
3200010084F

MAP REVISED
FEBRUARY 19, 2014

Federal Emergency Management Agency

NOAA Atlas 14, Volume 1, Version 5
Location name: Carson City, Nevada, USA*
Latitude: 39.1955°, Longitude: -119.7541°
Elevation: 4717.52 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**1.19** (1.02-1.39)	**1.46** (1.28-1.75)	**1.96** (1.69-2.33)	**2.44** (2.06-2.88)	**3.20** (2.64-3.80)	**3.91** (3.12-4.67)	**4.74** (3.66-5.72)	**5.74** (4.26-7.04)	**7.33** (5.12-9.19)	**8.77** (5.83-11.2)
10-min	**0.900** (0.774-1.06)	**1.12** (0.972-1.33)	**1.49** (1.28-1.78)	**1.85** (1.57-2.19)	**2.44** (2.01-2.89)	**2.98** (2.38-3.55)	**3.61** (2.79-4.35)	**4.37** (3.24-5.36)	**5.58** (3.90-7.00)	**6.68** (4.45-8.53)
15-min	**0.744** (0.640-0.880)	**0.924** (0.804-1.10)	**1.24** (1.06-1.46)	**1.53** (1.30-1.81)	**2.02** (1.66-2.39)	**2.46** (1.96-2.93)	**2.98** (2.30-3.60)	**3.61** (2.68-4.43)	**4.61** (3.22-5.78)	**5.52** (3.67-7.05)
30-min	**0.500** (0.432-0.592)	**0.624** (0.540-0.740)	**0.832** (0.714-0.988)	**1.03** (0.876-1.22)	**1.36** (1.12-1.61)	**1.65** (1.32-1.98)	**2.01** (1.55-2.42)	**2.43** (1.80-2.98)	**3.10** (2.17-3.89)	**3.72** (2.47-4.75)
60-min	**0.310** (0.267-0.366)	**0.386** (0.334-0.457)	**0.515** (0.441-0.611)	**0.638** (0.542-0.755)	**0.839** (0.692-0.996)	**1.02** (0.818-1.22)	**1.24** (0.960-1.50)	**1.50** (1.12-1.85)	**1.92** (1.34-2.41)	**2.30** (1.53-2.94)
2-hr	**0.208** (0.184-0.238)	**0.258** (0.229-0.296)	**0.329** (0.290-0.376)	**0.392** (0.341-0.447)	**0.486** (0.412-0.558)	**0.570** (0.473-0.662)	**0.666** (0.538-0.781)	**0.782** (0.610-0.930)	**0.982** (0.733-1.22)	**1.17** (0.841-1.48)
3-hr	**0.166** (0.148-0.187)	**0.206** (0.186-0.233)	**0.259** (0.231-0.292)	**0.302** (0.267-0.340)	**0.363** (0.316-0.411)	**0.415** (0.355-0.474)	**0.473** (0.396-0.546)	**0.548** (0.449-0.643)	**0.671** (0.533-0.819)	**0.788** (0.609-0.998)
6-hr	**0.115** (0.103-0.129)	**0.144** (0.129-0.161)	**0.179** (0.159-0.200)	**0.206** (0.183-0.231)	**0.243** (0.213-0.274)	**0.272** (0.235-0.308)	**0.302** (0.256-0.345)	**0.336** (0.280-0.389)	**0.386** (0.313-0.455)	**0.430** (0.341-0.515)
12-hr	**0.076** (0.067-0.085)	**0.095** (0.085-0.107)	**0.119** (0.106-0.134)	**0.139** (0.122-0.156)	**0.164** (0.143-0.186)	**0.184** (0.159-0.210)	**0.205** (0.174-0.236)	**0.225** (0.188-0.263)	**0.253** (0.205-0.301)	**0.275** (0.218-0.333)
24-hr	**0.049** (0.045-0.055)	**0.062** (0.056-0.069)	**0.078** (0.071-0.086)	**0.091** (0.082-0.101)	**0.109** (0.098-0.121)	**0.124** (0.110-0.137)	**0.139** (0.123-0.154)	**0.154** (0.135-0.172)	**0.175** (0.151-0.197)	**0.192** (0.164-0.218)
2-day	**0.029** (0.026-0.033)	**0.037** (0.033-0.042)	**0.047** (0.042-0.053)	**0.055** (0.049-0.062)	**0.067** (0.059-0.075)	**0.076** (0.067-0.086)	**0.085** (0.074-0.097)	**0.095** (0.082-0.109)	**0.109** (0.093-0.126)	**0.120** (0.100-0.141)
3-day	**0.022** (0.019-0.024)	**0.027** (0.024-0.031)	**0.035** (0.031-0.039)	**0.041** (0.037-0.046)	**0.050** (0.044-0.056)	**0.057** (0.050-0.064)	**0.064** (0.056-0.073)	**0.072** (0.062-0.083)	**0.083** (0.070-0.096)	**0.092** (0.076-0.108)
4-day	**0.018** (0.016-0.020)	**0.022** (0.020-0.025)	**0.029** (0.026-0.033)	**0.034** (0.030-0.038)	**0.041** (0.036-0.047)	**0.047** (0.041-0.054)	**0.054** (0.046-0.061)	**0.061** (0.052-0.069)	**0.070** (0.059-0.081)	**0.078** (0.064-0.091)
7-day	**0.012** (0.010-0.013)	**0.015** (0.013-0.017)	**0.019** (0.017-0.022)	**0.023** (0.020-0.026)	**0.028** (0.024-0.031)	**0.032** (0.028-0.036)	**0.036** (0.031-0.041)	**0.040** (0.034-0.046)	**0.046** (0.039-0.053)	**0.051** (0.042-0.060)
10-day	**0.009** (0.008-0.010)	**0.012** (0.010-0.013)	**0.015** (0.013-0.017)	**0.018** (0.016-0.020)	**0.022** (0.019-0.024)	**0.024** (0.021-0.028)	**0.027** (0.024-0.031)	**0.031** (0.026-0.035)	**0.035** (0.029-0.040)	**0.038** (0.032-0.044)
20-day	**0.006** (0.005-0.006)	**0.007** (0.006-0.008)	**0.009** (0.008-0.010)	**0.011** (0.010-0.012)	**0.013** (0.011-0.015)	**0.015** (0.013-0.016)	**0.016** (0.014-0.018)	**0.018** (0.016-0.020)	**0.020** (0.017-0.023)	**0.022** (0.018-0.025)
30-day	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.007** (0.006-0.008)	**0.008** (0.007-0.009)	**0.010** (0.009-0.011)	**0.011** (0.010-0.012)	**0.012** (0.011-0.014)	**0.013** (0.012-0.015)	**0.015** (0.013-0.017)	**0.016** (0.014-0.019)
45-day	**0.003** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.006** (0.006-0.007)	**0.008** (0.007-0.008)	**0.008** (0.007-0.009)	**0.009** (0.008-0.010)	**0.010** (0.009-0.011)	**0.011** (0.010-0.012)	**0.012** (0.010-0.013)
60-day	**0.003** (0.003-0.003)	**0.004** (0.003-0.004)	**0.005** (0.004-0.005)	**0.006** (0.005-0.006)	**0.006** (0.006-0.007)	**0.007** (0.006-0.008)	**0.008** (0.007-0.009)	**0.008** (0.007-0.009)	**0.009** (0.008-0.010)	**0.010** (0.008-0.011)

[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.

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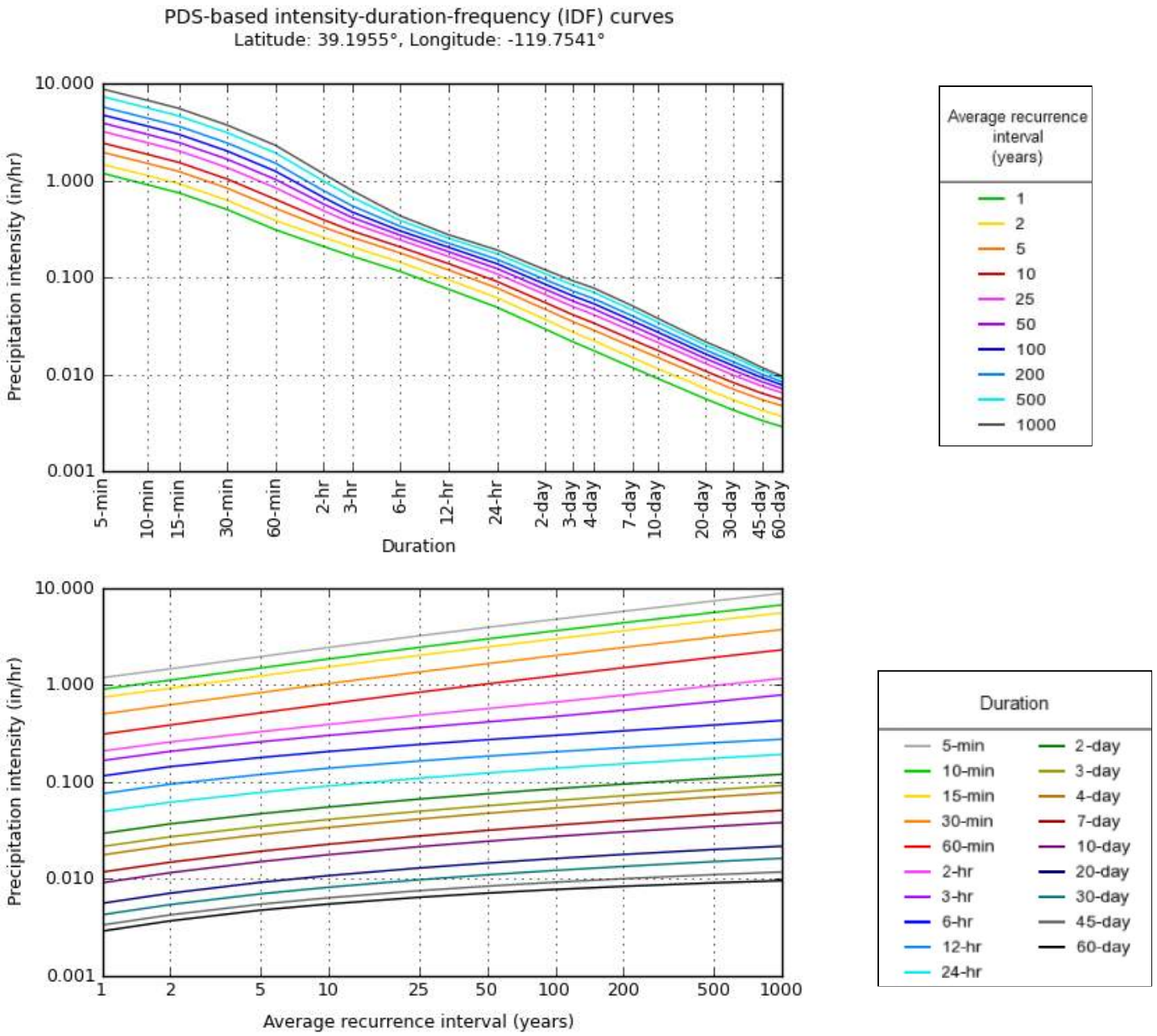
PF graphical



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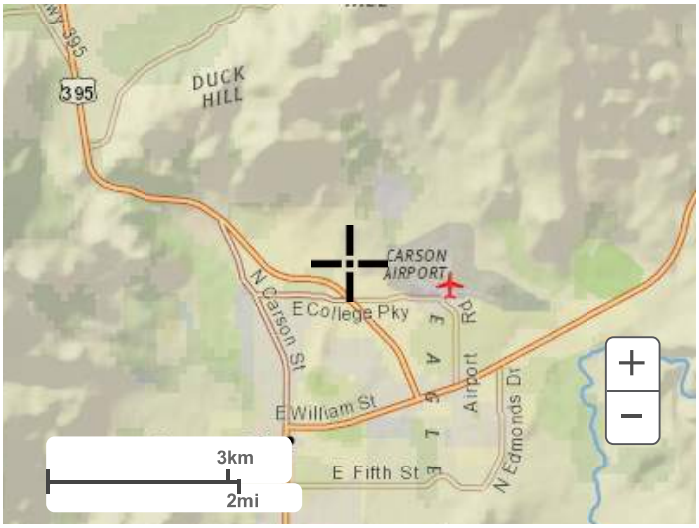
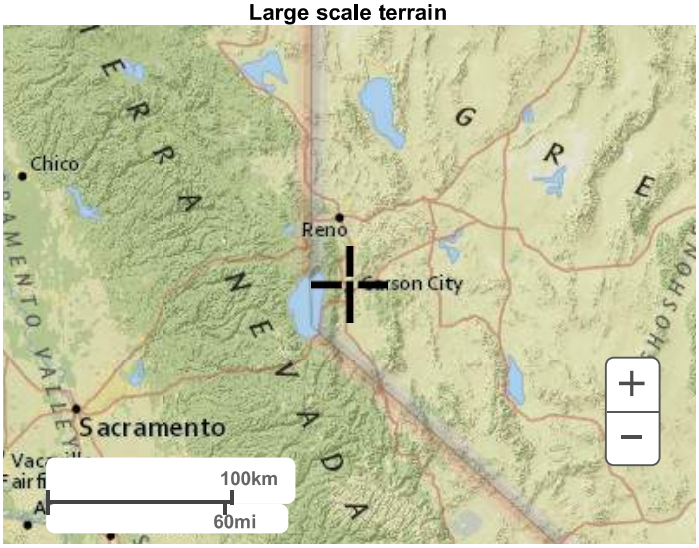
Small scale terrain



Large scale terrain



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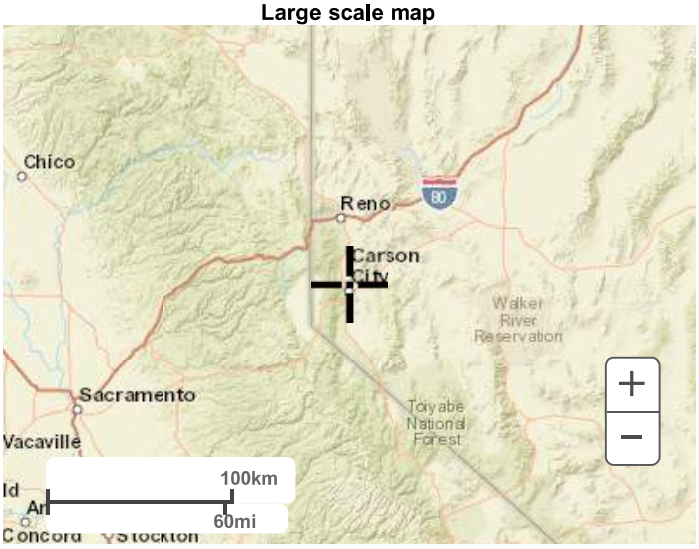
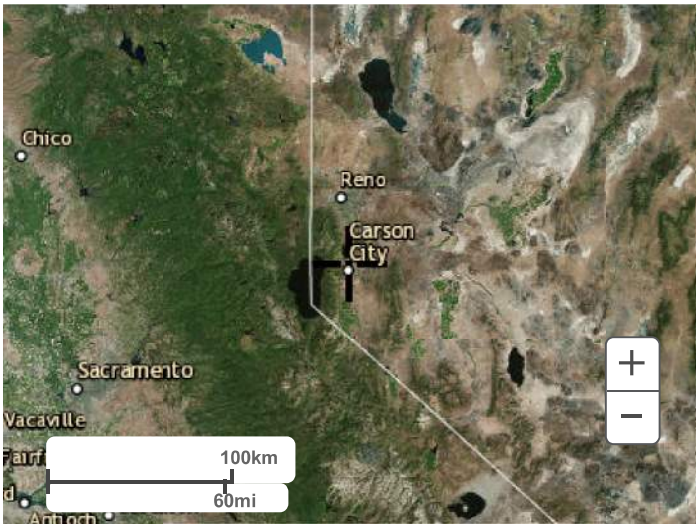


Large scale aerial



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NOAA Atlas 14, Volume 1, Version 5
Location name: Carson City, Nevada, USA*
Latitude: 39.1955°, Longitude: -119.7541°
Elevation: 4717.52 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.099** (0.085-0.116)	**0.122** (0.107-0.146)	**0.163** (0.141-0.194)	**0.203** (0.172-0.240)	**0.267** (0.220-0.317)	**0.326** (0.260-0.389)	**0.395** (0.305-0.477)	**0.478** (0.355-0.587)	**0.611** (0.427-0.766)	**0.731** (0.486-0.934)
10-min	**0.150** (0.129-0.177)	**0.187** (0.162-0.221)	**0.249** (0.213-0.296)	**0.309** (0.262-0.365)	**0.406** (0.335-0.482)	**0.496** (0.396-0.591)	**0.602** (0.465-0.725)	**0.728** (0.540-0.894)	**0.930** (0.650-1.17)	**1.11** (0.741-1.42)
15-min	**0.186** (0.160-0.220)	**0.231** (0.201-0.274)	**0.309** (0.265-0.366)	**0.383** (0.325-0.453)	**0.504** (0.415-0.597)	**0.614** (0.491-0.733)	**0.746** (0.576-0.899)	**0.903** (0.669-1.11)	**1.15** (0.806-1.45)	**1.38** (0.918-1.76)
30-min	**0.250** (0.216-0.296)	**0.312** (0.270-0.370)	**0.416** (0.357-0.494)	**0.516** (0.438-0.610)	**0.678** (0.559-0.805)	**0.827** (0.661-0.988)	**1.00** (0.776-1.21)	**1.22** (0.901-1.49)	**1.55** (1.08-1.95)	**1.86** (1.24-2.37)
60-min	**0.310** (0.267-0.366)	**0.386** (0.334-0.457)	**0.515** (0.441-0.611)	**0.638** (0.542-0.755)	**0.839** (0.692-0.996)	**1.02** (0.818-1.22)	**1.24** (0.960-1.50)	**1.50** (1.12-1.85)	**1.92** (1.34-2.41)	**2.30** (1.53-2.94)
2-hr	**0.416** (0.369-0.476)	**0.516** (0.458-0.591)	**0.658** (0.580-0.752)	**0.783** (0.682-0.894)	**0.972** (0.825-1.11)	**1.14** (0.946-1.32)	**1.33** (1.07-1.56)	**1.56** (1.22-1.86)	**1.96** (1.47-2.43)	**2.33** (1.68-2.97)
3-hr	**0.498** (0.445-0.561)	**0.620** (0.558-0.701)	**0.778** (0.693-0.877)	**0.907** (0.802-1.02)	**1.09** (0.948-1.23)	**1.25** (1.06-1.42)	**1.42** (1.19-1.64)	**1.65** (1.35-1.93)	**2.02** (1.60-2.46)	**2.37** (1.83-3.00)
6-hr	**0.690** (0.619-0.771)	**0.861** (0.774-0.966)	**1.07** (0.955-1.20)	**1.23** (1.09-1.38)	**1.46** (1.27-1.64)	**1.63** (1.41-1.85)	**1.81** (1.53-2.07)	**2.01** (1.67-2.33)	**2.31** (1.87-2.72)	**2.58** (2.04-3.09)
12-hr	**0.910** (0.811-1.02)	**1.14** (1.02-1.29)	**1.44** (1.28-1.62)	**1.67** (1.47-1.88)	**1.98** (1.73-2.24)	**2.22** (1.91-2.53)	**2.46** (2.09-2.84)	**2.71** (2.26-3.17)	**3.05** (2.47-3.63)	**3.32** (2.63-4.01)
24-hr	**1.19** (1.07-1.31)	**1.48** (1.35-1.65)	**1.87** (1.70-2.07)	**2.19** (1.98-2.42)	**2.62** (2.35-2.90)	**2.96** (2.65-3.28)	**3.33** (2.94-3.70)	**3.70** (3.24-4.13)	**4.21** (3.63-4.74)	**4.61** (3.92-5.24)
2-day	**1.41** (1.27-1.59)	**1.77** (1.59-2.00)	**2.26** (2.02-2.54)	**2.65** (2.37-2.98)	**3.19** (2.83-3.60)	**3.63** (3.19-4.11)	**4.09** (3.57-4.65)	**4.57** (3.95-5.24)	**5.23** (4.44-6.06)	**5.76** (4.82-6.75)
3-day	**1.55** (1.39-1.75)	**1.96** (1.75-2.21)	**2.51** (2.24-2.83)	**2.96** (2.63-3.33)	**3.58** (3.16-4.06)	**4.09** (3.58-4.64)	**4.63** (4.01-5.27)	**5.19** (4.45-5.95)	**5.99** (5.04-6.93)	**6.62** (5.50-7.75)
4-day	**1.70** (1.51-1.92)	**2.14** (1.91-2.42)	**2.76** (2.45-3.12)	**3.26** (2.89-3.69)	**3.98** (3.49-4.51)	**4.55** (3.97-5.18)	**5.17** (4.46-5.90)	**5.82** (4.96-6.67)	**6.74** (5.64-7.80)	**7.49** (6.17-8.75)
7-day	**1.98** (1.76-2.24)	**2.50** (2.22-2.83)	**3.24** (2.88-3.67)	**3.83** (3.39-4.33)	**4.66** (4.10-5.29)	**5.32** (4.65-6.05)	**6.01** (5.20-6.86)	**6.74** (5.78-7.73)	**7.75** (6.55-8.99)	**8.56** (7.13-10.0)
10-day	**2.19** (1.94-2.47)	**2.78** (2.47-3.15)	**3.62** (3.20-4.08)	**4.27** (3.77-4.82)	**5.16** (4.53-5.84)	**5.86** (5.11-6.65)	**6.59** (5.70-7.49)	**7.34** (6.29-8.38)	**8.36** (7.08-9.65)	**9.15** (7.66-10.7)
20-day	**2.69** (2.41-3.02)	**3.42** (3.06-3.84)	**4.43** (3.96-4.96)	**5.20** (4.63-5.81)	**6.22** (5.52-6.96)	**7.00** (6.17-7.85)	**7.80** (6.82-8.78)	**8.59** (7.47-9.71)	**9.65** (8.29-11.0)	**10.4** (8.88-12.0)
30-day	**3.08** (2.76-3.45)	**3.92** (3.51-4.38)	**5.06** (4.53-5.65)	**5.92** (5.28-6.60)	**7.07** (6.28-7.88)	**7.94** (7.00-8.88)	**8.82** (7.73-9.90)	**9.70** (8.43-11.0)	**10.9** (9.34-12.4)	**11.8** (10.0-13.5)
45-day	**3.62** (3.25-4.02)	**4.61** (4.13-5.11)	**5.93** (5.32-6.57)	**6.91** (6.19-7.65)	**8.17** (7.29-9.06)	**9.10** (8.09-10.1)	**10.0** (8.85-11.1)	**10.9** (9.58-12.1)	**12.0** (10.4-13.5)	**12.7** (11.1-14.4)
60-day	**4.17** (3.73-4.64)	**5.33** (4.77-5.93)	**6.86** (6.14-7.62)	**7.95** (7.10-8.82)	**9.31** (8.30-10.3)	**10.3** (9.14-11.5)	**11.2** (9.94-12.5)	**12.1** (10.7-13.5)	**13.1** (11.5-14.8)	**13.8** (12.1-15.6)

[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.

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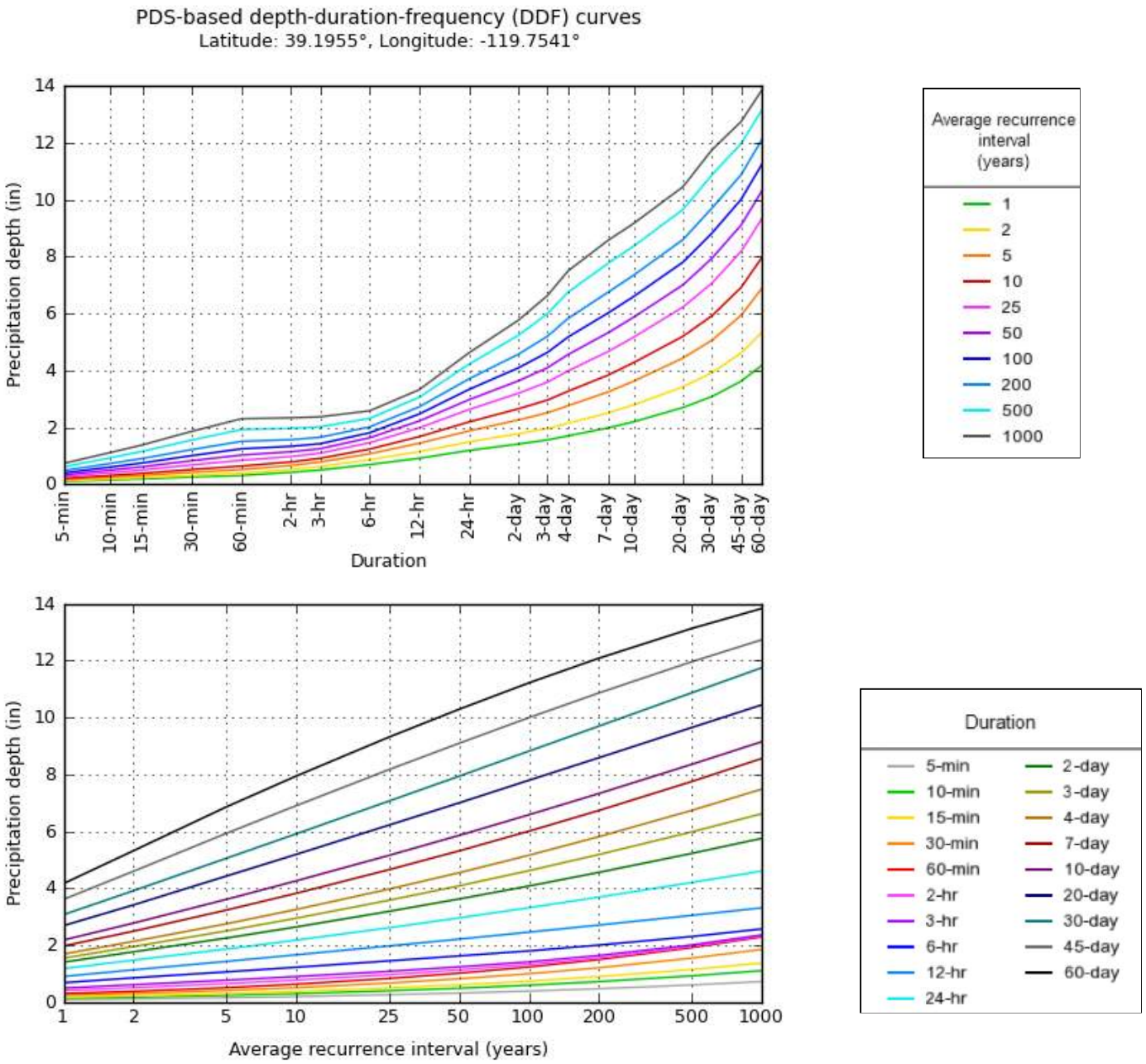
PF graphical



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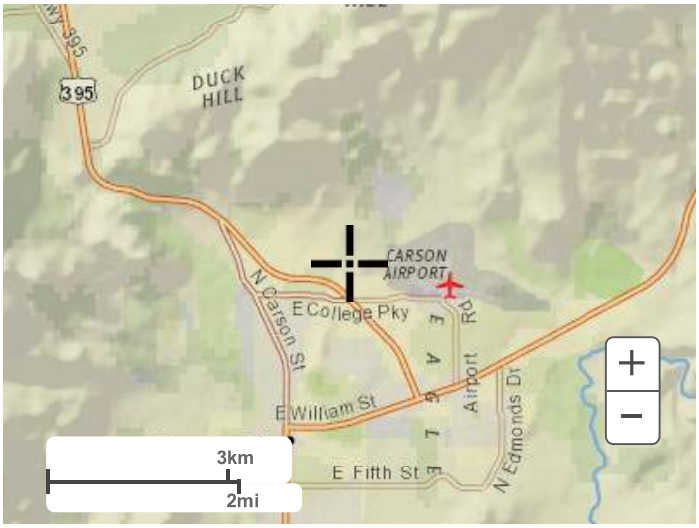
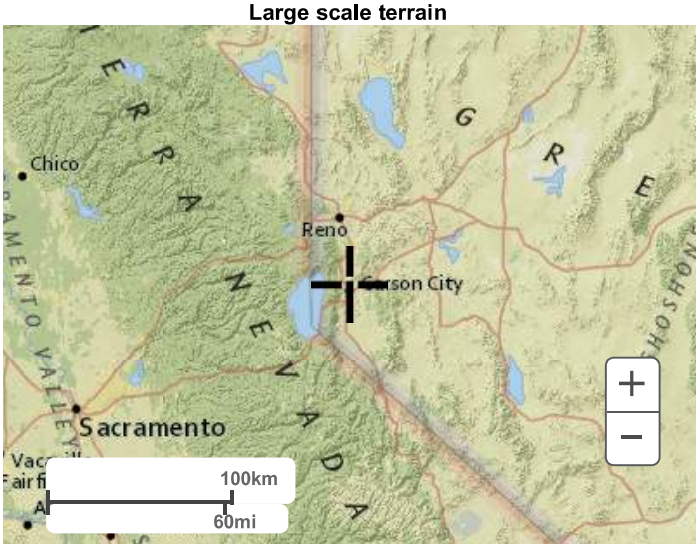
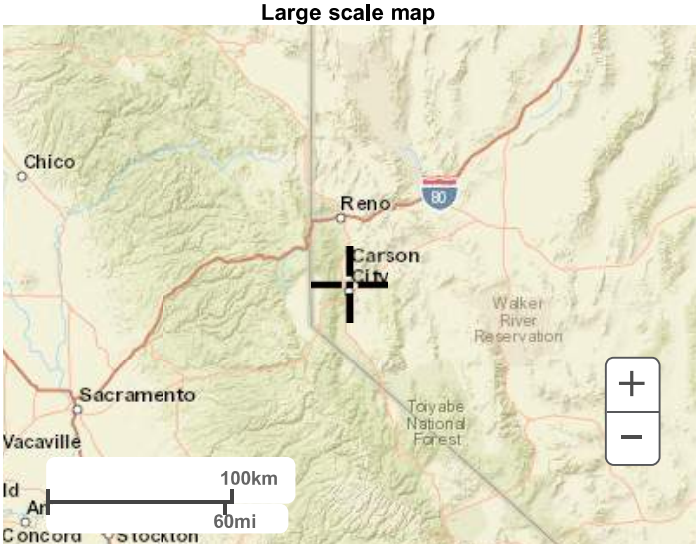


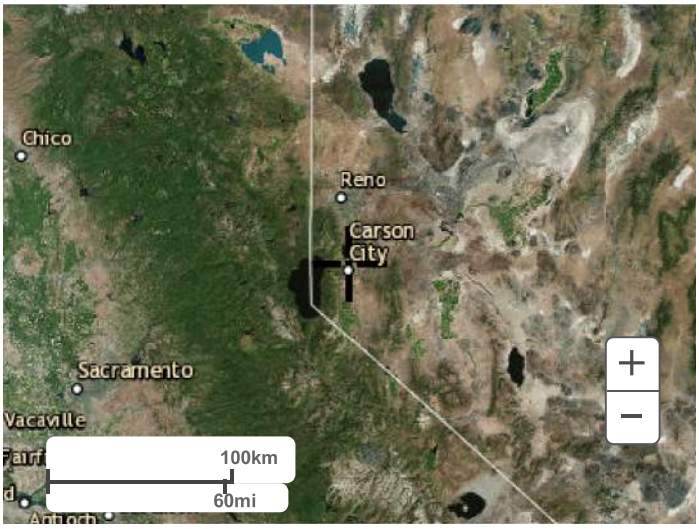
Large scale terrain



Large scale map



Large scale aerial



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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Carson City Area, Nevada

July 17, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,210 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Carson City Area, Nevada
Survey Area Data: Version 11, Oct 6, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4	Bishop loam, saline	2.5	64.0%
25	Haybourne sandy loam, 0 to 2 percent slopes	0.2	6.3%
35	Indiano variant gravelly fine sandy loam, 4 to 15 percent slopes	1.2	29.7%
Totals for Area of Interest		**3.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Carson City Area, Nevada

4—Bishop loam, saline

Map Unit Setting

National map unit symbol: 2nnnd
Elevation: 4,500 to 4,700 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 49 to 50 degrees F
Frost-free period: 100 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Bishop and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bishop

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 28 inches: loam
H2 - 28 to 60 inches: stratified sandy loam to clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C/D
Ecological site: WET MEADOW 10-14 P.Z. (R026XY003NV)
Hydric soil rating: No

Minor Components

Voltaire

Percent of map unit: 5 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: WET SODIC BOTTOM (R026XY002NV)
Hydric soil rating: Yes

25—Haybourne sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2nnp2
Elevation: 4,600 to 4,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 48 to 51 degrees F
Frost-free period: 100 to 110 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Haybourne and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Haybourne

Setting

Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 25 inches: sandy loam
H3 - 25 to 60 inches: stratified gravelly coarse sand to fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: A
Ecological site: SANDY 8-10 P.Z. (R026XY020NV)
Hydric soil rating: No

35—Indiano variant gravelly fine sandy loam, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2nnpd
Elevation: 4,600 to 5,000 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 49 to 51 degrees F
Frost-free period: 100 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Indiano variant and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Indiano Variant

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium and/or residuum

Typical profile

H1 - 0 to 11 inches: gravelly fine sandy loam
H2 - 11 to 29 inches: gravelly clay loam
R - 29 to 39 inches: bedrock

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: 24 to 39 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: STONY SLOPE 8-10 P.Z. (R026XY022NV)
Hydric soil rating: No

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LUMOS & ASSOCIATES

July 18, 2018

Hope Sullivan, Planning Manager
Carson City Community Development
Planning Division
108 E. Proctor Street
Carson City, NV 89701

RE: Water and Sewer Impact Letter for the Proposed Carson Hot Springs RV Park

Dear Hope:

Lumos & Associates, Inc. has prepared this water and sewer impact letter to support the Major Project Review (MPR) Application for the proposed Carson Hot Springs RV Park at 1588 Old Hot Springs Road (APN 008-123-23). The RV Park will consist of approximately 63 RV spaces, a club house, manager's residence, restroom/laundry facilities, and a check in/store. This letter is to support a zone change/master plan amendment to change from the current zoning of general industrial to tourist commercial.

WATER DEMANDS

Projected water demands for the RV Park include both domestic and irrigation demands. Full hookups are planned for the RV Park which includes an individual water connection at each RV space. Projected water demands are summarized in the table below. The average day demand (ADD) is estimated at 5,950 gallons per day (gpd).

Demand Type	Average Day Demand (gpd)
RV Spaces (63 Total)	5,700[1]
Accessory Uses	250[2]
Landscape Irrigation (trees, shrubs, turf)	0[3]
Total	5,950

[1] Demand factor of 90 gpd per RV space.

[2] Accessory use includes managers residence

[3] Total annual irrigation demand is assumed to be supplied from hot springs.

The RV Park will be served by hot springs water rights secured from the owner via the Carson Hot Springs, which includes 15,000 gallons per day. The spring water will be used solely for landscaping, RV wash station, hot tub, and other non-potable uses. The City's public water system will supply the remaining water use of approximately 5,950- gallons per day at full capacity. The proposed on-site water system includes waterlines ranging from 4-inch to 8-inch diameter (not including service connections) which will connect into an existing 16-inch water main on Old Hot

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Springs Road. The project site is located in Carson City's distribution system, within the 4960 zone. The City has indicated that pressures in the 4960 zone near the project site entrance on Old Hot Springs Road range from 80 to 100 pounds per square inch (psi), meeting the requirements of the Nevada Administrative Code (NAC) and Carson City Municipal Code (CCMC).

In accordance with City requirements, the development will be served by a single water meter located near the property line. A reduced pressure backflow assembly will be located behind the water meter within the property boundaries.

Based on input from the City, it appears that water demands associated with the proposed RV Park will not have any significant impacts on the City's water system.

FIRE FLOW

The largest proposed building at the RV Park will be the existing club house at approximately 5,000 square feet (preliminary sizing). Based on this floor area, the minimum fire flow per the International Fire Code (IFC) is 1,500 gallons per minute (gpm) for a duration of 2 hours. As required by the Fire Marshal, an electronically monitored fire sprinkler system will be installed in the club house. The IFC allows a 50% reduction in fire flow with an approved automatic sprinkler system, however, the minimum required fire flow after the reduction is still 1,500 gpm.

The City does not have any recent fire flow tests in the project site area so a test will need to be conducted and results submitted to the City during the design phase of the project.

Correspondence with City Public Works staff has indicated that sufficient capacity should be available in the City's water system for fire flow demands associated with the proposed RV Park.

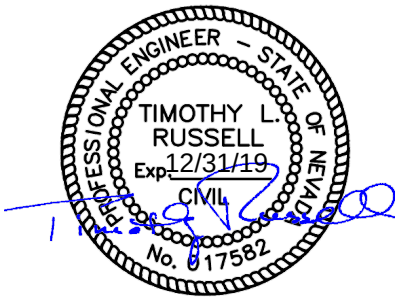
SEWER FLOWS

Full hookups for the RV Park will include a sewer connection at each RV space. Sewer flows will also be generated from accessory uses at the park (club house, manager's residence, laundry facilities, and central showers/restrooms. Peak sewer flows for the RV Park are estimated at 5,950 gpd.

The RV Park will be served by the City's public sewer system for collection and treatment. The proposed on-site sewer system includes 6-inch to 8-inch diameter gravity sewer pipelines (not including laterals) which will connect into an existing 8-inch gravity sewer main in Old Hot Springs Road. The existing 8-inch sewer main in Old Hot Springs Road flows east to Research Way, then south to College Parkway where the sewer joins an 18-inch diameter gravity main. City Public Works staff have indicated that the 8-inch PVC sewer main in Old Hot Springs Road and Research Way is only at 8% capacity (or less) and the 18-inch concrete main in College Parkway is only at 10% capacity.
Based on input from the City, there is more than sufficient capacity within the City's sewer mains near the project area to handle flows from the RV Park.

In summary, the proposed Carson Hot Springs RV Park will not have any significant effects on the City's water and sewer systems. There is sufficient capacity within the City's infrastructure to meet the projected water demands, fire flows, and sewer flows. Please feel free to contact me at 775.883.7077 or trussell@lumosinc.com with any questions.

Sincerely,



Tim Russell, P.E., WRS
Group Manager

7/18/18

LUMOS & ASSOCIATES

July 18, 2018

Hope Sullivan, Planning Manager
Carson City Community Development
Planning Division
108 E. Proctor Street
Carson City, NV 89701

RE: Traffic Impact Letter for the Proposed Carson Hot Springs RV Park

Dear Hope:

Lumos & Associates, Inc. has prepared this traffic impact letter to support the Master Plan and Zoning Map Amendment application for the proposed Carson Hot Springs RV Park at 1588 Old Hot Springs Road (APN 008-123-23). The RV Park will consist of approximately 63 RV spaces, a club house, manager's residence, restroom/laundry facilities, and a check in/store. This letter is to support a zone change/master plan amendment to change from the current zoning of General Industrial to Tourist Commercial and the current land use designation of Industrial to Community/Regional Commercial.

Trip generation rates for the project were obtained using the Trip Generation Manual, 9th Edition, published by the Institute of Transportation Engineers (ITE). Using the Recreational Vehicle Park Land Use (416) designation, the project is estimated to generate 16 AM peak hour trips and 26 PM peak hour trips. Access into the site is from Old Hot Springs Road. The traffic impacts to the existing road network will be minimal and is not anticipated to negatively impact surrounding development

Please feel free to contact me at 775.827.6111 or *afuss@lumosinc.com* with any questions.

Sincerely,

Angela Fuss

Angela Fuss, AICP
Group Manager

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