Planning Commission Staff Report

Meeting Date: October 4, 2016

Subject:	Tentative Subdivision Map Case Number: TM16-002
Applicant(s):	Sugarloaf Peak, LLC
Agenda Item Number:	**9A**
Project Summary:	Tentative subdivision map to allow up to 119 lots for single-family residences
Recommendation:	**Approval with Conditions**
Prepared by:	Roger Pelham, MPA, Senior Planner Planning and Development Division Washoe County Community Services Department
Phone:	775.328.3622
E-Mail:	rpelham@washoecounty.us

Description

Tentative Subdivision Map Case Number TM16-002 (Sugarloaf Ranch Estates) – Hearing, discussion, and possible action to approve a Common Open Space tentative subdivision map to allow the creation of up to 119 lots for single-family residences. The lots are proposed to range in size from 8,050 square feet to 17,261 square feet with an average size of 10,317 square feet.

- Applicant / Property Owner: Sugarloaf Peak, LLC, Attn.: Jim House, 2777 Northtowne Lane, Reno, NV 89512
- Location: On the north side of Calle De La Plata, approximately 1/5 of a mile east of its intersection with Pyramid Highway
- Assessor's Parcel Number: 534-562-07
- Parcel Size: ± 39.84 acres
- Master Plan Category: Suburban Residential (SR)
- Regulatory Zone: Medium Density Suburban (MDS: up to 3 single-family detached dwelling units per acre)
- Area Plan: Spanish Springs
- Citizen Advisory Board: Spanish Springs
- Development Code: Article 408, Common Open Space Development, Article 608, Tentative Subdivision Maps
- Commission District: 4 – Commissioner Hartung
- Section/Township/Range: Section 23, Township 21N, Range 20E, MDM, Washoe County, NV

Staff Report Contents

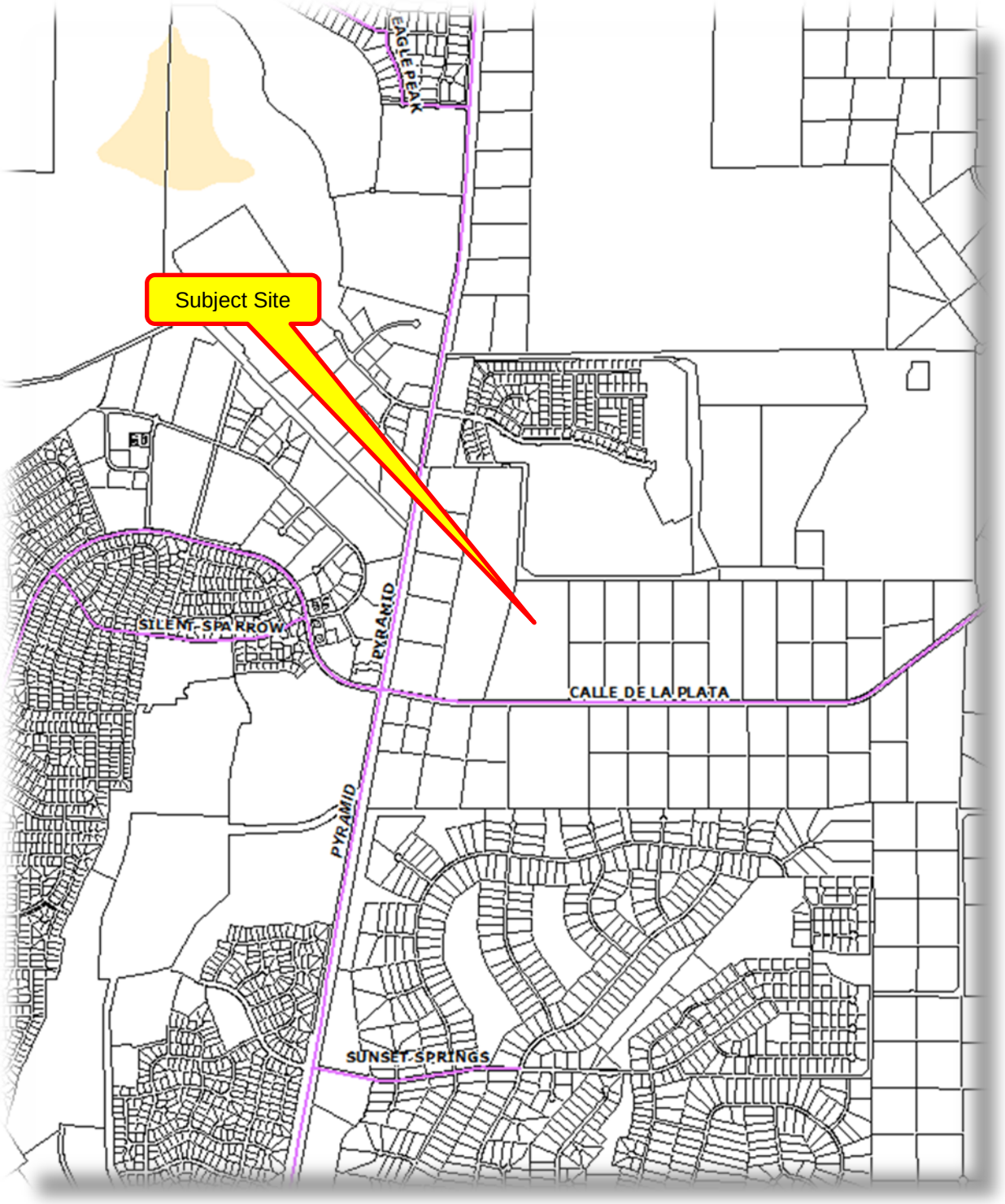
Exhibits Contents

Tentative Subdivision Map

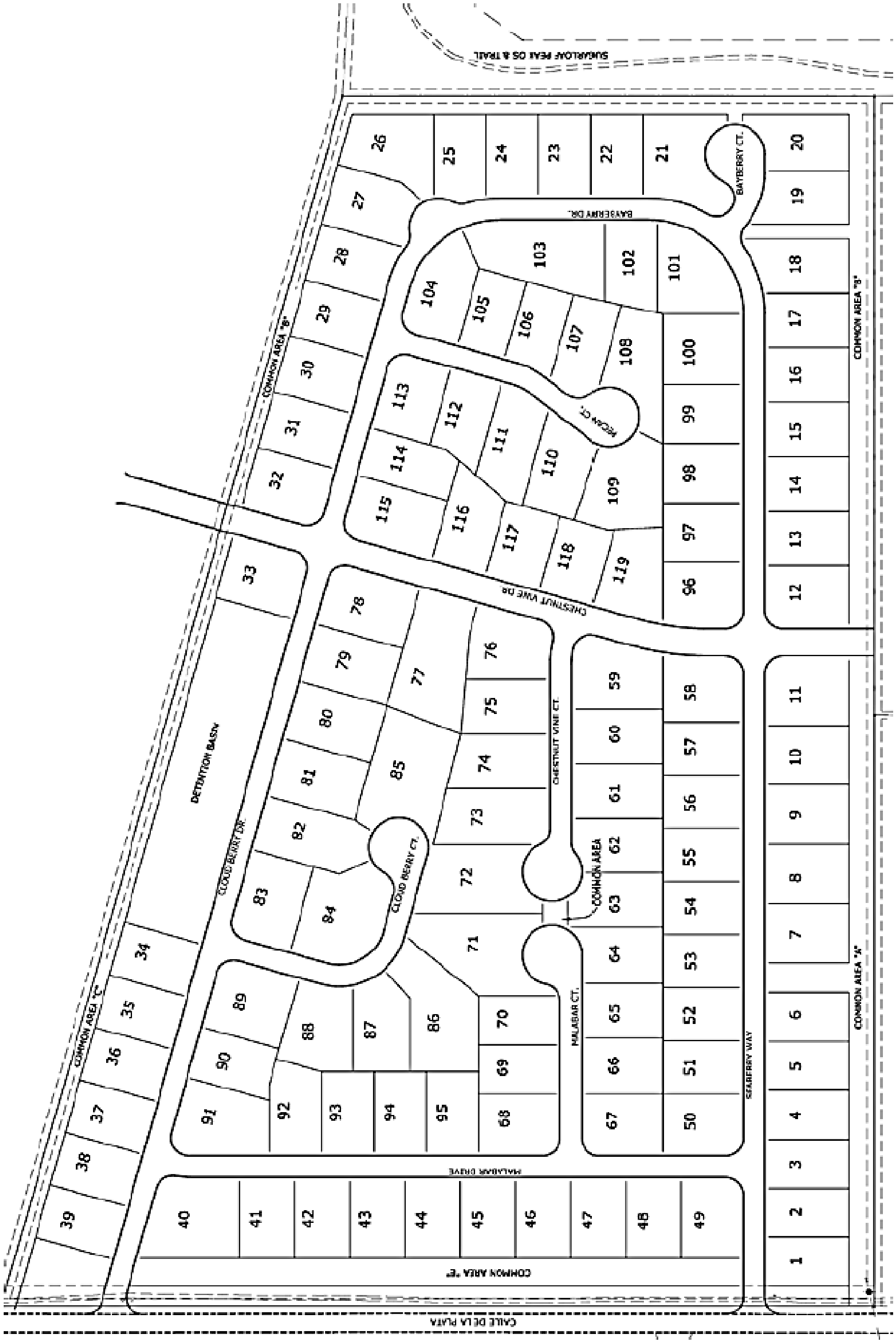
The purpose of a Tentative Subdivision Map is to allow the creation of saleable lots, to implement the Washoe County Master Plan, including the Area Plans, and any specific plans adopted by the County. To establish reasonable standards of design and reasonable procedures for subdivision and re-subdivision in order to further the orderly layout and use of land and insure proper legal descriptions and monumenting of subdivided land. As well as to safeguard the public health, safety and general welfare by establishing minimum standards of design and development for any subdivision platted in the unincorporated area of Washoe County. If the Planning Commission grants an approval of the Tentative Subdivision Map, that approval is subject to Conditions of Approval. Conditions of Approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

- Prior to recordation of a final map.
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure.
- Prior to the issuance of a business license or other permits/licenses.
- Some Conditions of Approval are referred to as "Operational Conditions." These conditions must be continually complied with for the life of the project.

The Conditions of Approval for Tentative Subdivision Map Case Number TM16-002 are attached to this staff report and will be included with the Action Order, if approved.



Vicinity Map


SUGARLOAF PEAK OS & TRAIL
BAYBERRY CT.
BAYBERRY DR.
COMMON AREA "B"
PECAN CT.
CHESTNUT VINE DR.
CHESTNUT VINE CT.
DETENTION BASIN
CLOUD BERRY DR.
CLOUD BERRY CT.
COMMON AREA
MALABAR CT.
SEABERRY WAY
COMMON AREA "C"
COMMON AREA "A"
MALABAR DRIVE
COMMON AREA "E"
CALLE DE LA PLATA

Site Plan

Project Evaluation

The subject site is generally flat without significant topographic features and is generally undisturbed with significant native vegetation. A Master Plan Amendment and Regulatory Zone Amendment (case numbers MPA15-004 and RZA15-006) were recently approved which result in regulatory zone of Medium Density Suburban (MDS) on the subject parcel. MDS allows three

dwelling units per acre and the proposed map seeks to maximize the allowable density by creating 119 lots for single-family residential development. The proposed development pattern is generally compatible and consistent with the single-family residential subdivision that is under construction at this time to the north. A subdivision of substantially similar character to the proposed subdivision is under consideration at this time on the parcel to the east. There are two parcels of approximately ten acres each to the west of the project site. One of the parcels is developed with one single-family dwelling and the other is undeveloped. The proposed plans show an area of common open space, 36 feet in width, along the east property line that will act as a buffer area between the smaller proposed lots and the existing larger lots. A roadway stub is also shown to allow access to the developed parcel to the east. To the south is Calle De La Plata, bordered by two parcels, one a ten-acre parcel developed with one single-family residence and zoned Medium Density Rural (MDR) and a 40-acre parcel zoned Industrial (I). Both of the parcels to the south are within the Village Green Commerce Center Specific Plan Area. The specific plan allows for intense industrial development, however, landscape buffer areas are required on the perimeters of the plan so compatibility with the proposed residential uses will be achieved.

The proposed subdivision is a common open-space subdivision (Article 408 of the Development Code) which allows parcels to be smaller than otherwise allowed in the regulatory zone, but that also provides for open space and community amenities. The smallest lots proposed are 8,050 square feet in size, while the largest are 17,261 square feet. There are 5.66 acres of open space and 7.42 acres of public roadways also proposed within the development. Trails within the common areas are proposed to be constructed to provide connection with developments to the north and west.

Grading of approximately 100,000 cubic yards is proposed. Final slopes are minimal and will not exceed a ratio of 3 horizontal to 1 vertical (3:1). Both water and sewer service will be provided by established utilities and sufficient capacity in both systems to serve the proposed development and is available to the subject site. Improvements to extend those utilities to the subject site will be constructed by the developer.

A traffic study was provided with the application. Evaluation of that study by the Nevada Department of Transportation (NDOT) found several discrepancies. A new traffic study was submitted for evaluation. That study has been reviewed by both County engineering staff as well as the NDOT. Of primary concern to reviewers and surrounding property owners is traffic impact at the intersection of Calle De La Plata and Pyramid Highway. Additional traffic will be generated by the development, if approved, and by other developments that are under consideration at this time.

The following is an excerpt from the NDOT review of this project:

> "Existing traffic plus combined anticipated traffic volumes (Sugarloaf Ranch Estates, Blackstone Estates, and Harris Ranch Subdivision) appear to have a significant impact to the intersection at Pyramid Highway and Calle De La Plata. If all three development projects are approved and constructed, it is likely the traffic generated will warrant the need for a traffic signal. There would be a benefit to the public if these projects installed the necessary signal infrastructure to mitigate the traffic impacts. The traffic signal mast arms, signal heads and signage would not be installed until such time as a traffic signal study is conducted and the signal activation approved by NDOT."

The following condition of approval has been provided by the Washoe County Engineering and Capital Projects Division:

> Before approval of the first final map, the planning, design, and construction of a fully signalized intersection at Pyramid Highway and Calle De La Plata meeting the requirements of the Washoe County Engineer, NDOT and RTC shall occur, or a financial assurance shall be posted for the construction of said improvements by the developer. In order for the signalization improvements located within NDOT right-of-way to be eligible for Regional Road Impact Fee waiver under the terms and provisions of the Regional Transportation Commission's General Administrative Manual, 5th Addition including Amendment No. 1, the minor leg (Calle de la Plata) shall be constructed by the developer to regional roadway standards, meeting Washoe County, RTC and NDOT requirements. The County Engineer shall determine compliance with this condition.

It is the opinion of staff that identified impacts created by the proposed development will be sufficiently mitigated by compliance with the conditions of approval as proposed. It is the opinion of staff, as conditioned, the necessary findings of fact can be made for approval of the requested subdivision.

Spanish Springs Citizen Advisory Board (SSCAB)

The proposed project was considered at the regularly scheduled Spanish Springs Citizen Advisory Board meeting on March 9, 2016. The attached CAB minutes reflect discussion on the following items:

- Traffic
- Schools
- Sewer Capacity
- Character of the Spanish Springs Area
- Processes and timing of development applications

The following is an excerpt from the minutes of that meeting, "Ken Theiss moved to deny request due to lack of infrastructure, school, police, fire; Dawn Costa seconded the vote. The motion passes unanimously."

Reviewing Agencies

The following agencies received a copy of the project application for review and evaluation.

- State of Nevada
    - Environmental Protection
    - Forestry – Endangered Species
    - Parks
    - Transportation
    - Water Resources
    - Wildlife
    - Historic Preservation

- Washoe County Community Services Department
    - Planning and Development
    - Engineering and Capital Projects
    - Utilities
    - Parks and Open Spaces
    - Traffic
- Washoe County Health District
    - Vector-Borne Diseases Division
    - Environmental Health Division
    - Emergency Medical Services
    - Air Quality Management
- Washoe County Regional Animal Services
- Washoe County School District
- Truckee Meadows Fire Protection District
- Regional Transportation Commission
- Reno-Tahoe Airport Authority
- Washoe – Storey Conservation District
- Reno/Sparks Indian Colony
- Washoe Tribe of Nevada
- AT&T
- NV Energy
- Truckee Meadows Water Authority

Three out of the twenty-seven above listed agencies/departments provided comments and/or recommended conditions of approval in response to their evaluation of the project application. A **summary** of each agency's comments and/or recommended conditions of approval and their contact information is provided. The Conditions of Approval document is attached to this staff report and will be included with the Action Order.

- Washoe County Planning and Development common area standards, setbacks, grading of slopes and timing of final map submittals.
  Contact: Roger Pelham, 328-3622, rpelham@washoecounty.us

- Washoe County Engineering addressed sewer requirements, turn-arounds for snow plowing operations grading, drainage, traffic and access standards.
  Contact: Kimble Corbridge, 328-2054, kcorbridge@washoecounty.us and Walt West, 328-2310, wwest@washoecounty.us

- Washoe County Animal Services noted that the subdivision area shall be deemed as "Animal Congested".

Contact: Robert Smith, 775.353.8945, rsmith@washoecounty.us

Staff Comment on Required Findings

Washoe County Code Section 110.608.25 requires that all of the following findings be made to the satisfaction of the Washoe County Planning Commission before granting approval of the abandonment request. Staff has completed an analysis of the application and has determined that the proposal is in compliance with the required findings as follows.

1) Plan Consistency. That the proposed map is consistent with the Master Plan and any specific plan.

Staff Comment: The proposed subdivision is consistent with the Suburban Master Plan within the Spanish Springs Area Plan, Suburban Character Management Area.

2) Design or Improvement. That the design or improvement of the proposed subdivision is consistent with the Master Plan and any specific plan.

Staff Comment: The design of the proposed subdivision is consistent with the Master Plan

3) Type of Development. That the site is physically suited for the type of development proposed.

Staff Comment: The subject site is adjacent to paved access, is zoned for three dwellings to the acre and is suitable for a subdivision with 119 dwellings.

4) Availability of Services. That the subdivision will meet the requirements of Article 702, Adequate Public Facilities Management System.

Staff Comment: Community water and sewer will be provided to all dwellings constructed within the development.

5) Fish or Wildlife. That neither the design of the subdivision nor any proposed improvements is likely to cause substantial environmental damage, or substantial and avoidable injury to any endangered plant, wildlife or their habitat.

Staff Comment: Neither the design of the subdivision nor any proposed improvements are likely to cause substantial environmental damage, or substantial and avoidable injury to any endangered plant, wildlife or their habitat.

6) Public Health. That the design of the subdivision or type of improvement is not likely to cause significant public health problems.

Staff Comment: The design of the subdivision has been reviewed by the Health District and will comply with all generally applicable standards.

7) Easements. That the design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through, or use of property within, the proposed subdivision.

Staff Comment: The design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through, or use of property within, the proposed subdivision.

8) Access. That the design of the subdivision provides any necessary access to surrounding, adjacent lands and provides appropriate secondary access for emergency vehicles.

Staff Comment: The design of the subdivision provides any necessary access to surrounding, adjacent lands and provides appropriate secondary access for emergency vehicles.

9) Dedications. That any land or improvements to be dedicated to the County is consistent with the Master Plan.

Staff Comment: Any improvements to be dedicated to the County are proposed to be consistent with the Master Plan.

10) Energy. That the design of the subdivision provides, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision.

Staff Comment: The design of the subdivision provides, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision

Recommendation

Those agencies which reviewed the application recommended conditions in support of approval of the project. Therefore, after a thorough analysis and review, Tentative Subdivision Map Case Number TM16-002 is being recommended for approval with the conditions of approval included as Exhibit A. Staff offers the following motion for the Commissions' consideration.

Motion

I move that after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Planning Commission approve Tentative Subdivision Map Case Number TM16-002 for Sugarloaf Peak LLC., with the conditions of approval included as Exhibit A to this staff report for this matter having made all of the following ten findings in accordance with Washoe County Development Code Section 110.608.25:

1) Plan Consistency. That the proposed map is consistent with the Master Plan and any specific plan;

2) Design or Improvement. That the design or improvement of the proposed subdivision is consistent with the Master Plan and any specific plan;

3) Type of Development. That the site is physically suited for the type of development proposed;

4) Availability of Services. That the subdivision will meet the requirements of Article 702, Adequate Public Facilities Management System;

5) Fish or Wildlife. That neither the design of the subdivision nor any proposed improvements is likely to cause substantial environmental damage, or substantial and avoidable injury to any endangered plant, wildlife or their habitat;

6) Public Health. That the design of the subdivision or type of improvement is not likely to cause significant public health problems;

7) Easements. That the design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through, or use of property within, the proposed subdivision;

8) Access. That the design of the subdivision provides any necessary access to surrounding, adjacent lands and provides appropriate secondary access for emergency vehicles;

9) Dedications. That any land or improvements to be dedicated to the County is consistent with the Master Plan; and

10) Energy. That the design of the subdivision provides, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision.

Appeal Process

Planning Commission action will be effective 10 calendar days after the written decision is filed with the Secretary to the Planning Commission and mailed to the applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Development Division within 10 calendar days after the written decision is filed with the Secretary to the Planning Commission and mailed to the applicant.

xc: Applicant: Sugarloaf Peak, LLC, Attn.: Jim House, 2777 Northtowne Lane, Reno, NV 89512

Representatives: Axion Engineering, Attn.: Gary Guzelis, 681 Edison Way, Reno, NV 89503

EXHIBIT A

Conditions of Approval

Tentative Subdivision Map Case Number TM16-002

The project approved under Tentative Subdivision Map Case Number TM16-002 shall be carried out in accordance with the Conditions of Approval granted by the Planning Commission on October 4, 2016. Conditions of Approval are requirements placed on a permit or development by each reviewing agency. These Conditions of Approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act or to abide by all other generally applicable Codes, and neither these conditions nor the approval by the County of this project/use override or negate any other applicable restrictions on uses or development on the property.

Unless otherwise specified, all conditions related to the approval of this Tentative Subdivision Map shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Development Division.

Compliance with the conditions of approval related to this Tentative Subdivision Map is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the Tentative Subdivision Map may result in the initiation of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this Tentative Subdivision Map should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, “may” is permissive and “shall” or “must” is mandatory.

Conditions of Approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to recordation of a final map.
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some “Conditions of Approval” are referred to as “Operational Conditions.” These conditions must be continually complied with for the life of the project.

The Washoe County Commission oversees many of the reviewing agencies/departments with the exception of the following agencies.

- **The DISTRICT BOARD OF HEALTH, through the Washoe County Health District, has jurisdiction over all public health matters in the Health District.**

Any conditions set by the Health District must be appealed to the District Board of Health.

STANDARD CONSIDERATIONS FOR SUBDIVISIONS
Nevada Revised Statutes 278.349

Pursuant to NRS 278.349, when contemplating action on a Tentative Subdivision Map, the governing body or the Planning Commission, shall consider:

(a) Environmental and health laws and regulations concerning water and air pollution, the disposal of solid waste, facilities to supply water, community or public sewage disposal and, where applicable, individual systems for sewage disposal;

(b) The availability of water which meets applicable health standards and is sufficient for the reasonably foreseeable needs of the subdivision;

(c) The availability and accessibility of utilities;

(d) The availability and accessibility of public services such as schools, police and fire protection, transportation, recreation and parks;

(e) Conformity with the zoning ordinances and master plan, except that if any existing zoning ordinance is inconsistent with the master plan, the zoning ordinance takes precedence;

(f) General conformity with the governing body's master plan of streets and highways;

(g) The effect of the proposed subdivision on existing public streets and the need for new streets and highways to serve the subdivision;

(h) Physical characteristics of the land such as floodplain, slope and soil;

(i) The recommendations and comments of those entities reviewing the tentative map pursuant to NRS 278.330 and 278.335; and

(j) The availability and accessibility of fire protection, including, but not limited to, the availability and accessibility of water and services for the prevention and containment of fires, including fires in wild lands.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Planning and Development

1. The following conditions are requirements of the Planning and Development Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Roger Pelham, 775.328.3622

a. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit.

b. The subdivision shall be in substantial conformance with the provisions of Washoe County Code Chapter 110, Article 604, Design Requirements, and Article 608, Tentative Subdivision Maps.

c. Final maps and final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations and policies in effect at the time of submittal of the tentative map or, if requested by the developer and approved by the applicable agency, those in effect at the time of approval of the final map.

d. The sub-divider shall present to Washoe County a final map, prepared in accordance with the tentative map, for the entire area for which a tentative map has been approved, or one of a series of final maps, each covering a portion of the approved tentative map, within four years after the date of approval of the tentative map or within two years of the date of approval for subsequent final maps. On subsequent final maps, that date may be extended by two years if the extension request is received prior to the expiration date.

e. Final maps shall be in substantial compliance with all plans and documents submitted with and made part of this tentative map request, as may be amended by action of the final approving authority.

f. All final maps shall contain the applicable portions of the following jurat:

FIRST FINAL MAP

THE TENTATIVE MAP FOR TM16-002, SUGARLOAF RANCH ESTATES WAS APPROVED BY THE WASHOE COUNTY PLANNING COMMISSION ON OCTOBER 4, 2016*.* **[If the TM had been appealed to the BCC** --- **Add:]** *THE WASHOE COUNTY COMMISSION APPROVED THE TENTATIVE MAP ON APPEAL ON <date>.*

THIS FINAL MAP, <*subdivision name and unit/phase #*>, MEETS ALL APPLICABLE STATUTES, ORDINANCES, AND CODE PROVISIONS; IS IN SUBSTANTIAL CONFORMANCE WITH THE TENTATIVE MAP; AND ALL CONDITIONS HAVE BEEN MET.

[Omit this paragraph if this is the first and last final map.] THE NEXT FINAL MAP FOR TM16-002, SUGARLOAF RANCH ESTATES MUST BE APPROVED AND ACCEPTED FOR RECORDATION BY THE PLANNING AND DEVELOPMENT DIRECTOR ON OR BEFORE THE EXPIRATION DATE, THE ___ DAY OF , 20 , OR AN EXTENSION OF TIME FOR THE TENTATIVE MAP MUST BE APPROVED BY THE WASHOE COUNTY PLANNING COMMISSION ON OR BEFORE SAID DATE.

THIS FINAL MAP IS APPROVED AND ACCEPTED FOR RECORDATION THIS _____ DAY OF , 20 _ BY THE PLANNING AND DEVELOPMENT DIRECTOR. THE OFFER OF DEDICATION FOR <STREETS, SEWER FACILITES, ETC.> IS REJECTED AT THIS TIME, BUT WILL REMAIN OPEN IN ACCORDANCE WITH NRS CHAPTER 278.

WILLIAM H. WHITNEY
PLANNING AND DEVELOPMENT DIRECTOR

DATE

ALL SUBSEQUENT FINAL MAPS

THE TENTATIVE MAP FOR TM16-002, SUGARLOAF RANCH ESTATES, WAS APPROVED BY THE WASHOE COUNTY PLANNING COMMISSION ON OCTOBER 4, 2016. [If **the TM had been appealed to the BCC** --- **Add:]** *THE WASHOE COUNTY COMMISSION APPROVED THE TENTATIVE MAP ON APPEAL ON <date>.*

THE FIRST FINAL MAP FOR THIS TENTATIVE MAP WAS APPROVED AND ACCEPTED FOR RECORDATION ON *<date of Community Development Director's signature on first final map>.* **[Omit the following if second map.]** THE MOST RECENTLY RECORDED FINAL MAP, *<subdivision name and prior unit/phase #>*, FOR THIS TENTATIVE MAP WAS APPROVED AND ACCEPTED FOR RECORDATION ON *<date of Community Development Director's signature on most recent final map>* **[If an extension has been granted after that date** --**Add:]** *A ONE YEAR EXTENSION OF TIME FOR THE TENTATIVE MAP WAS APPROVED BY THE WASHOE COUNTY PLANNING COMMISSION ON <date of last Planning Commission action to extend the tentative map>.*
THIS FINAL MAP, *<subdivision name and unit/phase #>*, MEETS ALL APPLICABLE STATUTES, ORDINANCES, AND CODE . PROVISIONS; IS IN SUBSTANTIAL CONFORMANCE WITH THE TENTATIVE MAP; AND ALL CONDITIONS HAVE BEEN MET. **[Omit this paragraph if this is the last final map.]** THE NEXT FINAL MAP FOR *<TM case number>* MUST BE APPROVED AND ACCEPTED FOR RECORDATION BY THE COMMUNITY DEVELOPMENT DIRECTOR ON OR BEFORE THE EXPIRATION DATE, THE ___ DAY OF , *20_<add one year to the current expiration date unless that date is more than one year away>,* OR AN EXTENSION OF TIME FOR THE TENTATIVE MAP MUST BE APPROVED BY THE WASHOE COUNTY PLANNING COMMISSION ON OR BEFORE SAID DATE.
THIS FINAL MAP IS APPROVED AND ACCEPTED FOR RECORDATION THIS _____ DAY OF , 20 _ BY THE WASHOE COUNTY COMMUNITY DEVELOPMENT DIRECTOR THE OFFER OF DEDICATION FOR *<streets, sewers, etc.>* IS REJECTED AT THIS TIME, BUT WILL REMAIN OPEN IN ACCORDANCE WITH NRS CHAPTER 278.

_____ _____
WILLIAM H. WHITNEY DATE
PLANNING AND DEVELOPMENT DIRECTOR

g. Prior to acceptance of public improvements and release of any financial assurances, the developer shall furnish to the Utility Services and Engineering Divisions complete sets of reproducible as-built construction drawings prepared by a civil engineer registered in the State of Nevada.

h. The applicant shall record the Action Order with the County Recorder. A copy of the recorded Action Order stating conditional approval of this tentative map shall be attached to all applications for administrative permits issued by Washoe County.

i. The developer shall be required to participate in any applicable General Improvement District or Special Assessment District formed by Washoe County.

j. A note shall be placed on all grading plans and construction drawings stating:

NOTE

Should any prehistoric or historic remains/artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the

Department of Museums, Library and Arts shall be notified to record and photograph the site. The period of temporary delay shall be limited to a maximum of two (2) working days from the date of notification.

k. The final map shall designate faults that have been active during the Holocene epoch of geological time, and the final map shall contain the following note:

NOTE

No habitable structures shall be located on a fault that has been active during the Holocene epoch of geological time.

l. The developer shall provide written approval from the U.S. Postal Service concerning the installation and type of mail delivery facilities. The system, other than individual mailboxes, must be shown on the project construction plans and installed as part of the on-site improvements.

m. The developer and all successors shall direct any potential purchaser of the site to meet with the Planning and Development Division to review conditions of approval prior to the final sale of the site. Any subsequent purchasers of the site shall notify the Planning and Development Division of the name, address, telephone number and contact person of the new purchaser within thirty (30) days of the final sale.

n. The developer shall annex all new residential lots into the Truckee Meadows Water Authority Retail Water Service Territory.

o. All final grading shall result in slopes that are not steeper than 3 Horizontal to 1 Vertical (3H:1V)

p. Front and rear building setbacks shall be a minimum of 20 feet. Side building setbacks shall be a minimum of 7 feet on one side and a minimum of 10 feet on the opposite site. No parcel shall be developed with a setback of 7 feet adjacent to more than one property line.

q. A certification letter or series of letters by a registered landscape architect or other persons permitted to prepare landscaping and irrigation plans pursuant to N.R.S. 623A shall be submitted to and approved by the Planning and Development Division / Design Review Committee. The letter(s) shall certify that all applicable landscaping provisions of Washoe County Code Chapter 110, Articles 410, 412 and 414 have been met. Any landscaping plans and the letter shall be wet-stamped. The letter shall indicate any provisions of the code that the Director of the Planning and Development Division has waived.

r. All landscaping shall be maintained in accordance with the provisions found in Section 110.412.75, Maintenance. A three-year maintenance plan shall be submitted by a licensed landscape architect registered in the State of Nevada to the Planning and Development Division prior to a Certificate of Occupancy. The plan shall be wet-stamped.

s. Failure to comply with all conditions of approval shall render this approval null and void.

t. Conditions, covenants, and restrictions (CC&Rs), including any supplemental CC&Rs, shall be submitted to the Planning and Development staff for review and subsequent forwarding to the District Attorney for review and approval. The final CC&Rs shall be signed and notarized by the owner(s) and submitted to the Planning and Development Division with the recordation fee prior to the recordation of the final map. The CC&Rs shall require all phases and units of the subdivision approved under this tentative map to be subject to the same CC&Rs. Washoe County shall be made a party to the applicable provisions of the CC&Rs to the satisfaction of the District Attorney's Office. Said CC&Rs shall specifically address the potential for liens against the properties and the individual property owners' responsibilities for the funding of maintenance, replacement, and perpetuation of the following items, at a minimum:

1. Maintenance of public access easements, common areas, and common open spaces. Provisions shall be made to monitor and maintain, for a period of three (3) years regardless of ownership, a maintenance plan for the common open space area. The maintenance plan for the common open space area shall, as a minimum, address the following:

    a. Vegetation management;

    b. Watershed management;

    c. Debris and litter removal;

    d. Fire access and suppression; and

    e. Maintenance of public access and/or maintenance of limitations to public access.

2. All drainage facilities and roadways not maintained by Washoe County shall be privately maintained and perpetually funded by the homeowners association.

3. All open space identified as common area on the final map shall be privately maintained and perpetually funded by the homeowners association. The deed to the open space and common area shall reflect perpetual dedication for that purpose. The maintenance of the common areas and related improvements shall be addressed in the CC&Rs to the satisfaction of the District Attorney's Office.

4. The project adjacent to undeveloped land shall maintain a fire fuel break of a minimum 30 feet in width until such time as the adjacent land is developed.

5. Locating habitable structures on potentially active (Holocene) fault lines, whether noted on the recorded map or disclosed during site preparation, is prohibited.

6. All outdoor lighting on buildings and streets within the subdivision shall be down-shielded.

7. No motorized vehicles shall be allowed on the platted common area.

8. Washoe County will not assume responsibility for maintenance of the private street system of the development nor will Washoe County accept the streets for dedication to Washoe County unless the streets meet those Washoe County standards in effect at the time of offer for dedication.

9. Mandatory solid waste collection.

10. Fence material (if any), height, and location limitations, and re-fencing standards. Replacement fence must be compatible in materials, finish and location of existing fence.

u. The common open space owned by the homeowners association shall be noted on the final map as "common open space" and the related deed of conveyance shall specifically provide for the preservation of the common open space in perpetuity. The deed to the open space and common area shall reflect perpetual dedication for that purpose. The deed shall be presented with the CC&Rs for review by the Planning and Development staff and the District Attorney.

Washoe County Engineering and Capital Projects

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

Contact Names – Kimble Corbridge, 775.328.2054 and Walt West, 775.328.2310 and Clara Lawson, 775.328.3603

a. All dead end roadways which will require snow plowing shall have a constructed turnaround (either permanent or temporary).

b. Final maps and final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations, and policies in effect at the time of submittal of the tentative map or, if requested by the developer and approved by the applicable agency, those in effect at the time of approval of the final map.

c. Prior to acceptance of public improvements and release of any financial assurances, the developer shall furnish to the water and sewer provider(s) and Engineering and Capital Projects Division a complete set of reproducible as-built construction drawings prepared by a civil engineer registered in the State of Nevada.

d. The developer shall be required to participate in any applicable General Improvement District or Special Assessment District formed by Washoe County. The applicable County Department shall be responsible for determining compliance with this condition.

e. The developer shall provide written approval from the U.S. Postal Service concerning the installation and type of mail delivery facilities. The system, other than individual mailboxes, must be shown on the project construction plans and installed as part of the onsite improvements. The County Engineer shall determine compliance with this condition.

f. A complete set of construction improvement drawings, including an onsite grading plan, shall be submitted to the County Engineer for approval prior to finalization of any portion of the tentative map. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading and drainage on each lot, erosion control (including BMP locations and installation details), slope stabilization and mosquito abatement. Placement or disposal of any excavated material shall be indicated on the grading plan. The County Engineer shall determine compliance with this condition.

g. All open space shall be identified as common area on the final map. A note on the final map shall indicate that all common areas shall be privately maintained and perpetually funded by the Homeowners Association. The County Engineer shall determine compliance with this condition. The maintenance of the common areas shall also be addressed in the CC&Rs to the satisfaction of the District Attorney's Office.

h. Any existing easements or utilities that conflict with the development shall be relocated, quitclaimed, and/or abandoned, as appropriate. The County Engineer shall determine compliance with this condition.

i. Any easement documents recorded for the project shall include an exhibit map that shows the location and limits of the easement in relationship to the project. The County Engineer shall determine compliance with this condition.

j. All existing overhead utility lines shall be placed underground, except electric transmission lines greater than 100 kilovolts, which can remain above ground. The County Engineer shall determine compliance with this condition.

k. The conditional approval of this tentative map shall not be construed as final approval of the drainage facilities shown on the tentative map. Final approval of the drainage facilities will occur during the final map review and will be based upon the final hydrology report.

l. Prior to finalization of the first final map, a master hydrology/hydraulic report and a master storm drainage plan shall be submitted to the County Engineer for approval. The master hydrology report shall include among other things:

    1. Determination of the portion of the 100 year peak flow rate and volume contributing to the project boundary from Griffith Canyon discharge (ie, that portion of 100 year flood plain which lies north of Calle de la Plata) and the routing of this flow, if any, through the development.

    2. Estimation of peak flows from other offsite contributing areas including verification that reported diversion of flows into the Donovan Pit is a permanent drainage condition. If the drainage diversion is not supported by appropriate drainage easements or a recorded agreement which

allows the perpetual diversion, then the design shall account for and route the total basin flow through the project.

3. Detention basin modeling shall use HEC-1/HMS and shall account for discharges from or into existing or proposed offsite detention basins. The analysis shall determine no or minimal adverse impacts to existing or proposed offsite detention basin.

4. An analysis of the impacts of routing drainage from north side of Calle de la Plata into the North Spanish Springs Flood Detention Facility (NSSFDF) and if impacts are minimal, stormwater facilities shall be designed and constructed to route flows to NSSFDF.

The County Engineer shall determine compliance with this condition.

m. Prior to finalization of any portion of the tentative map, a final, detailed hydrology/hydraulic report for that unit shall be submitted to the County Engineer. All storm drainage improvements necessary to serve the project shall be designed and constructed to County standards and specifications and/or financial assurances in an appropriate form and amount shall be provided. The County Engineer shall determine compliance with this condition.

n. Any increase in stormwater runoff resulting from the development and based on the 5 year and 100 storm(s) shall be detained. The County Engineer shall determine compliance with this condition.

o. The 100-year floodplain boundaries and flood elevations shall appear on each final map. If the floodplain boundary has been conditionally changed by a Federal Emergency Management Agency (FEMA) Conditional Letter of Map Amendment or Conditional Letter of Map Revision, the date of that letter and a note to that effect shall appear on the final map. The County Engineer shall determine compliance with this condition.

p. Standard reinforced concrete headwalls or other approved alternatives shall be placed on the inlet and outlet of all drainage structures, and grouted rock riprap shall be used to prevent erosion at the inlets and outlets of all culverts to the satisfaction of the Engineering and Capital Projects Division.

q. The developer shall provide pretreatment for petrochemicals and silt for all storm drainage leaving the site to the satisfaction of the Engineering and Capital Projects Division.

r. The Truckee Meadows Regional Stormwater Quality Management Program Construction Permit Submittal Checklist and Inspection Fee shall be submitted with each final map. The County Engineer shall determine compliance with this condition.

s. Drainage swales that drain more than two lots are not allowed to flow over the curb into the street; these flows shall be intercepted by an acceptable storm drain inlet and routed into the storm drain system. The County Engineer shall determine compliance with this condition.

t. A note on the final map shall indicate that all drainage facilities not maintained by Washoe County shall be privately maintained and perpetually funded by a homeowners association. As an alternative to a homeowners association, the developer may request the establishment of a County Utility Service Area under which fees would be paid for maintenance of the proposed storm drainage detention facility. The fee amount will be based on the additional service above that normally provided by the County to maintain new stormwater facilities dedicated by the developer (i.e., curb and gutter, drop inlets and piping). The County Engineer shall determine compliance with this condition. The maintenance and funding of these drainage facilities shall also be addressed in the CC&Rs to the satisfaction of the District Attorney's Office.

u. The maximum permissible flow velocity (that which does not cause scour) shall be determined for all proposed channels and open ditches. The determination shall be based on a geotechnical analysis of the channel soil, proposed channel lining and channel cross section, and it shall be in accordance with acceptable engineering publications/calculations. Appropriate linings shall be provided for all proposed channels and open ditches such that the 100-year flows do not exceed the maximum permissible flow velocity. The County Engineer shall determine compliance with this condition.

v. All slopes steeper than 3:1 shall be mechanically stabilized to control erosion. As an alternative to riprap, an engineered solution (geofabric, etc.) may be acceptable. The County Engineer shall determine compliance with this condition.

w. Maintenance access and drainage easements shall be provided for all existing and proposed drainage facilities. The County Engineer shall determine compliance with this condition.

x. Drainage easements shall be provided for all storm runoff that crosses more than one lot. The County Engineer shall determine compliance with this condition.

y. Prior to the approval of the 1st final map which includes lots located within the FEMA floodplain, the applicant shall submit to FEMA a Conditional Letter of Map Revision (CLOMR) to be followed with a Letter of Map Revision (LOMR) at completion of construction. The County Engineer shall determine compliance with this condition.

z. All roadway improvements necessary to serve the project shall be designed and constructed to County standards and specifications and/or financial assurances in an appropriate form and amount shall be provided. The County Engineer shall determine compliance with this condition.

aa. An Occupancy Permit shall be obtained from the Nevada Department of Transportation (NDOT), for access to, from or under roads and highways maintained by NDOT, and a copy of said permit shall be submitted to the County Engineer prior to finalization of the affected final map.

bb. Street names shall be reviewed and approved by the Regional Street Naming Coordinator.

cc. Proposed landscaping and/or fencing along street rights-of-way and within median islands shall be designed to meet American Association of State Highway and Transportation Officials (AASHTO) sight distances and safety guidelines. No tree shall overhang the curb line of any public street. The County Engineer shall determine compliance with this condition.

dd. A note on each affected final map shall state that no direct access from individual lots shall be allowed onto Calle de la Plata. The County Engineer shall determine compliance with this condition. This note shall also be included in the CC&Rs to the satisfaction of the District Attorney's Office.

ee. For any utilities placed in existing County streets, the streets shall be repaired to the satisfaction of the County Engineer. At a minimum, this will require full depth removal and replacement of asphalt for half the street width, or replacement of non-woven pavement reinforcing fabric with a 2" asphalt overlay for half the street width. Type II slurry seal is required for the entire street width with either option. Full width street improvements may be required if the proposed utility location is too close to the centerline of the existing street or if multiple utilities on both sides of the street are required.

ff. Streetlights shall be constructed to Washoe County standards at locations to be determined at the final design stage. The County Engineer shall determine compliance with this condition.

gg. AASHTO clear zones shall be determined for all streets adjacent to retaining walls or slopes steeper than 3:1. If a recoverable or traversable clear zone cannot be provided, an analysis to determine if barriers are warranted shall be submitted for approval. The County Engineer shall determine compliance with this condition.

hh. At a point where residential lotting is beyond 1,500 feet from the primary access, a secondary access shall be provided extending to an existing public roadway. The secondary access may be an emergency access roadway. The County Engineer shall determine compliance with this condition.

ii. Traffic calming measures within the project boundary shall be constructed every 500 to 600 feet to the satisfaction of the County Engineer. Acceptable traffic calming measures include speed tables, bulb outs, neck downs, chicanes and mini roundabouts. The County Engineer shall determine compliance with this condition

jj. Before approval of the first final map, the planning, design, and construction of a fully signalized intersection at Pyramid Highway and Calle De La Plata meeting the requirements of the Washoe County Engineer, NDOT and RTC shall occur, or a financial assurance shall be posted for the construction of said improvements by the developer. In order for the signalization improvements located within NDOT right-of-way to be eligible for Regional Road Impact Fee waiver under the terms and provisions of the Regional Transportation Commission's General Administrative Manual, 5th Addition including Amendment No. 1, the minor leg (Calle de la Plata) shall be constructed by the developer to regional roadway standards, meeting Washoe County, RTC and NDOT requirements. The County Engineer shall determine compliance with this

condition.

kk. The applicant shall have a traffic analysis performed for the 20 year build-out condition which includes recommendations for the necessary lane modifications and traffic signalization requirements. The County Engineer shall determine compliance with this condition.

ll. With the approval of the 1st final map, the portion of Calle De La Plata adjoining the project boundary shall be widened to meet Washoe County requirements for roadways within suburban areas including curb, gutter, and sidewalk along the north side of the road. The total pavement width shall accommodate a left turn pocket for traffic entering Pyramid Highway. The County Engineer shall determine compliance with this condition

Washoe County Animal Services

3. The following conditions are requirements of Washoe County Animal Services, which shall be responsible for determining compliance with these conditions.

Contact Name – Robert Smith, 775.353.8945

a. The subdivision area shall be deemed as "Animal Congested" in accordance with Washoe County Code 55.

Washoe County Utilities

4. The following conditions are requirements of the Utilities, which shall be responsible for determining compliance with these conditions.

Contact Name – Tim Simpson, 775.954.4601

a. All fees shall be paid in accordance with Washoe County Ordinance prior to the approval of each final map.

b. Improvement plans shall be submitted and approved by CSD prior to approval of the final map. They shall be in compliance with Washoe County Design Standards and be designed by a Professional Engineer licensed to practice in the State of Nevada.

c. The Applicant shall submit an electronic copy of the street and lot layout for each final map at initial submittal time. The files must be in a format acceptable to Washoe County.

d. The Developer shall construct and/or provide the financial assurance for the construction of any on-site and off-site sanitary sewer collection systems prior to signature on each final map. The financial assurance must be in a form and amount acceptable to the CSD.

e. Approved improvement plans shall be used for the construction of on-site and off-site sanitary sewer collection systems. The CSD will be responsible to inspect the construction of the sanitary sewer collection systems.

f. The sanitary sewer collection systems must be offered for dedication to Washoe County along with the recordation of each final map.

g. Easements and real property for all sanitary sewer collection systems and appurtenances shall be in accordance with Washoe County Design Standards and offered for dedication to Washoe County along with the recordation of each final map.

h. A master sanitary sewer report for the entire tentative map shall be prepared and submitted by the applicant's engineer at the time of the initial submittal for the first final map which addresses:

i. the estimated sewage flows generated by this project,

ii. projected sewage flows from potential or existing development within tributary areas,

iii. the impact on capacity of existing infrastructure,

iv. slope of pipe, invert elevation and rim elevation for all manholes

v. proposed collection line sizes, on-site and off-site alignment, and half-full velocities

i. No Certificate of Occupancy will be issued until all the potable water and sewer collection facilities necessary to serve each final map have been completed, accepted and completed as-builts drawings delivered to the utility. As-built drawings must be in a format acceptable to Washoe County.

j. No permanent structures (including rockery or retaining walls, building's, etc.) shall be allowed within or upon any County maintained utility easement.

k. A minimum 30-foot sanitary sewer and access easement shall be dedicated to Washoe County over any facilities not located in a dedicated right of way.

l. A minimum 12-foot wide all weather sanitary sewer access road shall be constructed to facilitate access to off-site sanitary sewer manholes.

Washoe County Health District

5. The following conditions are requirements of the Health District, which shall be responsible for determining compliance with these conditions. The District Board of Health has jurisdiction over all public health matters in the Health District. Any conditions set by the Health District must be appealed to the District Board of Health.

Contact Name – Christina Conti, 775.326.6042 & James English 775.328.2434

a. Estate numbers shall be clearly marked on the curb and residences and all common areas.

b. A Water Project per NAC 445A.66695 needs to be approved by this Division. Prior to any water system construction, a complete water system plan and Water Project submittal for the referenced proposal must be submitted to this Division.

The plan must show that the water system will conform to the State of Nevada Public Water Supply Regulations, NAC Chapter NAC 445A.65505 to 445A.6731, inclusive.

c. The application for a Water Project shall conform to the requirements of NAC 445A.66695.

d. Two copies of complete construction plans are required for review. All plans must include an overall site plan, additional phases that will eventually be built to indicate that the water system will be looped, all proposed final grading, utilities, and improvements for the proposed application.

e. Mass grading may proceed after approval of a favorable review by this Division of a separate mass grading permit application.

f. The application shall include a Truckee Meadows Water Authority annexation and onsite water discovery if applicable.

g. Prior to approval of any building or site permit for this project, any septic systems on the subject properties shall be abandoned in compliance with the Washoe County Health District Regulations Governing Sewage, Wastewater and Sanitation.

h. Prior to approval of any building or site permit for this project, any existing wells must be abandoned and a Well Abandonment Permit must be applied for concurrently with the building permit.

i. The Health District will require percolation testing at or near the design grade of the proposed detention basin representative materials (geotech) to determine the soils' ability to receive & infiltrate storm water. The maximum drain time of 7 days is required after a storm event per Truckee Meadows Regional Drainage Manual (Section 1302.1). The maximum drain time of 7 days is required as well for nuisance water runoff.

j. Any proposed detention basin will require the Health District's standard design of a cobble rock lined low flow channel, one foot deep and 2-3 feet wide connecting the inlet(s) to the outlet pipe. In addition, we will require over excavating below the low flow channel with a cobble lined infiltration trench design 2 feet wide and 3 feet deep the length of the basin to reduce the downstream effects of storm water runoff (Health Regulations Governing the Prevention of Vector-Borne Diseases 040.023).

k. The proposed cut-off channels will require 4-6 inch cobble rock in the low-flow section or flow line of the channel to reduce the downstream transport of sediment (Health Regulations Governing the Prevention of Vector-Borne Diseases 040.021).

l. District Health will require a low flow channel and or meandering swale within the trapezoidal channel with all inlets connected to the low flow and or meandering swale to convey nuisance water runoff. In addition, we will require 4-6 inch cobble rock in the low flow and or flow line of the meandering swale of the trapezoidal channel.

m. Vegetation planted in the detention basin and or drainage channel system(s) shall be one foot away from the low flow channel. The following maintenance language shall be noted on the civil plans and in the Maintenance Association document; "All vegetation, debris and blockages shall require removal in the low flow channel including one foot on either side of the channel on an annual basis. Maintenance of the detention will mitigate insect development by preventing standing water from ponding longer than 7 days." (Health Regulations Governing the Prevention of Vector-Borne Diseases 040.022).

n. Prior to the sign off of the building plans the above detail designs are required on the plans and a scheduled compliance inspection with the Vector-Borne Diseases Program is required for the above condition(s).

*** End of Conditions ***

Spanish Springs Citizen Advisory Board

Minutes of the regular meeting of the Spanish Springs Citizen Advisory Board held March 9, 2016 at the Spanish Springs Library at (7100A Pyramid Lake Highway).

1. *CALL TO ORDER/ DETERMINATION OF QUORUM – The meeting was called to order at 6:02 PM.
MEMBERS PRESENT – Dawn Costa-Guyon, Ken Theiss, James Scivally, John Gwaltney, Catherine (Cathy) Gustavson, and Alison Ormaas.

MEMBERS ABSENT (Excused): Kevin Monaghan.

2. *PLEDGE OF ALLEGIANCE – Dawn Costa-Guyon led the pledge.

3. *PUBLIC COMMENT –

Andrea Tavener, Office of County Manager, Constituent Services, gave an updates:

- Andrea handed out the phone list for Community Services Department; direct line to County staff
- CAB recruitment is open until April 1st – please submit a CAB application in person, online, email, fax, or at the County office.

Matthew Chutter said the Development projects need realistic framework for traffic.

4. APPROVAL OF AGENDA FOR THE REGULAR MEETING OF MARCH 9, 2016:
Ken Theiss moved to approve the agenda for the meeting of **MARCH 9, 2016;** James Scivally seconded the motion to approve the agenda. The motion carried unanimously.

5. APPROVAL OF THE MINUTES FOR THE MEETING OF JANUARY 13, 2016:
Cathy Gustavson moved to approve the meeting minutes of **JANUARY 13, 2016**; John Gwaltney seconded the motion to approve the meeting minutes. The motion carried unanimously.

6. *UPDATES/ANNOUNCEMENTS AND CORRESPONDENCE – This item is limited to updates and announcements from CAB members, or review of correspondence received by the CAB.

Dawn said she attend the CERT (community emergency response team) training. She said Shirley Rhodes did a presentation to this CAB at a previous meeting. She said it's a great training which teaches you disaster preparedness. She said check out the Washoe County Volunteer website for more information.

7. *PUBLIC OFFICIAL REPORTS
A.*Washoe County Commissioner – Washoe County Commissioner Vaughn Hartung can be reached at (775) 328-2007 or via email at vhartung@washoecounty.us

8. *PUBLIC SAFETY AND COMMUNITY REPORTS/UPDATES

A. *Washoe County Sheriff's Office (WCSO) – A representative of the Washoe County Sheriff's Office may be available (unless on a call for service) to address public safety questions and concerns from CAB members and the audience, and provide an update regarding safety and recent calls for service in the Spanish Springs area. For more information call (775) 328-3001 or via the webpage at www.washoesheriff.com (This item is for information only and no action will be taken by the CAB.)

Lt. Scott Bloom gave an update:

- He said there is a trend throughout all communities
- Speeding: Please request to have the speed wagon come out and monitor the area of concern. Resources are spread thin because it's a common complaint. Be patient for those requests. We use our motors for special events.
- The Raven has been used extensively flying over Spanish Springs; he said they are looking for abandon cars and other issues.
- Unlocked vehicle burglaries are common issue – targets of opportunities
- Window smashing has been happening; please inform your friends and neighbors. Take the items out of your car. If you have a weapon, please bring it in the house. Lt. Bloom said Chief of Detectives of Sparks said windows have been shot out in homes by kids. They are looking for a white Jeep Cherokee. Please call secret witness if you have any information.
- Please call us if something is suspicious.
- Lt. Bloom said a large percentage of this happens at night and targets of opportunities by kids.
- A public member asked about wireless home security system. Lt. Bloom said if the alarm is registered with Washoe County Sheriffs, they will respond to the alarm. He said, the wireless might be with a private security company. The public member said she currently has the home security, and pays towards the County. Lt. Bloom said there isn't an alarm they don't respond too. Our interest is in public safety.
- James Scivally said he was a victim of a break-in. James said he has a home security and he pays something to the City of Sparks. He said he signed up for to have the Sherriff's monitor his house while he is away. He also said he signed up for a ride along. A public member said it was a great experience. Lt. Bloom talked about the shooting; he said they had a ride along during that call.

B. *Regional Transportation Commission Update – Regional Transportation Commission (RTC) Project Manager, Mr. Scott Gibson, P.E. will provide the background and related information regarding the Pyramid-McCarran Intersection Improvement Project proposed to meet the short- and long-term transportation needs of the project area in response to regional growth. The purpose of the project is to decrease traffic congestion to meet community LOS standards and improve safety. The purpose of the project is based on the existing and projected transportation needs and deficiencies in the Pyramid and McCarran corridors. For more information please visit www.rtcwashoe.com. Mr. Gibson can be reached by calling (775) 335-1874 or via email at sgibson@rtcwashoe.com (This item is for information only and no action will be taken by the CAB.)

- Scott Gibson, RTC, gave an update on Pyramid and McCarran intersection project (NDOT highways):
- Background: He reviewed transit, street/highways, long range transportation plan
- Pyramid/McCarran intersection improvement emerged from previous RTPs plans
- Started NEPA process in 2005
- He showed the project area
- He said they look at needs for traffic usage up to 2035-2040.
- He showed slides to show growth and change of Sparks in 1976; Greg Street, Sparks Blvd, Prater Way, Vista Blvd didn't exist. McCarran dead-ended. A lot has changed.

RTC Plan 2030:

- Plan to meet regional needs. Each project is part of big picture.
- Current and Future Needs: Traffic congestion, crash locations
- Current design approach: Transportation plans with growth plan
- 395 connection from Disc Drive observation – needs an interchange
- A response to extensive public outreach efforts
- Uses updated consensus forecast for future traffic

- Assumes US 395 connection is in place by 2035

Emerging preferred alternatives:
- Triple left turns
- Fixing the southbound right turn lane – full, free right turn lane
- Currently incomplete bicycle/pedestrian facilities

The project site:
- Completely cleared
- 40-60 feet for landscape improvements
- Pyramid Lake is the inspiration for aesthetics
- Preferred alternative: he showed landscaping and screening
- Northeast corner of McCarran – there will be landscapes and mounds. He said you will be able to walk from the nearby neighborhood. Making it walkable.
- Sculptural element developments on the corners
- Queen Way intersection – discourages cut through traffic in northeast quadrant; helps with church traffic from neighborhood street. Queen Way becomes right in and right out. Eliminates stop signs.
- Improved access and safety at the shopping center and church

Current status and schedule:
- Awarded contract to Granite Construction for $30million
- Partial acquisitions continuing
- 33 properties cleared
- Demo
- 5 phases – extensive public outreach, eastside moving west, south and moving north
- Traffic plan/goal – business access and two lanes of access both ways during construction
- Complete Fall 2017
- Pyramid highway and 395 connection – completing environmental process
- Relieve existing congestion on Pyramid and Queen Way
- US 395 connector improves
- Addressing concerns – Calle De La Plata down to Sparks Blvd
- FEIS preferred alternative
- 6 lane arterial
- Phases: Pyramid widening; US 395 connector and interchange at Parr/Dandini; widening Disc; Spaghetti bowl and US 395
- NDOT traffic study and planning underway
- US 395 widening north of the Spaghetti bowl to Parr Blvd is included in the RTP improvements are include in the RTP plan for 8-10 years

Questions:
John Gwaltney thanked Scott for the presentation. John said he wants to know what happens after the Lutheran church. Scott showed the Queen Way intersection. He said they are changing Queen right in and right out. He said sight distance will improve. Scott said the road goes back to 4 lanes after the TWMA facility. John asked about raising the speed limit. Scott said that is an NDOT question. He said because it's so wide open out there, he said his perception, there is little visual constraint, and they force the speed limit down. He said he thinks it's set artificially low.

Scott's contact information:
PyramidandMccarran.com website – it will be updated with construction updates; public outreach

Scott explained the morning issue traffic and evening issues. He said he wants to improve traffic flow. Joe, Public Information Officer said once the email is up and running, you can sign up online with your email to receive the updates.

9. DEVELOPMENT PROJECTS – The project description is provided below with links to the application or you may visit the Planning and Development Division website and select the Application Submittals page: http://www.washoecounty.us/comdev/da/da_index.htm.

A. Tentative Subdivision Map Case Number TM16-002 (Sugarloaf Ranch Estates) – Request for community feedback, discussion and possible approval of a tentative subdivision map to allow the creation of up to 119 lots for single-family residences. The lots are proposed to range in size from 8,050 square feet to 17,261 square feet with an average size of 10,317 square feet. The Citizen Advisory Board may take action to summarize public feedback and recommend approval or denial of the request. (This item is for possible action by the CAB.)

Please note: The tentative subdivision map case number TM16-002 will not go forward to the Planning Commission until and unless the Master Plan Amendment Case Number MPA15-004 and Regulatory Zone Amendment Case Number RZA15-006, which are under consideration at this time, are ultimately approved.
Applicant/Property Owner: Sugarloaf Peak, LLC, Attn.: Jim House, 2777 Northtowne Lane, Reno, NV 89512
Location: On the north side of Calle De La Plata, approximately 2/10 of a mile east of its intersection with Pyramid Highway.
APN: 534-562-07
Staff: Roger Pelham, MPA, Senior Planner Washoe County Community Services Department Planning and Development Division • Phone: 775-328-3622• E-mail: rpelham@washoecounty.us
Reviewing Body: Planning Commission, date to be determined, please see note above.

Roger Pelham, Washoe County Planning:
He said he isn't a proponent or opponent. He said the master plan amendment zone change hasn't been finalized yet. It was appealed by County Commission, sent it back to the Planning Commission, and they still denied it. It will go back to County Commissioners. They can take final action next month. Master plan amendment will go regional planning for conformist. The Tentative map can't go to the Planning Commission until master plan and zoning is approved. It isn't finalized.

Dawn asked about building codes. Roger said it's not about building code, which refers to studs, and that doesn't come into play until they are building structures. He said he believes she is asking about traffic, drainage, etc. Roger said no, we have not looked at that to see if that complies. He said they are going through that now. He said it is likely the plans will meet the considerations. He said we are considering the 'should' it be approved. That is the step we are at now. Roger said we are asking ourselves if this project meets the intent of the Spanish area plan. Configuration of lots carved out in a lot with roads and development lots. Roger said the maximum building high of 35 feet. He said with good engineering, it can be more than two stories. Basic code limitation. Dawn said we are looking at the land and foot print.

John Gwaltney said he attended the planning meeting. John said the issue identified is the character of the region by changing the zoning. That was the concern. He asked if all the homes between Pyramid and La Pasada, are allotted 1 acre of land, but there was a group of cluster homes; the total acre was a total of 1 acre per house. Roger said in Donavon ranch area, the density is concentrated by Pyramid, the rest is used as the aggregate pit. John said if the zone is changed, then it will be 3 houses per acre. Roger said primarily, because we aren't looking at master planning and zoning, we are looking at the tentative map. We are considering the tentative map as if the zoning and master plan gets approved. Is the zoning character with the area plan is a valid question with interpretation with various opinions.

Tom Bruce on Valley Verdi said you cannot install a septic system on less than 1 acre lot. Roger said that isn't his wheelhouse, but yes. They will need to get wastewater connection. Tom said he heard Sparks wastewater is getting full. A new wastewater plant would cost a million. Roger recommends to those who is interested in this topic to talk to Dwayne Smith. He said there is capacity in the line and the line that is allocated to Washoe County; it was purchased years ago. It was oversized, and we are well under that capacity. 120 houses on a sewer line aren't very much. Capacity has been allocated and it's available.

Rich Lewis asked for clarifications – he said this is the one plan that had requested apartments which was denied. They haven't proposed a light. He said it's the cart before the horse.

Ken Theiss said he went to the County Planning meeting – he asked the same question, because they paid their fee, process, even though the master plan hasn't changed, this can come before us. They paid their fees, so they have the right to ask the question.

Dawn Costa said there are two different things; there is the freeway and the building. They don't believe in considering the freeway and light until building.

Cindy Thomas said she lives on Calle De La Plata. She said we are talking about 120 homes, but it's more than that. There are 180 homes going in next to it. She asked if there will be capacity. Roger said yes, there will be capacity. He encouraged you to talk to the utility staff.

Larry Thomas said he is disillusioned why we have a County Planning Commission if the County Commissioners are going to appeal it. He said we keep talking about the character statement of Spanish Springs; they are changing what is already there. Spanish Springs Ranches don't fit the character. The Planning Commission voted it down twice. He asked why the Commissioner isn't here. It's not new. Be aware. They are trying the sneak something in.

Matthew Chutter said when you have horse area, you need a transition area. From economics view, it can benefit the view. The adjacent properties will be comparatively more value. The general area benefits from the large properties. That is a win-win for community and developer if done the right way.

Toni Jacobs said she is concerned about water. She said we have been in a drought; we have a house across the street who's well is dry and they are abandoned home. If we put 300 houses down below, what will that do for us. We pull from the same aquifer. Dawn said she believes they will be hooked up to TMWA system.

Ralph Theiss said he is adjacent to his son and this project. He said the developer wanted a 300 houses, after negotiations, they came to the idea, he could put in 120 houses with screening; he said 3 years ago, he said the developer realized he wasn't going to make anything off of 120 houses. He said the developer then wanted up to 3,000 houses on 40 acres. Now, the developers got rid of the apartment idea, now he is back to 120 houses again. He has irritated everyone. He said we need to put a stop to this political football. He said we have been to every commission and planning meeting for the past several years.

Larry Thomas said we need to change the notifications to more than 750 feet within the property. Ken Theiss said that is in legislation. Larry said they are claiming its Truckee River water rights and supplement with our water.

Melody Chutter she said we are residential rural; everyone in the valley doesn't want the houses and apartments congestion. Rather than go forward, why don't we go back to general rural. We have enough

people to do this. It will be harder for them to change their master plan. If we get too many people, they will start complaining about the horses and chickens.

John Gwaltney said the County Commission pretty much gave them approval of this. He said he heard suggestions about berms and landscaping. Tesla will bring a lot of new employees to the area which will mean 25-40K new households. The County is probably feeling the pressure. He said he is intrigued by the comments. He said maybe the County can guarantee the spaces between the houses. He said he bought his house because of who we are. He asked if we can make this less painful.

.

Lois said she was on the CAB years ago. She said she never seen an item without the representative present to address those issues. She said they are thumbing their nose at us. She said we want a signal, separation, drainage into settling pond, and all water north of Calle De La Plata to go under into drainage so there isn't flooding. North of Calle De La Plata are still in the flood zone. They will have to raise the homes. She said she heard the settling pond is a temporary play area. The kids will have to across the road and access it. There needs to be a barrier. The traffic study is bogus. She said their study says 35% is going north. She said nothing is north. There is no reason to go north. She said the sewer capacity was bought for this area. Other parcels can't use it later on because they will take it all up. She said 3 per acre is a blessing to this area. If it's 3 per acre, they won't put in apartments. In a way, it protects the area because they won't be able to build later. She said those are concerns. She said she wants feathering and protection of nearby properties. No one is addressing the issues. There should be a play area or money to develop a play area in settling pond, something to help the kids.

Mike Hudson said we have beat the horse dead. He said you don't have to take action. Why should we care if Jim didn't even show.

Larry Thomas said they propose 120 houses because that is what it takes to make money. He said he doesn't want a play area because they live by it. He said we don't need to work with them. We can't run scare. He said they buy property and cram it down our throat to those who don't live out here. We have to fight it as much as we can.

Ken Theiss said this development is right up against his property. He said it's a slap to us that a representative didn't show. There is a road that goes to the end of his property. He said he has been fighting this for years. A no vote means a yes to them. It would be a bad idea to have a no vote. Regarding sewer, Roger said we have more than we need. There are 1000 homes or more who were on septic who need to be on the system. Capacity is a misnomer because we don't know. He said we have been fighting this for year; focus on structural support – no water, sewer, fire, police, and schools. He said as of this morning, the high school, 121% capacity, 10 extra temporary building. He said the schools are way over crowded and there is no discussion for another highschool. They are at 100% capacity at the middle school. Elementary schools are nearing capacity or over capacity. With an additional 300 more homes, expect 150 more students minimum. Please focus on the supporting agencies resource.

John Gwaltney said he is fishing for something to do. He said would it be accepted to pass motion to agree 1 home per acre for character? That may have impact with county commission. Matthew said 1 home per acre isn't compatible with house property. He said it isn't enough transition. Drastic lifestyle change. He said we want our horses and privacy.

John Gwaltney asked Roger about the next steps. Roger said this, tentative map, hasn't been heard by planning commission. It will go forward in the process if master plan and zone are approved. The next step, the comments from Planning Commission go to the County Commission next month. County Commission will probably approve it. The master plan will go to Regional Planning Commission in May or June. If it is

approved, found conformist for area plan, it will be approved. If it's not in conformist, it will go back for possible appeal. 3 members of Regional Board are members of Planning Commission. He said assuming it goes to the Board of County Commissioners, appeal by Regional board, we are looking at September or October for final decision. If it's not conformist by Regional board, we are looking at a May/June timeframe. John said he is confused – zoning regulation change, probable for this plan will no longer be out of compliance, and county commission can't be out of compliance and they would approve. Roger said not necessarily – if they are approved, 30-60 day after decision, tentative map will be heard by Planning Commission, they have final authority unless appealed. The Board of County Commissioners would only hear it on an appeal. If the Planning Commission says no and should not be appealed, then applicant would appeal to bcc. Timeline would be 6 months or so, roughly.

Cindy Thomas asked about appeals; does this cycle continue. Roger said Trevor spent two or 3 years on this project. Roger said it won't keep going. A final decision will be made. He said he assumes a final decision in 6-8 months.

Ken Theiss said he disagrees. There are several courts of law. Roger said everything we have talked about is the administrative process. Once it goes passed administrative process, it moves on to judicial process. It's very rare occasion that happens.

Larry Thomas said he wanted to speak to a comment he heard. Compromise is a good thing, but they will try to meet us half way. We will have to comprise more and we will cave. He said we need to stick with it. There will be development out there, but not this. They won't take what we offer.

Mr. Swayder said he doesn't think anyone is in favor of this. It's time to take a vote. Ken Theiss said John made a comment to negotiate, but that isn't our job. Dawn Costa said it's on the tentative map, not the master plan.

Matthew said there are two incompatible philosophies, unlimited growth, and other hand, environment with limited resources. They are trying to merge those philosophies. The community opinion is to deny it.

MOTION: Ken Theiss moved to deny request due to lack of infrastructure, school, police, fire; Dawn Costa seconded the vote. The motion passes unanimously.

10. *CHAIRMAN/BOARD MEMBER ITEMS/NEXT AGENDA ITEMS – This item is limited to announcements by CAB members and topics/issues posed for future workshops/agendas. (This item is for information only and no action will be taken by the CAB).

No items were discussed.

11. *PUBLIC COMMENT – Limited to no more than three (3) minutes. Anyone may speak pertaining to any matter either on or off the agenda. The public are requested to submit a Request to Speak form to the Board Chairman. Comments are to be addressed to the Board as a whole.

Roger Pelham said one of his Eagle Scouts presented his Eagle Scout project to collect trash. Roger said Ken Theiss was an important part of that project. Roger said 7 tons of trash was collected and disposed of, and 57 tires were dumped. Roger said the project is complete; the paper work is turned in. The Eagle Scout still has to do a final board review.

11. ADJOURNMENT – Dawn moved to adjourn the meeting, Ken seconded. Meeting was adjourned at 7:50pm.

Number of CAB members present: 6
Number of Public Present: 25
Presence of Elected Officials: 0
Number of staff present: 2

Submitted By: Misty Moga

TM16-002, Exhibit C

TM 16-002_ENGINEERING_conditions - Notepad

File Edit Format View Help

From: Corbridge, Kimble
Sent: Tuesday, March 08, 2016 9:45 AM
To: Pelham, Roger
Cc: Searcy, Adam; Vesely, Leo; Crump, Eric S
Subject: TM 16-002 (Sugarloaf Ranch Estates)

Roger,
I have reviewed the referenced TM and have the following condition for Roads:
1. All dead end roadways which will require snow plowing shall have a constructed turnaround (either permanent or temporary).
thx,
Kimble

From: Stark, Katherine
Sent: Monday, February 29, 2016 10:04 AM
To: Pelham, Roger
Cc: Emerson, Kathy
Subject: FW: February Agency Review Memo - Washoe County Planning & Development

Hi Roger,

Please see the response below from Lissa Butterfield with Reno-Tahoe Airport Authority. This is regarding TM16-002.

Thanks,

Katy Stark

From: Butterfield, Lissa [mailto:lbutterfield@renoairport.com]
Sent: Friday, February 26, 2016 4:29 PM
To: Stark, Katherine
Cc: Emerson, Kathy; Bartholomew, Daniel
Subject: RE: February Agency Review Memo - Washoe County Planning & Development

The Reno-Tahoe Airport Authority has no comments or condition requests on any of the projects in this Agency Review Memo (Review of Applications Submitted February 2016).

Thank you for the opportunity to provide comments.

Lissa K. Butterfield
Senior Airport Planner

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

February 22, 2016

Katy Stark
Washoe County Community Services Department
1001 E. Ninth Street, Bldg. A
Reno, NV 89512

Dear Ms. Stark:

I received your email dated February 19, 2016, requesting a review of the Agency Review Memo regarding the tentative subdivision map for Sugarloaf Ranch Estates (TM16-002/Item 1).

Based on the submitted documentation, specifically the traffic study, it is anticipated that there will be minimal impacts concerning EMS responses to this new development. However, it is not anticipated that there will be impacts concerning access to healthcare services and facilities with the proposed 2.99 dwelling units per acre, or approximately 119 units. Should you need a complete Environmental Impact Assessment, please contact the Washoe County Health District's Division of Environment Health Services at (775) 328-2434.

Advanced Life Support (ALS) fire services are provided by Truckee Meadows Fire Protection District and ALS ambulance services are provided by REMSA through a Franchise agreement with the Washoe County Health District. For the proposed location of the Sugarloaf Ranch Estates, REMSA's Franchise response requirement for life-threating calls is 20 minutes and 59 seconds for 90 percent of calls.

There is one hospital within proximity to the proposed site of the Sugarloaf RanchEstates should residents require such services. The Northern Nevada Medical Center is approximately 10.7 miles away from the proposed residential site. There are also several other acute care hospitals and healthcare resources available in Washoe County.

It is recommend that the estate numbers be clearly marked on the curb and residences/common areas so the residents can be quickly located by public safety agencies. Additionally, please ensure that all dwellings will meet ADA requirements, as appropriate.

Please feel free to contact me if you have any questions.

Sincerely,

CConti

Christina Conti
EMS Program Manager
cconti@washoecounty.us
(775) 326-6042

REGIONAL TRANSPORTATION COMMISSION
Metropolitan Planning · Public Transportation & Operations · Engineering & Construction
Metropolitan Planning Organization of Washoe County, Nevada

March 2, 2016 FR: Chrono/PL 183-16

Mr. Roger Pehlam, Senior Planner
Community Services Department
Washoe County
P.O. Box 11130
Reno, NV 89520

RE: TM16-002 (Sugarloaf Ranch Estates)

Dear Roger,

The applicant is requesting approval of a tentative subdivision map to allow the creation of up to 119 single-family residences on approximately 39.84 acres located on the north side of Calle de la Plata Drive east of Pyramid Highway.

The RTC submitted comments on October 6, 2015 (MPA15-004/RZA15-006 (Sugarloaf Ranch Estates). Please see attached letter. There are no additional comments at this time.

Thank you for the opportunity to comment on this project. If you have any questions or comments please feel free to contact me at 332-0174 or rkapuler@rtcwashoe.com.

Sincerely,

Rebecca Kapuler
Planner

Attachment

RK/jm

Copies: Bill Whitney, Washoe County Community Services Department
Tina Wu, Regional Transportation Commission
Debra Goodwin, Regional Transportation Commission
Julie Masterpool, Regional Transportation Commission
David Jickling Regional Transportation Commission
Doug Maloy, Regional Transportation Commission
Janelle Thomas, Nevada Department of Transportation District II
Jae Pullen, Nevada Department of Transportation District II
Jeremy Smith, Truckee Meadows Regional Planning Agency

\641 Sugarloaf Ranch Estates

REGIONAL TRANSPORTATION COMMISSION
Metropolitan Planning • Public Transportation & Operations • Engineering & Construction
Metropolitan Planning Organization of Washoe County, Nevada

October 6, 2015 FR: Chrono/PL 183-15

Mr. Roger Pelham, Senior Planner
Community Services Department
Washoe County
P.O. Box 11130
Reno, NV 89520

RE: MPA15-004/RZA15-006 (Sugarloaf Ranch Estates)

Dear Roger,

The applicant is requesting a master plan amendment and a regulatory zone amendment on approximately 39.64 acres located on the north side of Calle de la Plata Drive east of Pyramid Highway.

The Regional Transportation Plan (RTP) identifies Pyramid Highway from Queen Way to Calle de Plata Drive as an arterial with high access control (HAC). Calle de la Plata Drive, east of Pyramid Highway is not designated as a regional road. To maintain arterial capacity, the following RTP access management standards should be met.

Access Management Standards-Arterials[1] and Collectors

Access Management Class	Posted Speeds	Signals Per Mile and Spacing[2]	Median Type	Left From Major Street? (Spacing from signal)	Left From Minor Street or Driveway?	Right Decel Lanes at Driveways?[3]	Driveway Spacing[3]
High Access Control	45-55 mph	2 or less Minimum spacing 2350 feet	Raised w/channelized turn pockets	Yes 750 ft. minimum	Only at signalized locations	Yes[4]	250 ft./500 ft.

1 On-street parking shall not be allowed on any new arterials. Elimination of existing on-street parking shall be considered a priority for major and minor arterials operating at or below the policy level of service.
2 Minimum signal spacing is for planning purposes only; additional analysis must be made of proposed new signals in the context of planned signalized intersections, and other relevant factors impacting corridor level of service.
3 Minimum spacing from signalized intersections/spacing other driveways.
4 If there are more than 30 inbound, right-turn movements during the peak-hour.

The policy Level of Service (LOS) standard for Pyramid Highway is E. New intersections or changes to existing intersections shall be designed to provide a level of service consistent with maintaining the policy level of service of the intersecting corridor. This project should be required to meet all the conditions necessary to complete road improvements to maintain policy LOS standards.

The 2035 RTP identifies the section of Pyramid Highway from Sparks Boulevard to Calle de la Plata Drive as a future 6-lane freeway as part of the Pyramid Highway/Sun Valley/US 395 Connector. Design and right of way are anticipated in the 2023-2035 timeframe with the construction after 2035. The Federal Highway Administration, in cooperation with the Nevada Department of Transportation (NDOT) and the RTC, has issued a draft Environmental Impact Statement for the proposed US 395/Pyramid Connection. For more information, please see the website at PyramidUS395Connection.com. For further information on the US 395 Connector, please contact Doug Maloy at 335-1865.

The Traffic Impact Study (TIS) prepared by Traffic Works dated September 15, 2015 was submitted with the application. The study analyzed the two access points on Calle de la Plata Drive serving the project development and the intersection at Pyramid Highway.

A review of the Traffic Impact Study (TIS) found the following:

1. The TIS evaluated the Manual on Uniform Traffic Control Devices (MUTCD) traffic signal Warrant 2 – Four-Hour Vehicular Volumes and Warrant 3 – Peak Hour for the Pyramid Highway/Calle de la Plata Drive intersection under the existing and existing plus project conditions.
    a. When evaluating traffic volumes for traffic signal warrants, it is accepted practice to discount right turn traffic from the total minor-street approach volume. Right turn traffic can generally proceed with minimal delay without a traffic signal.
    b. The Four-Hour signal warrant indicates that at least four hours of traffic data lie in the signal-warranted region. However, discounting right turns from the side street traffic drops the two peak hours below the warrant. Although data for the other two hours (non-peak) are not included, it is likely that they would also fall below the threshold, resulting in a conclusion of the signal not being warranted.
    c. The MUTCD states that the Peak Hour Warrant "shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time." Therefore, the Peak Hour Warrant does not apply to a residential project.
2. Traffic signal warrants are not met with the existing or existing plus project traffic volumes. Additional new development currently under review in the vicinity of Calle de la Plata Drive may increase traffic volumes related to the MUTCD Four-hour Vehicular Volumes Warrant. Additional analysis should be provided to determine if warrants are met, in addition to the evaluation of alternative intersection designs, intersection ahead warning signs/detection, enhanced intersection lighting, etc.

The land use data in the RTC's travel demand model does not include any residential growth. If this project is approved, we will adjust our travel demand model increasing the land use growth in the TAZ.

Thank you for the opportunity to comment on this project. If you have any questions, please feel free to contact me at 335-1918.

Sincerely,

Debra

Debra Goodwin
Planning Administrator

DG/jm

Copies: Bill Whitney, Washoe County Community Services Department
Marchon Miller, Regional Transportation Commission
Tina Wu, Regional Transportation Commission
David Jickling, Regional Transportation Commission
Julie Masterpool, Regional Transportation Commission
Doug Maloy, Regional Transportation Commission
Janelle Thomas, Nevada Department of Transportation District II
Jeremy Smith, Truckee Meadows Regional Planning Agency

641 Sugarloaf Ranch Estates

From: Smith, Robert A.
Sent: Tuesday, February 23, 2016 2:46 PM
To: Pelham, Roger
Subject: RE: February Agency Review Memo - Washoe County Planning & Development

Animal Services recommends that due to the density of the project, that the area is deemed as "Animal Congested" in accordance with Washoe County Code 55.

Let me know if this works.

Bobby

From: Jeppson, Don C
Sent: Friday, February 19, 2016 4:22 PM
To: Stark, Katherine; Troy, Dennis V; Vesely, Leo; Corbridge, Kimble; Simpson, Tim; Easter, Marty; Gump, Mike; Lawson, Clara; Giesinger, Chad
Cc: Emerson, Kathy
Subject: RE: February Agency Review Memo - Washoe County Planning & Development

B&S review is not applicable. No comments.

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

February 22, 2016

Roger Pelham MPA, Senior Planner
Washoe County Community Services
Planning and Development Division
PO Box 11130
Reno, NV 89520-0027

RE: Sugarloaf Peak LLC; APN: 534-562-07
Tentative Subdivision; TM16-002

Dear Mr. Pelham:

The Washoe County Health District, Environmental Health Services Division (Division) Engineering and Vector have reviewed the above referenced project. This tentative map is for a subdivision of 119 single family residences on APN 534-562-07. Approval by this Division is subject to the following conditions:

The Washoe County Health District, Environmental Health Services Division (Division) has reviewed the above referenced project. The following corrections are required prior to approval of any building permit by this Division:

1. A Water Project per NAC 445A.66695 needs to be approved by this Division. Prior to any water system construction, a complete water system plan and Water Project submittal for the referenced proposal must be submitted to this Division. The plan must show that the water system will conform to the State of Nevada Public Water Supply Regulations, NAC Chapter NAC 445A.65505 to 445A.6731, inclusive.
    a. The application for a Water Project shall conform to the requirements of NAC 445A.66695.
    b. Two copies of complete construction plans are required for review. All plans must include an overall site plan, additional phases that will eventually be built to indicate that the water system will be looped, all proposed final grading, utilities, and improvements for the proposed application.
2. Mass grading may proceed after approval of a favorable review by this Division of a separate mass grading permit application.
    a. The application shall include a Truckee Meadows Water Authority annexation and onsite water discovery if applicable.
3. Prior to approval of any building or site permit for this project, any septic systems on the subject properties shall be abandoned in compliance with the Washoe County Health District Regulations Governing Sewage, Wastewater and Sanitation.
4. Prior to approval of any building or site permit for this project, any existing wells must be abandoned and a Well Abandonment Permit must be applied for concurrently with the building permit.
5. The Health District will require percolation testing at or near the design grade of the proposed detention basin representative materials (geotech) to determine the soils' ability to receive & infiltrate stormwater. The maximum drain time of 7 days is required after a storm event per

Truckee Meadows Regional Drainage Manual (Section 1302.1). The maximum drain time of 7 days is required as well for nuisance water runoff.

6. Any proposed detention basin will require the Health District's standard design of a cobble rock lined low flow channel, one foot deep and 2-3 feet wide connecting the inlet(s) to the outlet pipe. In addition, we will require over excavating below the low flow channel with a cobble lined infiltration trench design 2 feet wide and 3 feet deep the length of the basin to reduce the downstream effects of storm water runoff (Health Regulations Governing the Prevention of Vector-Borne Diseases 040.023).
7. The proposed cut-off channels will require 4-6 inch cobble rock in the low-flow section or flow line of the channel to reduce the downstream transport of sediment (Health Regulations Governing the Prevention of Vector-Borne Diseases 040.021).
8. District Health will require a low flow channel and or meandering swale within the trapezoidal channel with all inlets connected to the low flow and or meandering swale to convey nuisance water runoff. In addition, we will require 4-6 inch cobble rock in the low flow and or flow line of the meandering swale of the trapezoidal channel.
9. Vegetation planted in the detention basin and or drainage channel system(s) shall be one foot away from the low flow channel. The following maintenance language shall be noted on the civil plans and in the Maintenance Association document; "All vegetation, debris and blockages shall require removal in the low flow channel including one foot on either side of the channel on an annual basis. Maintenance of the detention will mitigate insect development by preventing standing water from ponding longer than 7 days." (Health Regulations Governing the Prevention of Vector-Borne Diseases 040.022).
10. Prior to the sign off of the building plans the above detail designs are required on the plans and a scheduled compliance inspection with the Vector-Borne Diseases Program is required for the above condition(s).

If you have any questions regarding the foregoing, please call Chris Anderson at 328-2632 or Jim Shaffer 785-4599 regarding engineering or vector comments, respectively.

Sincerely,

James English
Environmental Health Specialist Supervisor
Environmental Health Services

J.L. Shaffer
Program Coordinator/Planner
Vector-Borne Diseases Program
Environmental Health Services

JE/JS/:je

Cc: File - Washoe County Health District
Gary Guzelis – gary@axionengineering.net

Washoe County School District
425 East Ninth Street * P.O. Box 30425 * Reno, NV 89520-3425
Phone (775) 348-0200 * (775) 348-0304 * www.washoeschools.net

26 February 2016

Roger Pelham, Senior Planner
Washoe County Community Services
1001 E. 9th Street
Reno NV 89512

RE: TM16-002 (Sugarloaf Ranch Estates)

Dear Mr Pelham,

119 new single-family units will impact Washoe County School District facilities. This project is currently zoned for the following schools:

Taylor Elementary School

- **Estimated project impact = 33 new ES students (119 single-family units x 0.277 ES students per unit)**
- **Base Capacity = 606**
- **2015-2016 Enrollment = 670**
- **% of Base Capacity = 111%**
- **Portable units onsite = 2**
- **Overcrowding Strategy** – Taylor ES has 2 portable buildings (4 classrooms) in use. However, portables do not provide additional lunchroom, computer lab or playground/sports field space and are intended to be temporary measures to be used prior to new school construction. WCSD does not currently have a sufficient funding source for new school construction. On September 22, 2015, the WCSD Board of Trustees set 120% of capacity as the conversion threshold for eligible elementary schools to be converted to a multi-track year-round calendar. This policy will go into effect as of the 2017-2018 school year. **Assignment to the closest elementary school with available capacity may be used for students in this development if Taylor ES exceeds capacity prior to buildout.**

Shaw Middle School

- **Estimated project impact** = 8 new MS students (119 single-family units x 0.064 MS students per unit)
- **Base Capacity** = 1072
- **2015-2016 Enrollment** = 1016
- **% of Base Capacity** = 95%
- **Portable units onsite** = 2
- **Overcrowding Strategy** – The Shaw property currently has 2 portable buildings (4 classrooms) in use. However, portables do not provide additional lunchroom, computer lab or playground/sports field space and are intended to be temporary measures to be used prior to new school construction. WCSD does not currently have a sufficient funding source for new school construction. **Assignment to the closest middle school with available capacity may be used for students in this development if Shaw MS exceeds capacity prior to buildout.**

Spanish Springs High School

- **Estimated project impact** = 16 new HS students (119 single-family units x 0.136 HS students per unit)
- **Base Capacity** = 2160
- **2015-2016 Enrollment** = 2319
- **% of Base Capacity** = 107%
- **Portable units onsite** = 5
- **Overcrowding Strategy** – The Spanish Springs High School property currently has 5 portable buildings (10 classrooms) in use. Portables do not provide additional lunchroom, computer lab or sports field space and are intended to be temporary measures to be used prior to new school construction. WCSD does not currently have a sufficient funding source for new school construction. **Assignment to the closest high school with available capacity may be used for students in this development if Spanish Spring HS exceeds capacity prior to buildout.**

Recommended WCSD Condition for TM16-002 (Sugarloaf Ranch Estates):
A disclosure shall be made by the developer to each homebuyer on their closing documents that K-12 students in this subdivision may be assigned to the nearest WCSD school(s) with available capacity in the event that the zoned schools cannot accommodate additional students.

The Washoe County School District's Data Gallery provides detailed information regarding WCSD buildings including capacity, overcrowding, repair needs, upcoming projects, and more. The Data Gallery can be found at: http://datagallery.washoeschools.net/

Thank you for the opportunity to comment.

Mike Boster

Mike Boster
School Planner
14101 Old Virginia Road
Reno NV USA 89521
Washoe County School District Capital Projects
775.789.3810
mboster@washoeschools.net

Brian Sandoval
Governor

STATE OF NEVADA

LEO DROZDOFF
Director

JASON KING, P.E.
State Engineer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES
901 South Stewart Street, Suite 2002
Carson City, Nevada 89701-5250
(775) 684-2800 • Fax (775) 684-2811
(800) 992-0900
(In Nevada Only)
www.water.nv.gov

February 22, 2016

RE: Comments on Washoe County Review TN16-002

To: Katy Stark
Washoe County Community Services Department
1001 East Ninth Street, Building A
Reno, NV 89512

Name: ***Sugarloaf Ranch Estates***

County: Washoe County – Pyramid Highway and Calle De La Plata

Location: A portion of Sections 23 and 24 Township 21 North, Range 20, East, MDB&M.

Plat: Tentative: One-hundred-nineteen (119) lots, open areas, and right-of-ways totaling approximately 39.84 acres and being Washoe County Assessor's Parcel Number 534-562-07.

Water Service Commitment Allocation: A portion of Permit 71998 is claimed to be available for commitment to this subdivision, however no water is committed at this time. Please note, the current Owners of Record for this permit are City of Sparks, Gateway Company, LC, Housing Resources, LC, Ryder Homes of Nevada, Inc., and Washoe County. Truckee Meadows Water Authority has ownership of a portion pending. Estimated usage is 96 gpm or 154.85 acre-feet annually.

Owner-Developer: Sugarloaf Peak, LLC
2777 Northtowne Lane
Reno, NV 89512

Engineer: Axion Engineering
681 Edison Way
Reno, NV 89503

Water Supply: Truckee Meadows Water Authority

General: There are no active water rights appurtenant to the described lands in this proposed project. The lands of the proposed project lie within the Truckee Meadows Water Authority service area. Any water used on the described lands should be provided by an established utility or under permit issued by the State Engineer's Office.

All waters of the State belong to the public and may be appropriated for beneficial use pursuant to the provisions of Chapters 533 and 534 of the Nevada Revised Statutes (NRS), and not otherwise.

Any water or monitor wells, or boreholes that may be located on either acquired or transferred lands are the ultimate responsibility of the owner of the property at the time of the transfer and must be plugged and abandoned as required in Chapter 534 of the Nevada Administrative Code. If artesian water is encountered in any well or borehole it shall be controlled as required in NRS § 534.060(3).

Municipal water service is subject to Truckee Meadows Water Authority rules and regulations and approval by the Office of the State Engineer regarding water quantity and availability.

A Will Serve from Truckee Meadows Water Authority and mylar map of the proposed project must be presented to the State Engineer for approval and signed through his office prior to development.

Action: Tentative approval of ***Sugarloaf Ranch Estates*** subdivision based on acceptance of Water Will Serve by Truckee Meadows Water Authority.

Best regards,

Steve Shell
Water Resource Specialist II

Washoe County
COMMUNITY SERVICES DEPARTMENT
Engineering and Capital Projects

March 8, 2016

To: Roger Pelham, MPA, Senior Planner

From: Timothy Simpson, P.E., Environmental Engineer II

CC: Dwayne Smith, P.E., Division Director Eng & Cap Projects
Alan Jones, P.E., Senior Licensed Engineer

Subject: TM16-002, Sugarloaf Ranch Estates, Parcel 534-562-07

The Community Services Department (CSD) has reviewed the subject application and has the following comments:

1. The applicant is proposing to develop a 119-lot common open space single-family residential subdivision. The project is located at 370 Calle De La Plata in the Spanish Springs Valley.

2. Sanitary sewer will be provided by Washoe County and treatment will be at the Truckee Meadows Water Reclamation Facility.

The Community Services Department (CSD) recommends approval provided the following conditions are met:

1. All fees shall be paid in accordance with Washoe County Ordinance prior to the approval of each final map.

2. Improvement plans shall be submitted and approved by CSD prior to approval of the final map. They shall be in compliance with Washoe County Design Standards and be designed by a Professional Engineer licensed to practice in the State of Nevada.

3. The Applicant shall submit an electronic copy of the street and lot layout for each final map at initial submittal time. The files must be in a format acceptable to Washoe County.

4. The Developer shall construct and/or provide the financial assurance for the construction of any on-site and off-site sanitary sewer collection systems prior to signature on each final map. The financial assurance must be in a form and amount acceptable to the CSD.

5. Approved improvement plans shall be used for the construction of on-site and off-site sanitary sewer collection systems. The CSD will be responsible to inspect the construction of the sanitary sewer collection systems.

6. The sanitary sewer collection systems must be offered for dedication to Washoe County along with the recordation of each final map.

1001 E. 9TH Street · P.O. Box 11130, Reno, Nevada 89520-0027
Phone (775) 954-4601 · Fax (775) 328-3699

7. Easements and real property for all sanitary sewer collection systems and appurtenances shall be in accordance with Washoe County Design Standards and offered for dedication to Washoe County along with the recordation of each final map.

8. A master sanitary sewer report for the entire tentative map shall be prepared and submitted by the applicant's engineer at the time of the initial submittal for the first final map which addresses:

   a. the estimated sewage flows generated by this project,
   b. projected sewage flows from potential or existing development within tributary areas,
   c. the impact on capacity of existing infrastructure,
   d. slope of pipe, invert elevation and rim elevation for all manholes
   e. proposed collection line sizes, on-site and off-site alignment, and half-full velocities

9. No Certificate of Occupancy will be issued until all the potable water and sewer collection facilities necessary to serve each final map have been completed, accepted and completed as-builts drawings delivered to the utility. As-built drawings must be in a format acceptable to Washoe County.

10. No permanent structures (including rockery or retaining walls, building's, etc.) shall be allowed within or upon any County maintained utility easement.

11. A minimum 30-foot sanitary sewer and access easement shall be dedicated to Washoe County over any facilities not located in a dedicated right of way.

12. A minimum 12-foot wide all weather sanitary sewer access road shall be constructed to facilitate access to off-site sanitary sewer manholes.

1001 E. 9TH Street · P.O. Box 11130, Reno, Nevada 89520-0027
Phone (775) 954-4601 · Fax (775) 328-3699

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

District II
310 Galletti Way
Sparks, Nevada 89431
(775) 834-8300 FAX (775) 834-8319

BRIAN SANDOVAL
Governor

RUDY MALFABON, P.E., *Director*

September 4, 2016

Washoe County
Planning and Development Division
P.O. Box 11130
Reno, NV 89520-0027

TM16-002
Sugarloaf Ranch Estates
State Route 445, Pyramid Way

RE: TM16-002 (Revised Traffic Study)

Attention: Mr. Roger Pelham, MPA, Senior Planner

Dear Mr. Pelham:

I have reviewed the revised *Traffic Impact Study Update for Sugarloaf Ranch Estates* dated August 11, 2015 (2016?). This study supports the request for a tentative subdivision map to allow the creation of up to 119 lots for single-family residences. The lots are proposed to range in size from 8,050 square feet to 17,261 square feet with an average size of 10,317 square feet. This parcel (APN 534-562-07) consists of 39.84 acres and will be accessed from Calle De La Plata which connects to Pyramid Highway (State Route 445). I have the following comments:

1. Nevada Department of Transportation (NDOT) is aware of two additional planned development projects that will likely impact this corridor and the intersection of Pyramid Highway and Calle De La Plata. While the developer is reducing the number of units from 360 multi-family to 119 single-family, the study does not consider the traffic impact from nearby developments. The following development projects should be considered:
    - Blackstone Estates development consisting of 161 single-family units generating 1,533 average daily trips with 121 AM peak hour/161 PM peak hour trips.
    - Harris Ranch Subdivision development consisting of 610 single-family units generating 5,544 daily trips with 437 AM peak hour/ 535 PM peak hour trips.

    Any additional projects already approved or pending should also be included.
2. When comparing Traffic Works' existing traffic counts for the intersection of Pyramid Highway/Calle De La Plata to the Blackstone Estates traffic study, there appears to be significant differences in the vehicle distribution volumes:
    - West approach- right turn to Pyramid Highway: Traffic Works' 441 AM peak trips compared to Solaegui Engineers' 215 AM peak trips. (205% higher)
    - North approach- southbound through: Traffic Works' 292 AM peak hour trips compared to Solaegui Engineers' 208 AM peak hour trips. (140% higher)

- North approach- right turn to W. Calle De La Plata: Traffic Works' 41 AM peak trips compared to Solaegui Engineers' 5 AM peak trips. (280% higher)

While NDOT is not disputing the field counts, clarification on the vehicle counts provided would be appreciated.

3. With a posted speed limit of 55 mph, a northbound deceleration/right-turn lane will be strongly recommended per the current *NDOT Access Management System and Standards, 1999*. This section of roadway experiences high vehicle speeds and transitions from an urban to a rural environment. NDOT has received many complaints regarding the lack of a right turn/deceleration lanes on high speed rural corridors. This is an important safety enhancement to mitigate the traffic impact.

4. NDOT recommends improving sight distance for the east approach at Pyramid Highway and Calle De La Plata by relocating the existing mailboxes and monument sign to a location outside the functional area of the intersection. Moving the mailbox driveway further away from the intersection will likely improve traffic operations.

5. NDOT continues to monitor the intersection of Pyramid Highway and Calle De La Plata. The most recent traffic signal study was completed three months ago. At this time, the intersection does not meet the federal guidelines/standards for a traffic signal.

6. A roundabout design should be considered as it mitigates the traffic impact, reduces vehicle speeds, and eliminates angle crashes. A roundabout reduces vehicle conflict points from thirty-two to eight for a four-way intersection.

7. Existing traffic plus combined anticipated traffic volumes (Sugarloaf Ranch Estates, Blackstone Estates, and Harris Ranch Subdivision) appear to have a significant impact to the intersection at Pyramid Highway and Calle De La Plata. If all three development projects are approved and constructed, it is likely the traffic generated will warrant the need for a traffic signal. There would be a benefit to the public if these projects installed the necessary signal infrastructure to mitigate the traffic impacts. The traffic signal mast arms, signal heads and signage would not be installed until such time as a traffic signal study is conducted and the signal activation approved by NDOT.

8. In the event of a signal system installation, NDOT will permit the traffic signal/lighting infrastructure to Washoe County. Final acceptance of a signal system maintenance agreement must be obtained and approved by NDOT prior to signal activation.

9. Signs for advertising will not be allowed within NDOT right-of-way. Please refer to NRS 405.110- Unlawful advertising on or near highway or on bridge. Please ensure sign base, post and sign edge is outside of State right-of-way.

10. The state defers to municipal government for land use development decisions. Public involvement for Development related improvements within the NDOT right-of-way should be considered during the municipal land use development public involvement process. Significant public improvements within the NDOT right-of-way developed after the municipal land use development public involvement process may require additional public involvement. It is the responsibility of the permit applicant to perform such additional public

involvement. We would encourage such public involvement to be part of a municipal land use development process.

Thank you for the opportunity to review this development proposal. NDOT reserves the right to incorporate further changes and/or comments as the design review advances. I look forward to working with you and your team, and completing a successful project. Please feel free to contact me at (775)834-8300, if you have any further questions or comments.

Sincerely,

DocuSigned by:
Jae Pullen
DCED27D8C9446439...

9/7/2016

Jae Pullen, PE, PTOE
District II Engineering Services

cc: Thor Dyson, District Engineer
Hoang Hong, Traffic Ops
Rebecca Kapuler, RTC
File

DS

Washoe County
COMMUNITY SERVICES DEPARTMENT
Engineering and Capital Projects Division

Date: September 8, 2016

To: Roger Pelham, Senior Planner

From: Walter H. West, P.E., Licensed Engineer
Clara Lawson, P.E., Licensed Engineer

Re: SUGARLOAF RANCH ESTATES ***TM16-002*** (119 Lots)

GENERAL PROJECT DISCUSSION

The proposed project consists of 119 lots of common open space development located north of Calle de La Plata, Washoe County, Nevada.

The Engineering and Capital Projects Division offers the following comments and recommendations which supplement applicable County Code and are based upon our review of the site and the tentative map application prepared by Axion Engineering.

Recommended Conditions of Approval

The following conditions of approval should be applied to this proposed project. Conditions in italics are standard Engineering Conditions.

GENERAL CONDITIONS

1. *Final maps and final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations, and policies in effect at the time of submittal of the tentative map or, if requested by the developer and approved by the applicable agency, those in effect at the time of approval of the final map.*
2. *Prior to acceptance of public improvements and release of any financial assurances, the developer shall furnish to the water and sewer provider(s) and Engineering and Capital Projects Division a complete set of reproducible as-built construction drawings prepared by a civil engineer registered in the State of Nevada.*
3. *The developer shall be required to participate in any applicable General Improvement District or Special Assessment District formed by Washoe County. The applicable County Department shall be responsible for determining compliance with this condition.*
4. *The developer shall provide written approval from the U.S. Postal Service concerning the installation and type of mail delivery facilities. The system, other than individual mailboxes, must be shown on the project construction plans and installed as part of the onsite improvements. The County Engineer shall determine compliance with this condition.*

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Phone (775) 328-2041 · Fax (775) 328-3699

5. *A complete set of construction improvement drawings, including an onsite grading plan, shall be submitted to the County Engineer for approval prior to finalization of any portion of the tentative map. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading and drainage on each lot, erosion control (including BMP locations and installation details), slope stabilization and mosquito abatement. Placement or disposal of any excavated material shall be indicated on the grading plan. The County Engineer shall determine compliance with this condition.*
6. *All open space shall be identified as common area on the final map. A note on the final map shall indicate that all common areas shall be privately maintained and perpetually funded by the Homeowners Association. The County Engineer shall determine compliance with this condition. The maintenance of the common areas shall also be addressed in the CC&Rs to the satisfaction of the District Attorney's Office.*
7. *Any existing easements or utilities that conflict with the development shall be relocated, quitclaimed, and/or abandoned, as appropriate. The County Engineer shall determine compliance with this condition.*
8. *Any easement documents recorded for the project shall include an exhibit map that shows the location and limits of the easement in relationship to the project. The County Engineer shall determine compliance with this condition.*
9. *All existing overhead utility lines shall be placed underground, except electric transmission lines greater than 100 kilovolts, which can remain above ground. The County Engineer shall determine compliance with this condition.*

DRAINAGE (COUNTY CODE 110.420)

Discussion

Detention basins shall be used to provide mitigation of increased stormwater runoff to pre development levels. The final design shall ensure that the post development discharge of stormwater runoff shall be substantially in the same manner and location as predevelopment conditions.

1. *The conditional approval of this tentative map shall not be construed as final approval of the drainage facilities shown on the tentative map. Final approval of the drainage facilities will occur during the final map review and will be based upon the final hydrology report.*
2. Prior to finalization of the first final map, a master hydrology/hydraulic report and a master storm drainage plan shall be submitted to the County Engineer for approval. The master hydrology report shall include among other things:
    a. Determination of the portion of the 100 year peak flow rate and volume contributing to the project boundary from Griffith Canyon discharge (ie, that portion of 100 year flood plain which lies north of Calle de la Plata) and the routing of this flow, if any, through the development.
    b. Estimation of peak flows from other offsite contributing areas including verification that reported diversion of flows into the Donovan Pit is a permanent drainage condition. If the drainage diversion is not supported by appropriate drainage easements or a recorded

agreement which allows the perpetual diversion, then the design shall account for and route the total basin flow through the project.

c. Detention basin modeling shall use HEC-1/HMS and shall account for discharges from or into existing or proposed offsite detention basins. The analysis shall determine no or minimal adverse impacts to existing or proposed offsite detention basin.

d. An analysis of the impacts of routing drainage from north side of Calle de la Plata into the North Spanish Springs Flood Detention Facility (NSSFDF) and if impacts are minimal, stormwater facilities shall be designed and constructed to route flows to NSSFDF.

The County Engineer shall determine compliance with this condition.

3. *Prior to finalization of any portion of the tentative map, a final, detailed hydrology/hydraulic report for that unit shall be submitted to the County Engineer. All storm drainage improvements necessary to serve the project shall be designed and constructed to County standards and specifications and/or financial assurances in an appropriate form and amount shall be provided. The County Engineer shall determine compliance with this condition.*

4. *Any increase in stormwater runoff resulting from the development and based on the 5 year and 100 storm(s) shall be detained. The County Engineer shall determine compliance with this condition.*

5. *The 100-year floodplain boundaries and flood elevations shall appear on each final map. If the floodplain boundary has been conditionally changed by a Federal Emergency Management Agency (FEMA) Conditional Letter of Map Amendment or Conditional Letter of Map Revision, the date of that letter and a note to that effect shall appear on the final map. The County Engineer shall determine compliance with this condition.*

6. *Standard reinforced concrete headwalls or other approved alternatives shall be placed on the inlet and outlet of all drainage structures, and grouted rock riprap shall be used to prevent erosion at the inlets and outlets of all culverts to the satisfaction of the Engineering and Capital Projects Division.*

7. *The developer shall provide pretreatment for petrochemicals and silt for all storm drainage leaving the site to the satisfaction of the Engineering and Capital Projects Division.*

8. *The Truckee Meadows Regional Stormwater Quality Management Program Construction Permit Submittal Checklist and Inspection Fee shall be submitted with each final map. The County Engineer shall determine compliance with this condition.*

9. *Drainage swales that drain more than two lots are not allowed to flow over the curb into the street; these flows shall be intercepted by an acceptable storm drain inlet and routed into the storm drain system. The County Engineer shall determine compliance with this condition.*

10. *A note on the final map shall indicate that all drainage facilities not maintained by Washoe County shall be privately maintained and perpetually funded by a homeowners association. As an alternative to a homeowners association, the developer may request the establishment of a County Utility Service Area under which fees would be paid for maintenance of the proposed storm drainage detention facility. The fee amount will be based on the additional service above that normally provided by the County to maintain new stormwater facilities dedicated by the developer (i.e., curb and gutter, drop inlets and piping). The County Engineer shall determine compliance with this condition. The maintenance and funding of these drainage facilities shall also be addressed in the CC&Rs to the satisfaction of the District Attorney's Office.*

11. *The maximum permissible flow velocity (that which does not cause scour) shall be determined for all proposed channels and open ditches. The determination shall be based on a geotechnical analysis of the channel soil, proposed channel lining and channel cross section, and it shall be in accordance with acceptable engineering publications/calculations. Appropriate linings shall be provided for all proposed channels and open ditches such that the 100-year flows do not exceed the maximum permissible flow velocity. The County Engineer shall determine compliance with this condition.*
12. *All slopes steeper than 3:1 shall be mechanically stabilized to control erosion. As an alternative to riprap, an engineered solution (geofabric, etc.) may be acceptable. The County Engineer shall determine compliance with this condition.*
13. *Maintenance access and drainage easements shall be provided for all existing and proposed drainage facilities. The County Engineer shall determine compliance with this condition.*
14. *Drainage easements shall be provided for all storm runoff that crosses more than one lot. The County Engineer shall determine compliance with this condition.*
15. Prior to the approval of the 1st final map which includes lots located within the FEMA floodplain, the applicant shall submit to FEMA a Conditional Letter of Map Revision (CLOMR) to be followed with a Letter of Map Revision (LOMR) at completion of construction. The County Engineer shall determine compliance with this condition.

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)

1. *All roadway improvements necessary to serve the project shall be designed and constructed to County standards and specifications and/or financial assurances in an appropriate form and amount shall be provided. The County Engineer shall determine compliance with this condition.*
2. *An Occupancy Permit shall be obtained from the Nevada Department of Transportation (NDOT), for access to, from or under roads and highways maintained by NDOT, and a copy of said permit shall be submitted to the County Engineer prior to finalization of the affected final map.*
3. *Street names shall be reviewed and approved by the Regional Street Naming Coordinator.*
4. *Proposed landscaping and/or fencing along street rights-of-way and within median islands shall be designed to meet American Association of State Highway and Transportation Officials (AASHTO) sight distances and safety guidelines. No tree shall overhang the curb line of any public street. The County Engineer shall determine compliance with this condition.*
5. *A note on each affected final map shall state that no direct access from individual lots shall be allowed onto Calle de la Plata. The County Engineer shall determine compliance with this condition. This note shall also be included in the CC&Rs to the satisfaction of the District Attorney's Office.*
6. *For any utilities placed in existing County streets, the streets shall be repaired to the satisfaction of the County Engineer. At a minimum, this will require full depth removal and replacement of asphalt for half the street width, or replacement of non-woven pavement reinforcing fabric with a 2" asphalt overlay for half the street width. Type II slurry seal is required for the entire street width with either option. Full width street improvements may be required if the proposed utility location is too close to the centerline of the existing street or if multiple utilities on both sides of the street are required.*
7. *Streetlights shall be constructed to Washoe County standards at locations to be determined at the final design stage. The County Engineer shall determine compliance with this condition.*

8. *AASHTO clear zones shall be determined for all streets adjacent to retaining walls or slopes steeper than 3:1. If a recoverable or traversable clear zone cannot be provided, an analysis to determine if barriers are warranted shall be submitted for approval. The County Engineer shall determine compliance with this condition.*
9. At a point where residential lotting is beyond 1,500 feet from the primary access, a secondary access shall be provided extending to an existing public roadway. The secondary access may be an emergency access roadway. The County Engineer shall determine compliance with this condition.
10. Traffic calming measures within the project boundary shall be constructed ever 500 to 600 feet to the satisfaction of the County Engineer. Acceptable traffic calming measures include speed tables, bulb outs, neck downs, chicanes and mini roundabouts. The County Engineer shall determine compliance with this condition
11. With the approval of the 1st final map, the planning, design, and construction of a fully signalized intersection at Pyramid Highway and Calle De La Plata meeting the requirements of the Washoe County Engineer, NDOT and RTC shall occur. A financial assurance shall be posted for the construction of said improvements. In order for the signalization improvements located within NDOT right-of-way to be eligible for Regional Road Impact Fee waiver under the terms and provisions of the Regional Transportation Commission's General Administrative Manual, 5th Addition including Amendment No. 1, the minor leg (Calle de la Plata) shall be constructed to a regional roadway standards, meeting RTC requirements, to include, but not be limited to, a left turn lane onto southbound Pyramid Highway. The County Engineer shall determine compliance with this condition.
12. The applicant shall have a traffic analysis performed for the 20 year build-out condition which includes recommendations for the necessary lane modifications and traffic signalization requirements. The County Engineer shall determine compliance with this condition.
13. With the approval of the 1st final map, the portion of Calle De La Plata adjoining the project boundary shall be widened to meet Washoe County requirements for roadways within suburban areas including curb, gutter, and sidewalk along the north side of the road. The total pavement width shall accommodate a left turn pocket for traffic entering Pyramid Highway. The County Engineer shall determine compliance with this condition.

Exhibit D

Public Notice

Pursuant to Washoe County Development Code Section 110.608.16 public notification consists of publishing a legal notice in the local newspaper and notification by mail of at least 30 separate property owners within a minimum 500-foot radius of the subject property. This proposal was noticed within a 1700-foot radius of the subject property, in order to capture the required 30 separate property owners, noticing 48 properties.

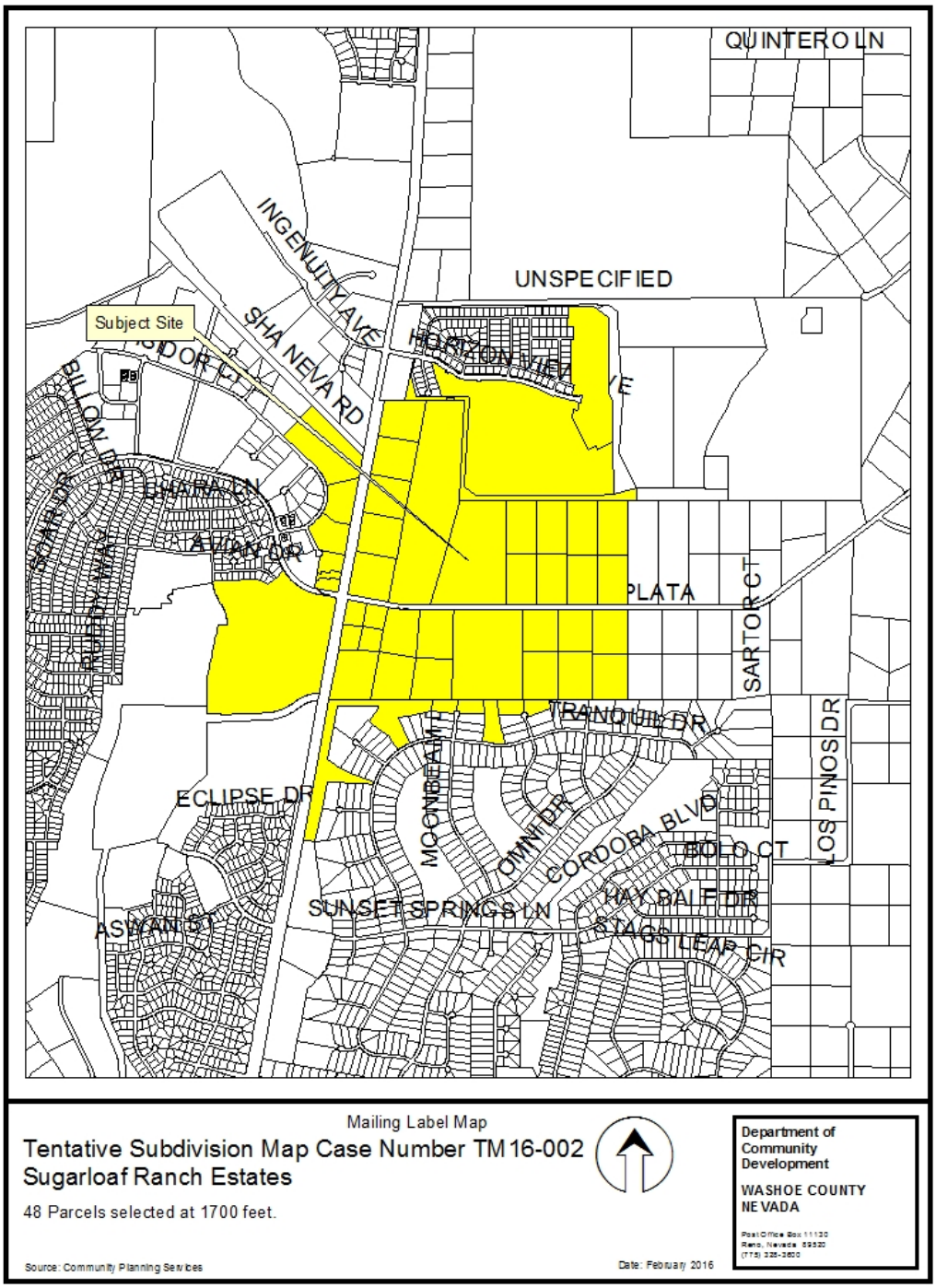

Exhibit E

TM16-002

Sugarloaf Ranch Estates

Tentative Map Application

Prepared For:

Sugarloaf Peak, LLC
2777 Northtowne Lane
Reno, NV 89512

Prepared By:

681 Edison Way
Reno, NV 89502
775-771-5554

January, 2016

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TMWA Discovery & Water Service Acknowledgement
Sugarloaf Ranch - Traffic Impact Study by Traffic Works
Preliminary Hydrology Study
Preliminary Sewer Report
U.S. Fish & Wildlife iPaC

Project Requests

This application is for a **Tentative Map Application** for:

A) 119 Single Family Residential lots on 39.84 acres.

Sugarloaf Ranch Estates is located ¼ mile east of the Pyramid Highway across the street from the Village Green business park. It will be accessed from Calle De La Plata which connects to the Pyramid Highway. The project site includes one parcel, APN 534-562-07 and consists of 39.84± acres, as shown in Figure 1 (below).

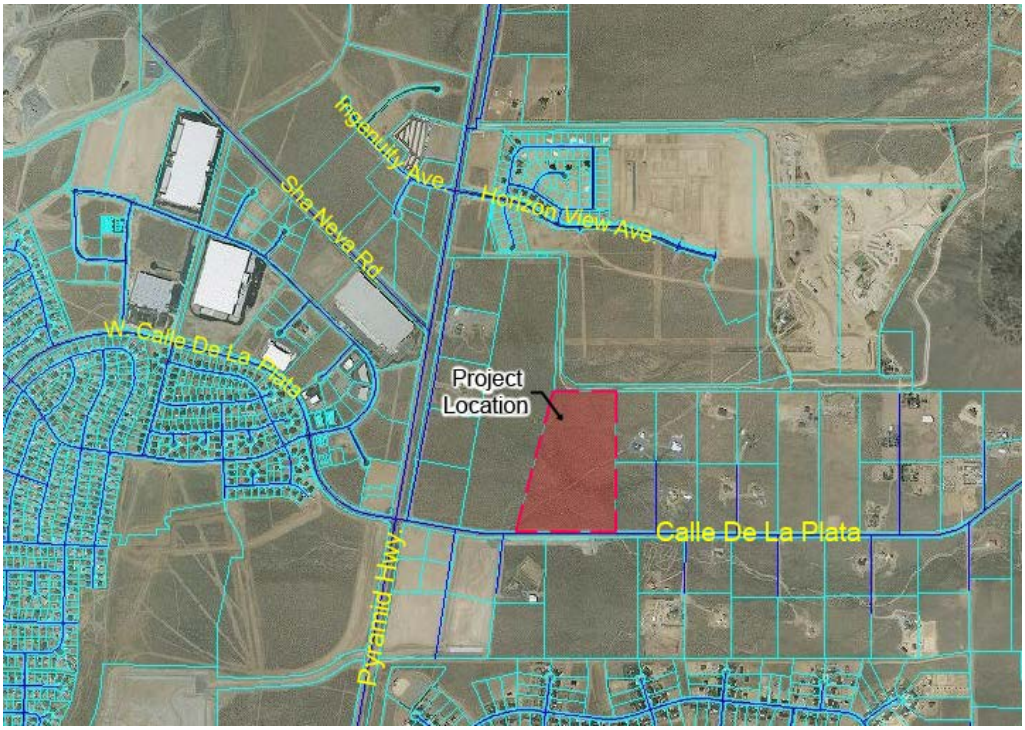


Figure 1 – Vicinity Map

Project History

The owner of the subject property requested a Master Plan Amendment, case number MPA12-001 to consider an amended to the Spanish Springs Area Plan, being a part of the Washoe County Master Plan. The amendment request involved the creation of a new character management area on the parcel and was called the Village Residential Character Management Area (VRCMA) requiring re-designation of the 39.84 acre parcel from a mix of Industrial (I), Commercial (C) and Open Space (OS) to Suburban Residential (SR) and to also required that the Character Management Plan map identify the new VRCMA. The amendment request also included a change to the Character Statement in the Spanish Springs Area Plan to identify the new VRCMA and to allow for multi-family uses within the VRCMA up to nine dwelling units per acre; to ultimately allow a

Master Plan Amendment and Regulatory Zone Amendment to obtain entitlements for construction of a 360 unit apartment complex in 2012. The request was denied by the Planning Commission and appealed to the Board of Commissioners where it was approved. Truckee Meadows Regional Planning Commission determined the amendment was not in conformance with the comprehensive Regional Plan leading to the applicant and staff to work on an amended application package.

The amended application was produced and heard by the Planning Commission on September 16, 2014 where it was denied. An appeal to the Board of Commissioners was made and approval from the Board was obtained on October 14, 2014. Subsequently the amended project was presented to the Truckee Meadows Regional Planning Commission and during a meeting on January 28, 2015 they again determined that the Master Plan Amendment was not in conformance with the comprehensive Regional Plan.

Seeing the need to still fill the growing demand for residential housing the owner submitted a Master Plan Amendment (MPA15-004) and Regulatory Zone Amendment (RZA15-006) requesting a change in the land use from a mix of Industrial, Commercial and Open Space to Suburban Residential in the Spanish Springs Area Plan and a change in the zoning from a mix of Industrial, Commercial, and Open Space to Medium Density Suburban. The request was presented to Planning Commission on December 1st, 2015 and they were unable to make the findings. The decision has been appealed and will be heard by the Regional Planning Commission during the January 26th meeting.

Project Description

The proposed project is for a 119 unit single family residential development with lot sizes ranging from 8,050 square feet to 17,261 square feet. The average lot size is 10,317 square feet. The project will include 5.66 acres of open space, 7.42 acres of public right of way, and 26.76 acres of residential lots.

Proposed net density is 4.45 dwelling units per acre and the proposed gross density is 2.99 dwelling units per acre. The proposed layout is shown on the following page.

Figure 2 - Site Plan

Tentative Map Findings

When considering a Tentative Subdivision Map the Washoe County development code requires that the Planning Commission determine if the proposal is in compliance with the required findings. The considered findings are as follows:

1) Plan Consistency – Determine that the proposed map is consistent with the Master Plan and any specific plan.

   Response: The proposed map is in conformance with all of the goals and policies of the Spanish Springs Area Plan. There are no specific plans associated with this request.

2) Design or Improvement – Determine that the design or improvement of the proposed subdivision is consistent with the Master Plan and any specific plan.

   Response: The subdivision design complies with the policies of the Spanish Springs Area Plan all the elements of the Washoe County Master Plan.

3) Type of Development – Determine that the project site is physically suited for the type of development proposed.

Response: The proposed subdivision is located in an area with similar subdivisions to the north and west. Property to the south is vacant with Industrial, Commercial and Open Space zoning and the easterly property is Rural Residential. The proposed project is a suitable fit.

4) Availability of Service – That the subdivision will meet the requirements of article 702, Adequate Public Facilities Management System.

Response: Adequate facilities exist to accommodate the proposed development. Any determined deficiencies and/or required infrastructure to connect to existing facilities will be borne by the developer.

5) Fish or Wildlife – Determine that neither the design of the subdivision nor any proposed improvements is likely to cause substantial environmental damage, or substantial and avoidable injury to any endangered plant, wildlife or their habitat.

Response: There are no identified endangered plants or wildlife on the subject property.

6) Public Health – Determine that the design of the subdivision or type of improvement is not likely to cause significant public health problems.

Response: The proposed subdivision is similar to other residential subdivisions in the surrounding area and the design is not likely to cause significant health problems.

7) Easements – Determine that the design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through, or use of property within, the proposed subdivision.

Response: The design of the subdivision takes into account all existing easements and will provide access points at various locations to surrounding properties.

8) Access – Determine that the design of the subdivision provides any necessary access to surrounding, adjacent lands and provides appropriate secondary access for emergency vehicles.

Response: The proposed subdivision provides necessary access to surrounding, adjacent lands. Multiple access points have been provided.

9) Dedications – Determine that any land or improvements to be dedicated to Washoe County is consistent with the Master Plan.

Response: All lands to be dedicated to Washoe County are consistent with the Master Plan.

10) Energy – Determine that the design of the subdivision provides, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision.

Response: Adequate opportunities shall be provided for future passive or natural heating or cooling to the extent feasible.

APPENDIX "A"

DEVELOPMENT APPLICATION

Axion ENGINEERING
Civil Engineering • Land Development

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Development staff at 775.328.3600.

Project Information

Staff Assigned Case No.: _____

Project Name: Sugarloaf Ranch Estates

Project Description: 119 lot single family residential subdivision

Project Address: 370 Calle De La Plata

Project Area (acres or square feet): 39.85 acres

Project Location (with point of reference to major cross streets **AND** area locator):

Spanish Springs Valley. The parcel is about ¼ miles east of of the intersection with Pyramid Highway

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No(s):	Parcel Acreage:
534-562-07	39.85		

Section(s)/Township/Range: Portion of SE 1/4 Section 23, SW 1/4 Section 24, T. 21 N, R. 20 E.

Indicate any previous Washoe County approvals associated with this application:

Case No.(s).

Applicant Information (attach additional sheets if necessary)

Property Owner:		**Professional Consultant:**	
Name: Sugarloaf Peak, LLC		Name: Axion Engineering	
Address: 2777 Northtowne Lane		Address: 681 Edison Way	
Reno, NV	Zip: 89512	Reno, NV	Zip: 89503
Phone: 775-359-7245	Fax:	Phone: 775-771-5554	Fax: 775-856-3951
Email: jbhreno@aol.com		Email: gary@axionengineering.net	
Cell: 775-750-0426	Other:	Cell:	Other:
Contact Person: Jim House		Contact Person: Gary Guzelis	
Applicant/Developer:		**Other Persons to be Contacted:**	
Name: Same		Name:	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	

For Office Use Only

Date Received:	Initial:	Planning Area:
County Commission District:		Master Plan Designation(s):
CAB(s):		Regulatory Zoning(s):

Property Owner Affidavit

Applicant Name: Sugarloaf Peak LLC, Jim House

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, Jim House,
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Development.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 534-562-07

Printed Name Jim House

Signed

Address 2777 Northtowne Lane

Reno, NV 89512

Subscribed and sworn to before me this 11th day of January, 2016.

(Notary Stamp)

Notary Public in and for said county and state

My commission expires: 05/18/2019

MYCOLE ENCISO
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 15-1630-2 - Expires May 18, 2019

*Owner refers to the following: (Please mark appropriate box.)

- [x] Owner
- [ ] Corporate Officer/Partner (Provide copy of recorded document indicating authority to sign.)
- [ ] Power of Attorney (Provide copy of Power of Attorney.)
- [ ] Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- [ ] Property Agent (Provide copy of record document indicating authority to sign.)
- [ ] Letter from Government Agency with Stewardship

Tentative Subdivision Map Application
Supplemental Information

(All required information may be separately attached)

Chapter 110 of the Washoe County Code is commonly known as the Development Code. Specific references to tentative subdivision maps may be found in Article 608, Tentative Subdivision Maps.

1. What is the location (address or distance and direction from nearest intersection)?

The location is 370 Calle De La Plata in the Spanish Springs Valley. The parcel is about ¼ miles east of the intersection with the Pyramid Highway. It is APN 534-562-07. A legal description is attached in the Preliminary Title Report which is part of this application.

2. What is the subdivision name (proposed name must not duplicate the name of any existing subdivision)?

Sugarloaf Ranch Estates

3. Density and lot design:

a. Acreage of project site	39.85 acres
b. Total number of lots	119
c. Dwelling units per acre	2.986
d. Minimum and maximum area of proposed lots	8,050 sf min; 17,261 sf max.
e. Minimum width of proposed lots	70 feet
f. Average lot size	10,317 square feet

4. Utilities:

a. Sewer Service	Washoe County Utilities
b. Electrical Service	NV Energy
c. Telephone Service	AT&T
d. LPG or Natural Gas Service	NV Energy
e. Solid Waste Disposal Service	Waste Management of Nevada
f. Cable Television Service	Charter
g. Water Service	TMWA

5. For common open space subdivisions (Article 408), please answer the following:

   a. Acreage of common open space:

   5.66 acres

   b. Development constraints within common open space (slope, wetlands, faults, springs, ridgelines):

   None

   c. Range of lot sizes (include minimum and maximum lot size):

   8,050 sf min; 17,261 sf max.

   d. Average lot size:

   10,317 square feet

   e. Proposed yard setbacks if different from standard:

   Front to structure 20'
   Front to garage 20'
   Sideyard 7'
   Backyard 20'

   f. Justification for setback reduction or increase, if requested:

   Common open space development. Setbacks requested to match Washoe County MDS 4 zoning. The request for the 7' minimum sideyard setback is to provide a 10' to 12' setback on the opposing side of the lot for access to side and rear yard. Per the Tentative Map drawing approximately 75% of the lots will have this access.

   g. Identify all proposed non-residential uses:

   None

h. Improvements proposed for the common open space:

Some of the common areas will incorporate walking trails that are proposed to tie into the existing trail system to the north of the project and connections will be offered to the west and east properties as well. Common area space will also be used as a buffer from the surrounding properties, contain drainage facilities and be landscaped as shown in the preliminary landscape plan.

i. Describe or show on the tentative map any public or private trail systems within common open space of the development:

Proposed trail improvements are shown on the tentative map drawings. Coordination with the surrounding property owners will be required for perpetuation.

j. Describe the connectivity of the proposed trail system with existing trails or open space adjacent to or near the property:

Currently the only trail system existing is on the property adjacent to Sugarloaf Ranch Estates to the north. Points of connection are shown on the plans. We propose to connect to the easterly property should they choose to have a trail system as well. The westerly property contains a singly family residence. No trail perpetuation is anticipated at this time however trail stubs can be provided.

k. If there are ridgelines on the property, how are they protected from development?

Not applicable.

l. Will fencing be allowed on lot lines or restricted? If so, how?

Fencing is anticipated to follow typical single family residential guidelines and Washoe County code.

m. Identify the party responsible for maintenance of the common open space:

A maintenance association will be created to take care of the common open space. Fees will be supported by homeowner dues.

6. Is the project adjacent to public lands or impacted by "Presumed Public Roads" as shown on the adopted April 27, 1999 Presumed Public Roads (see Washoe County Engineering website at http://www.washoecounty.us/pubworks/engineering.htm). If so, how is access to those features provided?

Not applicable.

7. Is the parcel within the Truckee Meadows Service Area?

☑ Yes	☐ No

8. Is the parcel within the Cooperative Planning Area as defined by the Regional Plan?

☐ Yes	☑ No	If yes, within what city?

9. Will a special use permit be required for utility improvement? If so, what special use permits are required and are they submitted with the application package?

Not applicable.

10. Has an archeological survey been reviewed and approved by SHPO on the property? If yes, what were the findings?

No

11. Indicate the type and quantity of water rights the application has or proposes to have available:

a. Permit #	71998	acre-feet per year	47.0
b. Certificate #		acre-feet per year	
c. Surface Claim #		acre-feet per year	
d. Other #		acre-feet per year	

e. Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

Water rights title attached.

12. Describe the aspects of the tentative subdivision that contribute to energy conservation:

Energy conservation is typically improved by use of energy efficient building materials including windows, doors, insulation and structure wraps per current ICC's IECC energy codes. Energy efficient appliances and water efficient faucets, shower heads and toilets will be used.

13. Is the subject property in an area identified by Planning and Development as potentially containing rare or endangered plants and/or animals, critical breeding habitat, migration routes or winter range? If so, please list the species and describe what mitigation measures will be taken to prevent adverse impacts to the species:

Bighorn Sheep-not an occupied area, Black Bear-not a habitat/range, Sage grouse-outside of brooding area, Pronghorn Antelope-year round habitat, Potential Golden Eagle in area, Wild Horse-outside heard management area, Mule Deer-limited habitat area. Vegetative Communities consist primarily of sagebrush with scattered basin & desert scrub. There are no topographic or scenic features & the site has a strong shaking seismic hazard. A portion of the site is within 1% FEMA flood area and is otherwise unconstrained per Washoe County development constraints/suitability

14. If private roads are proposed, will the community be gated? If so, is a public trail system easement provided through the subdivision?

Not applicable.

15. Is the subject property located adjacent to an existing residential subdivision? If so, describe how the tentative map complies with each additional adopted policy and code requirement of Article 434, Regional Development Standards within Cooperative Planning Areas and all of Washoe County, in particular, grading within 50 and 200 feet of the adjacent developed properties under 5 acres and parcel matching criteria:

Not applicable.

16. Are there any applicable policies of the adopted area plan in which the project is located that require compliance? If so, which policies and how does the project comply?

The project will comply with the applicable policies of the adopted Spanish Springs Area Plan.

17. Are there any applicable area plan modifiers in the Development Code in which the project is located that require compliance? If so, which modifiers and how does the project comply?

No, there are no plan modifiers for this area.

18. Will the project be completed in one phase or is phasing planned? If so, please provide that phasing plan:

At this time phasing is unknown and will depend on the developer. Phasing will be determined at the improvement plan preparation stage and discussed with Washoe County. It is anticipated that the phasing could be between one and three.

19. Is the project subject to Article 424, Hillside Development? If yes, please address all requirements of the Hillside Ordinance in a separate set of attachments and maps.

☐ Yes	☑ No	If yes, include a separate set of attachments and maps.

20. Is the project subject to Article 418, Significant Hydrologic Resources? If yes, please address Special Review Considerations within Section 110.418.30 in a separate attachment.

☐ Yes	☑ No	If yes, include separate attachments.

Grading

Please complete the following additional questions if the project anticipates grading that involves: (1) Disturbed area exceeding twenty-five thousand (25,000) square feet not covered by streets, buildings and landscaping; (2) More than one thousand (1,000) cubic yards of earth to be imported and placed as fill in a special flood hazard area; (3) More than five thousand (5,000) cubic yards of earth to be imported and placed as fill; (4) More than one thousand (1,000) cubic yards to be excavated, whether or not the earth will be exported from the property; or (5) If a permanent earthen structure will be established over four and one-half (4.5) feet high:

21. How many cubic yards of material are you proposing to excavate on site?

100,000 cy

22. How many cubic yards of material are you exporting or importing? If exporting of material is anticipated, where will the material be sent? If the disposal site is within unincorporated Washoe County, what measures will be taken for erosion control and revegetation at the site? If none, how are you balancing the work on-site?

Currently the project will require imported material to accomplish the required grading. This is a result of the project site having a natural low point ruining east to west in the center of the site and and due to having the drainage and sewer flow towards Calle De La Plata. With cooperation from the easterly property owner we will likely be able to achieve a balanced earthwork site by taking the sewer through their site to its point of connection east of Pyramid Highway.

23. Can the disturbed area be seen from off-site? If yes, from which directions, and which properties or roadways? What measures will be taken to mitigate their impacts?

Cut and fill slopes are minimal and occur within the project and around the perimeter of the project. The cut and fill slopes around the perimeter of the project are within the common open space and will be partially screened by the landscaping improvements.

24. What is the slope (Horizontal:Vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

Cut and fill slopes will be either 2:1 or 3:1. A soil tackifier and biodegradable mulch will be applied as part of the hydroseed slurry mix.

25. Are you planning any berms and, if so, how tall is the berm at its highest? How will it be stabilized and/or revegetated?

No berms are planned at this time.

26. Are retaining walls going to be required? If so, how high will the walls be, will there be multiple walls with intervening terracing, and what is the wall construction (i.e. rockery, concrete, timber, manufactured block)? How will the visual impacts be mitigated?

No retaining walls are planned at this time however small landscape walls may be used upon final design.

27. Will the grading proposed require removal of any trees? If so, what species, how many, and of what size?

One isolated existing native juniper tree will be removed. It is approx. 12' to 15' tall and has a caliper of about 10 inches.

28. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

The revegetation seed blend will be a native/naturalized blend applied at rate of 31 pounds per acre. A wood fiber mulch will be included in the hydroseed slurry.

29. How are you providing temporary irrigation to the disturbed area?

Temporary irrigation will be provided through connection to installed water meters.

30. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

No

Request to Reserve New Street Name(s)

The Applicant is responsible for all sign costs.

Applicant Information

Name: Sugarloaf Peak, LLC

Address: 2777 Northtowne Lane

Reno, NV 89502

Phone : 775-771-5554 Fax: _____

☐ Private Citizen ☑ Agency/Organization

Street Name Requests

(No more than 14 letters or 15 if there is an "i" in the name. Attach extra sheet if necessary.)

Seaberry	
Cloudberry	
Bayberry	
Pecan	
Chesnut Vine	
Malabar	
Pawpaw	
Hickory	

If final recordation has not occurred within one (1) year, it is necessary to submit a written request for extension to the coordinator prior to the expiration date of the original approval request.

Location

Project Name: Sugarloaf Ranch Estates

☐ Reno ☐ Sparks ☑ Washoe County

Parcel Numbers: 534-562-07

☑ Subdivision ☐ Parcelization ☐ Private Street

Please attach maps, petitions and supplementary information.

Approved: _____ Date: _____

Regional Street Naming Coordinator

☐ Except where noted

Denied: _____ Date: _____

Regional Street Naming Coordinator

Washoe County **CSD Engineering and Capital Projects Division**

Post Office Box 11130 - 1001 E. Ninth Street

Reno, NV 89520-0027

Phone: (775) 328-3667 - Fax: (775) 328-6133 Email: streetnames@washoecounty.us

PROPERTY TAX INFORMATION

Axion
ENGINEERING
Civil Engineering • Land Development

Washoe County Treasurer
Tammi Davis

Washoe County Treasurer
P.O. Box 30039, Reno, NV 89520-3039
ph: (775) 328-2510 fax: (775) 328-2500
Email: tax@washoecounty.us

Account Detail

Back to Search Results | Change of Address | Print this Page

Washoe County Parcel Information

Parcel ID	Status	Last Update
53456207	Active	1/22/2016 7:12:00 AM

Current Owner:
SUGARLOAF PEAK LLC

2777 NORTHTOWNE LN OFC
RENO, NV 89512

SITUS:
370 CALLE DE LA PLATA
WCTY NV

Taxing District
4000

Geo CD:

Legal Description

Section 23 Lot 24 1 0 1 Township 21 Range 20 SubdivisionName _UNSPECIFIED

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2015	$680.44	$680.44	$0.00	$0.00	$0.00
2014	$680.46	$680.46	$0.00	$0.00	$0.00
2013	$680.44	$680.44	$0.00	$0.00	$0.00
2012	$850.58	$850.59	$0.00	$0.00	$0.00
2011	$899.14	$899.14	$0.00	$0.00	$0.00
				Total	$0.00

Pay Online

No payment due for this account.

$0.00

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845

Payment Information

Special Assessment District

ASSESSOR'S MAP

Axion
ENGINEERING
Civil Engineering • Land Development

MAP OF DIVISION INTO LARGE PARCELS #23 a.k.a. SPANISH SPRINGS VALLEY RANCHES, UNIT 2

A POR. OF SECTIONS 23, 24, 25 & 26
T21N - R20E

SITE

562

24-1-0-1

24-1-0-2

PAR. D
P.M. 1677

534-562-05
10.16 ac.

24-1-0-3

PAR. 3
P.M. 1597

534-562-01
10.312 ac.

PAR. C
P.M. 1677

534-562-04
10.16 ac.

ECHANIZ COURT

534-562-07
39.835 ac.

POR. PAR. A
P.M. 1677

534-562-06
9.697 ac.

POR. PAR. B
P.M. 1677

534-562-03
9.697 ac.

POR. PAR. 1
P.M. 1597

534-562-02
9.541 ac.

CAMINO DE GRATO

CALLE DE LA PLATA

(STATE ROUTE 445)

PYRAMID WAY

ROCKWELL BLVD

DYKES COURT

CALLE LIMPIO COURT

PAR. 1
P.M. 4741

534-561-02
3.05 ac.

PAR. 2
P.M. 4741

534-561-03
3.05 ac.

PAR. 3
P.M. 4741

534-561-01
3.05 ac.

PAR. 4
P.M. 4741

534-561-04
3.05 ac.

PAR. 2
P.M. 2033

534-561-05
12.843 ac.

POR. PAR. A
P.M. 1702

534-561-06
9.963 ac.

PAR. B
P.M. 1702

534-561-07
10.795 ac.

POR. PAR. D
P.M. 1702

534-561-09
10.448 ac.

PAR. C
P.M. 1702

534-561-08
10.188 ac.

561

534-561-10
39.121 ac.

POR. PAR. 1
P.M. 1501

534-561-11
9.472 ac.

POR. PAR. 2
P.M. 1501

534-561-14
9.472 ac.

PAR. 3
P.M. 1501

534-561-12
10.07 ac.

PAR. 4
P.M. 1501

534-561-13
10.07 ac.

23 24
26 25

26-1-0-1

25-1-0-1

25-1-0-2

Assessor's Map Number

534-56

STATE OF NEVADA

WASHOE COUNTY
ASSESSOR'S OFFICE
Joshua G. Wilson, Assessor

1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231

Feet
0 100 200 300 400

1 inch = 400 feet

Sparks
Reno

530-49 534-45 530-47 534-57 534-56 534-58 532-12 532-02 534-26 534-27 534-28 534-05

created by: KSB 1/25/11

last updated:

area previously shown on map(s)

076-40

NOTE: This map was prepared for the use of the Washoe County Assessor for assessment and illustrative purposes only. It does not represent a survey of the premises. No liability is assumed as to the sufficiency or accuracy of the data delineated hereon.

Property Owner Affidavit

Applicant Name: Sugarloaf Peak LLC, Jim House

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, Jim House,
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Development.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 534-562-07

Printed Name Jim House

Signed

Address 2777 Northtowne Lane

Reno, NV 89512

Subscribed and sworn to before me this 19th day of January, 2016.

(Notary Stamp)

Notary Public in and for said county and state

My commission expires: 05/18/2019

MYCOLE ENCISO
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 15-1630-2 - Expires May 18, 2019

*Owner refers to the following: (Please mark appropriate box.)

- ☒ Owner
- ☐ Corporate Officer/Partner (Provide copy of recorded document indicating authority to sign.)
- ☐ Power of Attorney (Provide copy of Power of Attorney.)
- ☐ Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- ☐ Property Agent (Provide copy of record document indicating authority to sign.)
- ☐ Letter from Government Agency with Stewardship

WATER RIGHTS

Balances for Permit Number: 71998

Status: Permitted

Will Serve # or Credit	Project Name		Project Types		Duty	Claim #	Date
House, James B., trustee of the James B. House Living Trust							
CREDIT	Future Development				-10.575	88/88a	9/15/2009
Spanish Springs lot 534-562-07							
Assignment	South Reno Investors, LLC to James B. House Trustee of the James B. House, Living Trust				-36.425	88/88a	9/15/2009
	Total uncomitted Af for House, James B., trustee of the J				-47.0000		
Housing Resources Company, L.C. 55%, Gateway Company, L.C. 45%							
CREDIT	Mountaingate Ph. 2A-3 16 lots				-1.04		##########
2013-034	Mountaingate Ph. 2A-3	16 lots	TMWA 11%		0		##########
Interim Creek Exchange TMWA 11% - Meter Retrofit review fee of $17,375 deposited in separate account for future when WACO and TMWA combined							
	Total uncomitted Af for Housing Resources Company, L.				-1.0400		
Ryder Homes of Nevada, Inc.							
CREDIT	Future Development				-31.434	88/88a	7/20/2005
Assignment	Ryder Homes of Nevada, Inc to South Reno Investors, LLC				31.434	88/88a	7/20/2005
CREDIT	Future Deveoplement		Subdivision		-4.991	88/88a	2/21/2008
ASSIGNMENT	Ryder Homes of Nevada, Inc. to South Reno Investors, LLC		Subdivision		4.991	88/88a	2/21/2008
	Total uncomitted Af for Ryder Homes of Nevada, Inc.				0.0000		
South Reno Investors, LLC							
Assignment	Ryder Homes of Nevada, Inc to South Reno Investors, LLC				-31.434	88/88a	7/20/2005
ASSIGNMENT	Ryder Homes of Nevada, Inc. to South Reno Investors, LLC		Subdivision		-4.991	88/88a	2/21/2008
Assignment	South Reno Investors, LLC to James B. House Trustee of the James B. House, Living Trust				36.425	88/88a	9/15/2009
	Total uncomitted Af for South Reno Investors, LLC				0.0000		
Village at ArrowCreek Parkway, LLC							
2013-010	Village at Arrowcreek Apartments		Commercial	RF	9.79	88/88a	4/30/2013
208 apartments							
2013-010	Village at Arrowcreek Apartments		WC 58% Drought Yield		18.89	88/88a	4/30/2013
208 apartments							

Will Serve # or Credit	Project Name	Project Types	Duty	Claim #	Date
2013-010	Village at Arrowcreek Apartments	Commercial	26.09	88/88a	4/30/2013
208 apartments					
CREDIT	Future Development		-54.77	88/88a	##########

Total uncomitted Af for Village at ArrowCreek Parkway, L 0.0000

Total WC dedicated, uncomitted duty: 71998 -48.0400

NO. 71998

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Date of filing in State Engineer's Office DEC 09 2004

Returned to applicant for correction

Corrected application filed

Map filed DEC 09 2004

****

The applicant **RYDER HOMES OF NEVADA, INC.** makeS application for permission to change the **POINT OF DIVERSION PLACE OF USE AND MANNER OF USE OF A PORTION** of water heretofore appropriated under **ClaimS #88 and 88a of the Truckee River Decree, said decree entered in the District Court of The United States for Nevada in that certain action entitled, "The United States of America, Plaintiff, vs. Orr Water Ditch Company, et al., Defendants," in Equity Docket No. A-3.**

****

1. The source of water is **TRUCKEE RIVER**

2. The amount of water to be changed **1.02 CFS NOT TO EXCEED 190.17 ACRE FEET ANNUALLY**

3. The water to be used for **MUNICIPAL**

4. The water heretofore permitted for **AS DECREED**

5. The water is to be diverted at the following point **SEE EXHIBIT "A" ATTACHED HERETO AND MAP SUPPORTING APPLICATION 71534 ON FILE WITH THE STATE ENGINEER.**

6. The existing permitted point of diversion is located within **NE¼ SW¼ OF SECTION 31, T.19N., R.18E., M.D.B.&M. OR AT A POINT FROM WHICH THE SOUTHEAST CORNER OF SAID SECTION 31 BEARS S. 62° 04' E. A DISTANCE OF 3195.00 FEET (STEAMBOAT CANAL).**

7. Proposed place of use **SEE EXHIBIT "B" ATTACHED HERETO AND MAP SUPPORTING APPLICATION 71534 ON FILE WITH THE NEVADA STATE ENGINEER.**

8. Existing place of use **SECTION 20, T.18N., R.20E., M.D.B.&M**
SW¼ SE¼ - 12.37 ACRES
NW¼ SE¼ - 0.06 SEE MAP TR-018
NE¼ SW¼ - 14.175
SE¼ SW¼ - 20.88 TOTAL: 47.485

9. Use will be from **JANUARY 1** to **DECEMBER 31** of each year.

10. Use was permitted from **AS DECREED**

11. Description of proposed works **WATER WILL BE DIVERTED BY EXISTING TMWA AND/OR WASHOE COUNTY FACILITIES, TREATED AND PLACED INTO EXISTING DISTRIBUTION SYSTEMS OF TMWA AND/OR WASHOE COUNTY.**

12. Estimated cost of works **EXISTING**

13. Estimated time required to construct works **EXISTING**

14. Estimated time required to complete the application of water to beneficial use **TEN YEARS**

15. Remarks:

By **ROBERT E. FIRTH**
s/ Robert E. Firth
360 E. RIVERVIEW CIRCLE
RENO, NV 89509

Compared **gkl/** sc lb/gkl

Protested

****

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the point of diversion, manner of use and place of use of a portion of the waters of the Truckee River as heretofore granted under Claim 88/88a, Truckee River Final Decree is issued subject to the terms and conditions imposed in said decree and with the understanding that no other rights on the source will be affected by the change proposed herein. A suitable measuring device must be installed and accurate measurements of water placed to beneficial use must be kept.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

(CONTINUED ON PAGE 3)

71998

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, and not to exceed **1.024** cubic feet per second, **but not to exceed 190.17 acre-feet as decreed**

Work must be prosecuted with reasonable diligence and be completed on or before:

N/A

Proof of completion of work shall be filed on or before:

N/A

Water must be placed to beneficial use on or before:

May 6, 2015

Proof of the application of water to beneficial use shall be filed on or before:

June 6, 2015

Map in support of proof of beneficial use shall be filed on or before:

N/A

IN TESTIMONY WHEREOF, I, HUGH RICCI, P.E.,

State Engineer of Nevada, have hereunto set my hand and the seal of my office,

this **6th** day of **May** A.D. **2005**

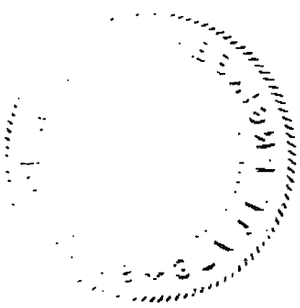
Hugh Ricci, P.E.
State Engineer

Completion of work filed November 12, 2004 under 71420.

Proof of beneficial use filed _____

Cultural map filed N/A

Certificate No. _____ Issued _____



71998

EXHIBIT "A"

The following describes the multiple points of diversion for Truckee Meadows Water Authority Water Treatment Plants and Washoe County Hidden Valley Induction Well #4, which are shown on the map accompanying Application No. 71534 on file with the State of Nevada, Division of Water Resources, more particularly described as follows:

STEAMBOAT CANAL (HUNTER CREEK RESERVOIR):

The existing point of diversion is situate within the Northeast one-quarter of the Southwest one-quarter (NE¼ SW¼) of Section 31, T.19N., R.18E., M.D.B.&M., Washoe County, Nevada, from said point of diversion, the Southeast corner of said Section 31 bears South 62°04' East, a distance of 3,195.00 feet.

HIGHLAND DITCH (HIGHLAND RESERVOIR):

The existing point of diversion is situate within the Southwest one-quarter of the Southeast one-quarter (SW¼ SE¼) of Section 9, T.19N., R.18E., M.D.B.&M., Washoe County, Nevada, from said point of diversion, the Southeast corner of said Section 9 bears South 75°16' East, a distance of 1,650.00 feet.

IDLEWILD TREATMENT PLANT:

The existing point of diversion is situate within the Southeast one-quarter of the Southeast one-quarter (SE¼ SE¼) of Section 10, T.19N., R.19E., M.D.B.&M., Washoe County, Nevada, from said point of diversion, the Southeast corner of said Section 10 bears South 69°57'58" East, a distance of 842.34 feet.

NORTH TRUCKEE DITCH (GLENDALE TREATMENT PLANT):

The existing point of diversion is situate within the Southwest one-quarter of the Northeast one-quarter (SW¼ NE¼) of Section 7, T.19N., R.20E., M.D.B.&M., Washoe County, Nevada, from said point of diversion, the Northeast corner of said Section 7 bears North 39°28' East, a distance of 3,015.00 feet.

ORR DITCH PUMP STATION (CHALK BLUFF TREATMENT PLANT):

The point of diversion is situate within the Northeast one-quarter of the Southeast one-quarter (NE¼ SE¼) of Section 17, T.19N., R.19E., M.D.B.&M., Washoe County, Nevada, from said point of diversion the Northeast corner of said Section 17 bears North 15°39'36" East, a distance of 3,264.77 feet.

ORR DITCH (CHALK BLUFF TREATMENT PLANT):

The point of diversion is situate within the Northeast one-quarter of the Southwest one-quarter (NE¼ SW¼) of Section 17, T.19N., R.19E., M.D.B.&M., Washoe County, Nevada, from said point of diversion the Southwest corner of said Section 17 bears South 44°40' West, a distance of 3,211.00 feet.

WASHOE COUNTY (HIDDEN VALLEY INDUCTION WELL #4)

The point of diversion is situate within the West one-half of the Northwest one-quarter (W½ NW¼) of Section 16 T.19N., R.20E., M.D.B.&M., Washoe County, Nevada from said point of diversion the West one-quarter corner of Section 21, T.19N., R.20E., M.D.B.&M. bears South 09°54'07"W a distance of 6929.94 feet.

"B"

EXHIBIT "A"
PROPOSED PLACE OF USE

DIVISION	SECTION	T-N	R-E	
ALL	1 – 5	18	18	M.D.B.& M.
E ½	6 & 7	18	18	M.D.B.& M.
ALL	8 – 17	18	18	M.D.B.& M.
E ½	18 & 19	18	18	M.D.B.& M.
ALL	20 – 29	18	18	M.D.B.& M.
E ½	30 & 31	18	18	M.D.B.& M.
ALL	32 – 36	18	18	M.D.B.& M.
ALL	1 – 5	19	18	M.D.B.& M.
E ½	6 & 7	19	18	M.D.B.& M.
ALL	8 – 17	19	18	M.D.B.& M.
E ½	18 & 19	19	18	M.D.B.& M.
ALL	20 – 29	19	18	M.D.B.& M.
E ½	30 & 31	19	18	M.D.B.& M.
ALL	32 – 36	19	18	M.D.B.& M.
ALL	1 – 5	20	18	M.D.B.& M.
E ½	6 & 7	20	18	M.D.B.& M.
ALL	8 – 17	20	18	M.D.B.& M.
E ½	18 & 19	20	18	M.D.B.& M.
ALL	20 – 29	20	18	M.D.B.& M.
E ½	30 & 31	20	18	M.D.B.& M.
ALL	32 – 36	20	18	M.D.B.& M.
ALL	1 – 5	21	18	M.D.B.& M.
E ½	6 & 7	21	18	M.D.B.& M.
ALL	8 – 17	21	18	M.D.B.& M.
E ½	18 & 19	21	18	M.D.B.& M.
ALL	20 – 29	21	18	M.D.B.& M.
E ½	30 & 31	21	18	M.D.B.& M.
ALL	32 – 36	21	18	M.D.B.& M.
ALL	1 – 36	17	19	M.D.B.& M.
ALL	1 – 36	18	19	M.D.B.& M.
ALL	1 – 36	19	19	M.D.B.& M.
ALL	1 – 36	20	19	M.D.B.& M.
ALL	1 – 36	21	19	M.D.B.& M.

DIVISION	SECTION	T-N	R-E	
ALL	5 & 6	16	20	M.D.B.& M.
ALL	1 – 36	17	20	M.D.B.& M.
ALL	2 – 35	18	20	M.D.B.& M.
W ½	36	18	20	M.D.B.& M.
ALL	1 – 12	19	20	M.D.B.& M.
ALL	14 – 23	19	20	M.D.B.& M.
ALL	26 – 35	19	20	M.D.B.& M.
ALL	1 – 36	20	20	M.D.B.& M.
ALL	1 – 36	21	20	M.D.B.& M.
ALL	1 – 36	20	21	M.D.B.& M.
ALL	1 – 36	21	21	M.D.B.& M.

See supporting map accompanying application 71534.

APPENDIX "B"

REPORTS and PLAN SETS

Axion ENGINEERING
Civil Engineering • Land Development

TMWA DISCOVERY
and
WATER SERVICE
ACKNOWLEDGEMENT

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P 775.834.8080 • F 775.834.8003

December 5, 2015

To: Karen Meyer

Thru: Scott Estes

From: Holly Flores HMF

Re: 370 Calle De La Plata Discovery – Preliminary Water Facility Requirements

PURPOSE:
Determine the least cost facility plan to provide water service to the proposed 119 unit subdivision in the Spanish Springs Valley. The preliminary Tentative Map for the subdivision is attached.

CONCLUSIONS AND RECOMMENDATIONS:
The project will require annexation to TMWA's retail water service territory prior to service. Once successfully annexed, water service can be provided by the Desert Springs System by extending water main in Calle De La Plata to the property and constructing two new pressure regulating stations. The preliminary cost estimate for service to the 370 Calle De La Plata project is approximately $2,275,392. The included costs consist of Rate Schedule WSF charges for Area 12 and Supply and Treatment and major water facility improvements required for service.

DISCUSSION:
Location:
The 370 Calle De La Plata subdivision consists of 119 single-family residential units on APN 534-562-07 in Sections 23 and 24 in T21N, R20E, MDM in the Spanish Springs Valley. The project is located north of Calle De La Plata and east of Pyramid Way in Washoe County. Current development plans include 119 single-family residential units on 39.83 acres with average lot size of 8,000 square feet. The project is located outside the Truckee Meadows Water Authority's retail service territory and must be annexed prior to service. An exhibit is attached showing the project location in relation to existing water facilities and retail service boundary.

Estimated Demands:
The maximum day domestic demand for the project has been estimated at 96 gpm. No separate potable irrigation demand was included in this analysis as it is unknown at this time. In addition, fire requirements are unknown and must be set by the Fire Authority prior to service.

Water Facility Requirements and Cost Estimates:
The project can be served by extending water main in Calle De La Plata and constructing two new pressure regulating stations as shown on the attached exhibit. The proposed westerly point of connection will be to the existing 14-inch main near Isidor Court in Calle De La Plata.

Crossing Pyramid Highway in NDOT R-O-W will likely require jack and bore. The easterly point of connection will be to the existing 16-inch main at El Caballo Trail. TMWA may invest in oversizing the Calle De La Plata water main. Pressure regulating stations can be constructed at the two entrances to project just north of Calle De La Plata.

The preliminary water system facility requirements based on the estimated maximum day demand are summarized in the table below:

Table 1: Estimated Major Water Facility Costs

Facility Description	Quantity	Unit	Unit Cost	Total Cost	Comments
Area 12 Facility Charge	96	per gpm	$5,789	$555,744	Rate Schedule WSF
Supply and Treatment Facility Charge	96	per gpm	$4,163	$399,648	Rate Schedule WSF
Pressure Regulating Stations	2	each	$60,000	$120,000	
Offsite Main Extensions	8,000	feet	$150	$1,200,000	Calle De La Plata
Estimated Cost				**$2,275,392**	2015 planning level estimate only

ASSUMPTIONS:

1. The 370 Calle De La Plata subdivision will be annexed into the Truckee Meadows Water Authority's retail water service territory.
2. This preliminary study was based on information provided by Axion Engineering in late October 2015 including a preliminary Tentative Map and average lot sizes of 8,000 square feet.
3. The water facility plan shown on the included exhibit is preliminary and subject to change.
4. Potable irrigation demands are unknown at this time.
5. Privately owned individual pressure regulating valves will be installed by the builder per TMWA design standards.
6. The estimated maximum day domestic demand for the project is 96 gpm. Actual demands will be determined at the time of application for service.
7. The fire flow requirement and duration has not been set by the governing fire agency and must be set prior to finalizing the water facility plan.
8. All cost estimates are preliminary and subject to change. The costs represented are preliminary planning level cost estimates that are based on the best information available today. Actual costs will be determined at the time of application for service.
9. This estimate does not include the cost of onsite facilities, water rights for the project or contribution to the water meter retrofit fund.
10. Dead ends must be eliminated and a looped water system designed, to the extent possible, per NAC 445A requirements. The Health Authority may require changes to the ultimate water facility plan that may in turn affect the included cost estimates.
11. The water facility plan proposed by TMWA must be reviewed for compliance with state and local codes and regulations and approved by the local health authority prior to service.

SUMMARY AND CONCLUSIONS:

The proposed 370 Calle De La Plata subdivision can be served by the Truckee Meadows Water Authority within the Desert Springs System. The 2015 planning level estimated cost for service to this project for is $2,275,392. Annexation to the Truckee Meadows Water Authority's retail water service territory is required.

/hmf
Attachments: Preliminary Tentative Map by Axion Engineering – reduced
TMWA Retail Service Boundary Figure
Preliminary Water Service Plan

cc: Gary Guzelis, P.E., Axion Engineering
File 15-4682

Axion ENGINEERING
Civil Engineering • Land development
681 EDISON WAY – RENO, NEVADA 89502
PH 775-771-6564 / FX 775-866-3651

PROFESSIONAL ENGINEER-STATE OF NEVADA
GARY K. GUZELIS
Exp. 6-30-17
CIVIL
No. 10372

TENTATIVE MAP APPLICATION FOR
370 CALLE DE LA PLATA
LAYOUT 1
WASHOE COUNTY, NEVADA

revisions

drawn:	GKG
checked:	GKG
date:	AUGUST 2015
scale:	1"=60'
project no:	15019

S-1

OF 1

N:\Axion Engineering\Projects AE\Lim House\Calle De La Plata\Tentative Map\Drawings\A1 Base.dwg

TMWA Retail Area

370

Echaniz Ct

Camino De Grato

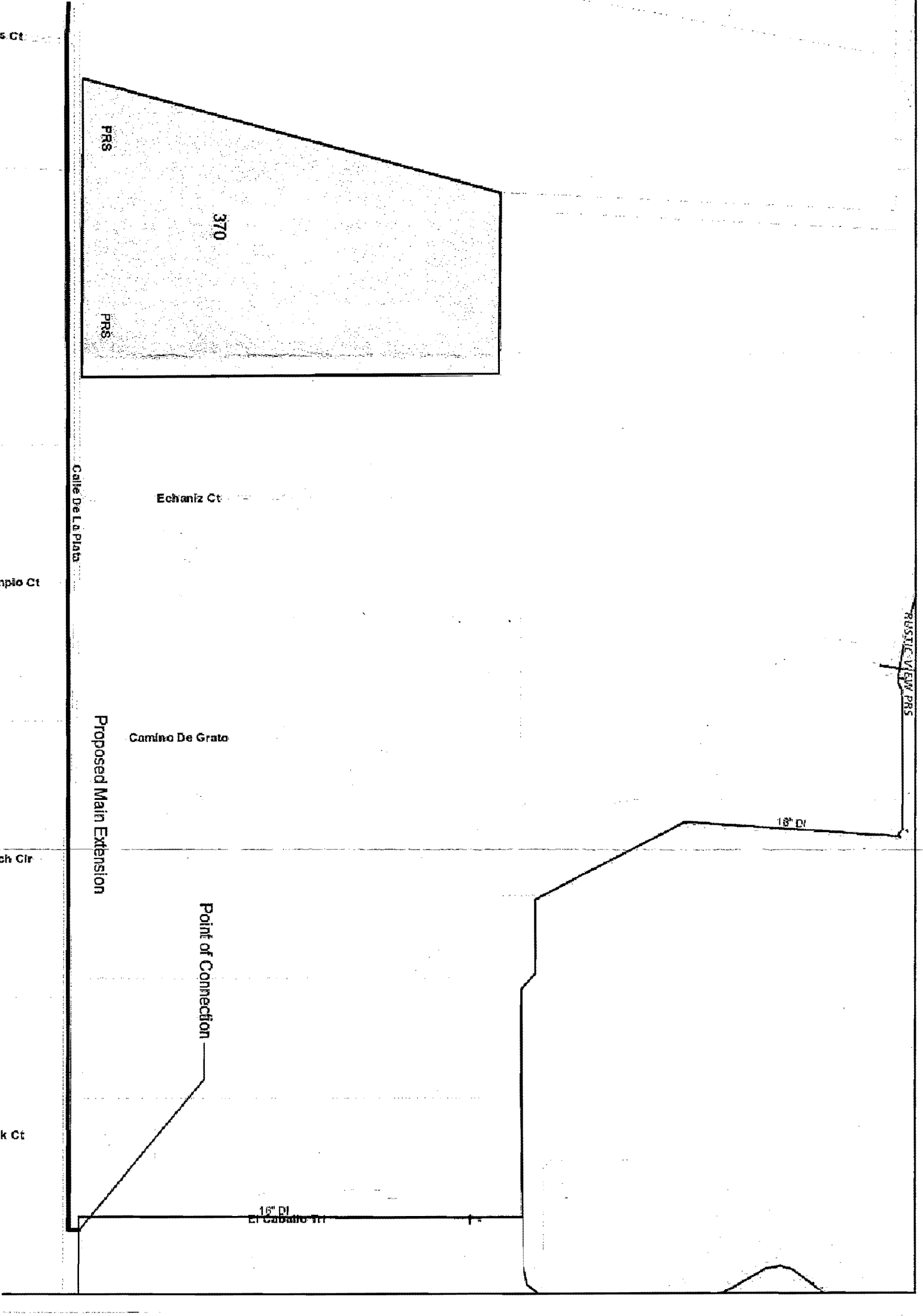
El Cassino Trl

Calle De La Plata

e Limpio Ct

ovich Cir

Wick Ct


PRS
370
PRS
Calle De La Plata
Echaniz Ct
Camino De Grato
Proposed Main Extension
Point of Connection
16" DI
RUSTIC VIEW PRS
16" DI
El Caballo Trl

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January 22, 2016

Gary Guzelis, P.E.
Axion Engineering
681 Edison Way
Reno, NV 89502

RE: Sugarloaf Ranch Estates Tentative Map
Acknowledgement of Water Service
(Tentative Map Review – 119 Units)

Dear Mr. Guzelis:

I have reviewed the plans for the above referenced development ("Project") and have determined the Project is outside the Truckee Meadows Water Authority's retail water service area. This letter constitutes an Acknowledgment of Water Service pursuant to NAC 445A.6666, and the Truckee Meadows Water Authority hereby acknowledges that Truckee Meadows Water Authority is agreeable to supplying water service to the Project subject to applicant satisfying certain conditions precedent, including, without limitation, annexation to the Truckee Meadows Water Authority's retail water service territory, the dedication of water resources, approval of the water supply plan by the local health authority, the execution of a Water Service Agreement, payment of fees, and the construction and dedication of infrastructure in accordance with our rules and tariffs. This Acknowledgement does not constitute a legal obligation by Truckee Meadows Water Authority to supply water service to the Project, and is made subject to all applicable Truckee Meadows Water Authority Rules.

Review of conceptual site plans or tentative maps by Truckee Meadows Water Authority does not constitute an application for service, nor implies a commitment by Truckee Meadows Water Authority for planning, design or construction of the water facilities necessary for service. The extent of required off-site and on-site water infrastructure improvements will be determined by Truckee Meadows Water Authority upon receiving a specific development proposal or complete application for service and upon review and approval of a water facilities plan by the local health authority. Because the NAC 445A Water System regulations are subject to interpretation, Truckee Meadows Water Authority cannot guarantee that a subsequent water facility plan will be approved by the health authority or that a timely review and approval of the Project will be made. The Applicant should carefully consider the financial risk associated with committing resources to their project prior to receiving all required approvals. After submittal of a complete Application for Service, the required facilities, the cost of these facilities, which could be significant, and associated fees will be estimated and will be included as part of the Water Service Agreement necessary for the Project. All fees

must be paid to Truckee Meadows Water Authority prior to water being delivered to the Project.

Please call me at (775) 834-8026 at your convenience if you have any questions.

Sincerely,

Holly M. Flores

Holly M. Flores, P.E.
Principal Engineer

cc: James English, Washoe County District Health Dept.
16-4799

TRAFFIC STUDY

TRAFFIC IMPACT STUDY UPDATE

FOR

Sugarloaf Ranch Estates

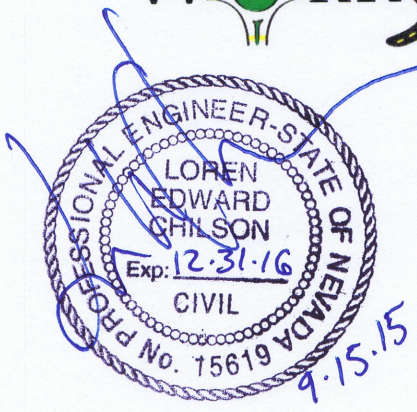
September 15, 2015

PREPARED FOR:

Sugarloaf Peak LLC

PREPARED BY:

TRAFFIC WORKS LLC



TRAFFIC WORKS, LLC
6170 Ridgeview Court, Suite B, Reno, NV 89519
775.322.4300
www.Traffic-Works.com

YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

This report presents the findings of a Traffic Impact Study Update completed for the proposed land use change on an approximately 40 acre property known as Sugarloaf Ranch Estates, located in Spanish Springs, NV. This report is intended to update the previous *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012*.

What does the project consist of?

The land use and quantities are proposed to change from 360 multi-family units in the previous study to 119 single-family housing units.

How much traffic will the project generate?

The proposed project is anticipated to generate 1,139 total daily trips, 89 total AM peak hour trips (22 inbound and 67 outbound), and 120 total PM peak hour trips (72 inbound and 48 outbound). These trip generation estimates are approximately 45% to 50% lower than the traffic generation of the previously contemplated 360 unit multi-family project.

Are there any traffic impacts?

The Pyramid Highway/Calle de la Plata intersection operates at LOS "F" with or without the addition of the project traffic. The project adds traffic to this intersection and exacerbates the LOS "F" conditions.

With the RTP planned improvements, the intersection is anticipated to operate at acceptable LOS conditions in 2030.

What are the recommendations?

We recommend installing a traffic signal at the Pyramid Highway/Calle de la Plata intersection. The Spanish Springs Area Plan recognizes that a traffic signal is needed at this intersection to address the current situation.

The subject intersection operates at LOS "F" and meets MUTCD traffic signal warrants even without the addition of the project traffic. Hence, we recommend that the project apply for RRIF Waivers/Offset and construct the signal as an offset to its impact fees. Under the Existing Plus Project scenario, the existing lane configurations are shown to provide acceptable LOS with the traffic signal.

LIST OF FIGURES

LIST OF APPENDICES

INTRODUCTION

This report presents the findings of a Traffic Impact Study Update completed for the proposed land use change on an approximately 40 acre property known as Sugarloaf Ranch Estates, located in Spanish Springs, NV. This report is intended to update the previously approved *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012*. This study assesses the potential traffic impacts at the Pyramid Highway/Calle de la Plata intersection and at the access locations on Calle de la Plata associated with the proposed project. This traffic impact study has been prepared to document existing traffic conditions, quantify traffic volumes generated by the proposed project, identify potential impacts, document findings, and make recommendations to mitigate impacts, if any are found.

The updated land use consists of 119 single-family units (as opposed to 360 multi-family units in the previous traffic study).

Study Area and Evaluated Scenarios

The project location and the study intersections are shown in **Figure 1**. The following study intersections were analyzed:

- Pyramid Highway/Calle de la Plata
- Calle de la Plata/Driveway A
- Calle de la Plata/Driveway B

This study includes analysis of both the weekday AM and PM peak hours as these are the periods of time in which peak traffic conditions are anticipated to occur. The analysis scenarios include:

- Existing Conditions
- Existing Plus Project Conditions
- 2030 Background Conditions
- 2030 Plus Project Conditions

Analysis Methodology

This update utilizes the same analysis methodology used in the previous study. Please refer to *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012* (**Appendix E**).

Level of Service Policy

The 2035 Regional Transportation Plan (2035 RTP) establishes level of service criteria for regional roadway facilities in Washoe County, the City of Reno, and City of Sparks. The current Level of Service policy is:

- "All regional roadway facilities projected to carry less than 27,000 ADT at the latest RTP horizon – LOS D or better."
- "All regional roadway facilities projected to carry 27,000 ADT or more at the latest RTP horizon – LOS E or better."
- "All intersections shall be designed to provide a level of service consistent with maintaining the policy level of service of the intersecting roadways".

NDOT maintains a policy of LOS D or better on their facilities. Since Pyramid Highway is an NDOT facility and ADT on Calle de la Plata is anticipated to be less than 27,000 vehicles per day, LOS "D" is the LOS criteria for this study.

EXISTING TRANSPORTATION FACILITIES

Transportation facilities near the study area essentially remain unchanged compared to the previous approved study. Please refer to *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012* for a description of existing conditions.

EXISTING CONDITIONS

Existing Traffic Volumes

Existing traffic volumes at the study intersections were determined by new collecting turning movement counts during the AM and PM peak periods. The counts were conducted on September 10, 2015, an average mid-week day. The existing peak hour intersection traffic volumes and lane configurations are shown on **Figure 2** attached.

Existing Intersection Level of Service

Level of service calculations were performed using the existing traffic volumes, lane configurations, and traffic controls. The results are presented in **Table 1** and the calculation sheets are provided in **Appendix A**, attached.

Table 1: Existing Conditions Intersection Level of Service Summary

Intersection	Worst Approach	AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
Pyramid Hwy/Calle de la Plata	Westbound	F	>100	F	53.6

As shown in **Table 1**, the Pyramid Highway/Calle de la Plata intersection (worst approach) currently operates at LOS "F" during both the AM and PM peak hour. The project driveway intersections do not exist at this time.

Existing Roadway Level of Service

Since the peak hour volumes at the study intersections were found to be consistent with the 2012 study, the prior road segment analysis is deemed valid. Please refer to *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012* for existing conditions road segment analysis. Based on the prior findings, the study roadway segments function at acceptable LOS.

Signal Warrant Analysis

A preliminary Signal Warrant Analysis was performed to determine whether or not a traffic signal would be warranted at the Pyramid Highway/Calle de la Plata intersection under existing conditions. The warrant analysis was completed based on nationally accepted standards outlined in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD). The Warrant 2 – Four-Hour Vehicular Volume and Warrant 3 - Peak Hour signal warrants were analyzed based on the existing traffic volumes.

Warrant 2, Four-Hour Vehicular Volume

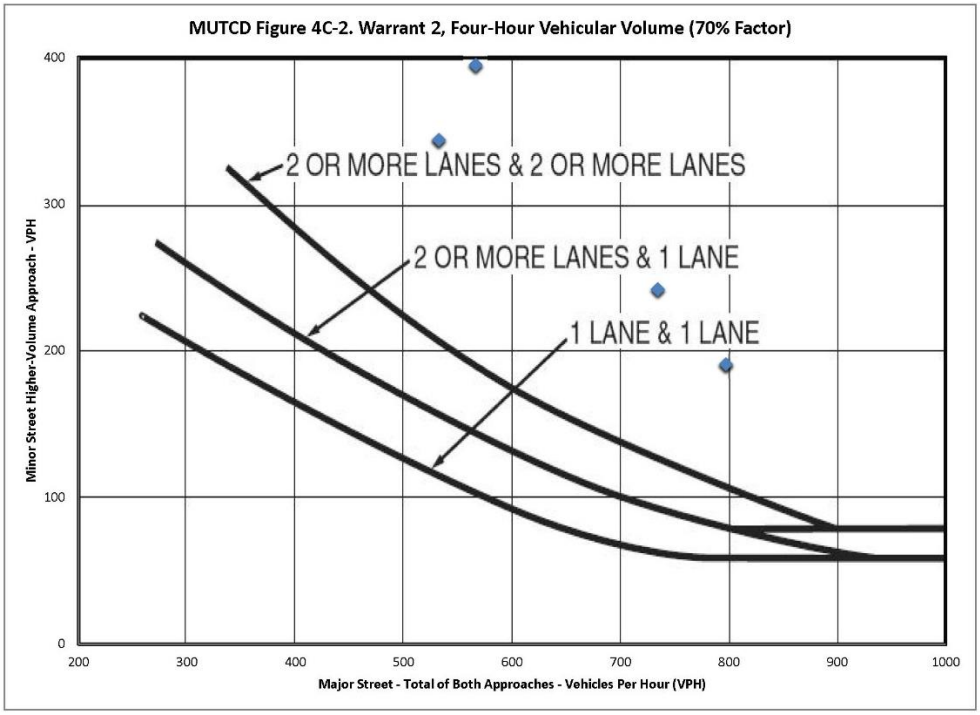


Exhibit 1. Warrant 2 Summary

This warrant requires that the traffic volumes for four hours of the day fall above the appropriate curve (2 or more lanes & 1 or more lanes) in **Exhibit 1**. Using Figure 4C-2 of the MUTCD, we plotted the points for major/minor street traffic. As shown in **Exhibit 1**, multiple hours fall above the curve (2 or more lanes & 1 or more lanes). Hence, Warrant 2 is met.

Warrant 3, Peak Hour

Warrant 3 has two criteria, Criteria A and Criteria B.

Criteria A has three parts. Part 1 requires stopped time delay on one leg of the minor street to be at least four (4) vehicle-hours. Using the traffic volumes and delay values calculated using the AM Peak, the average of 395.2 seconds per vehicle was multiplied by the 100 vehicles (worst approach) and divided by 3600 sec/hour to obtain the total delay which is 10.97 hours. Part 1 is met. The volume on minor street approach is more than 150 vehicles per hour. Part 2 is met. The total entering volume serviced during the same hour exceeds 800 vehicles per hour. Part 3 is met. Hence, Criteria A is met.

Criteria B was evaluated by plotting the points for major and minor street traffic using MUTCD Figure 4C-4. Since only one point would need to fall above the curve, Criteria B is met.

Since both Criteria A and Criteria B are met, Warrant 3 is met.

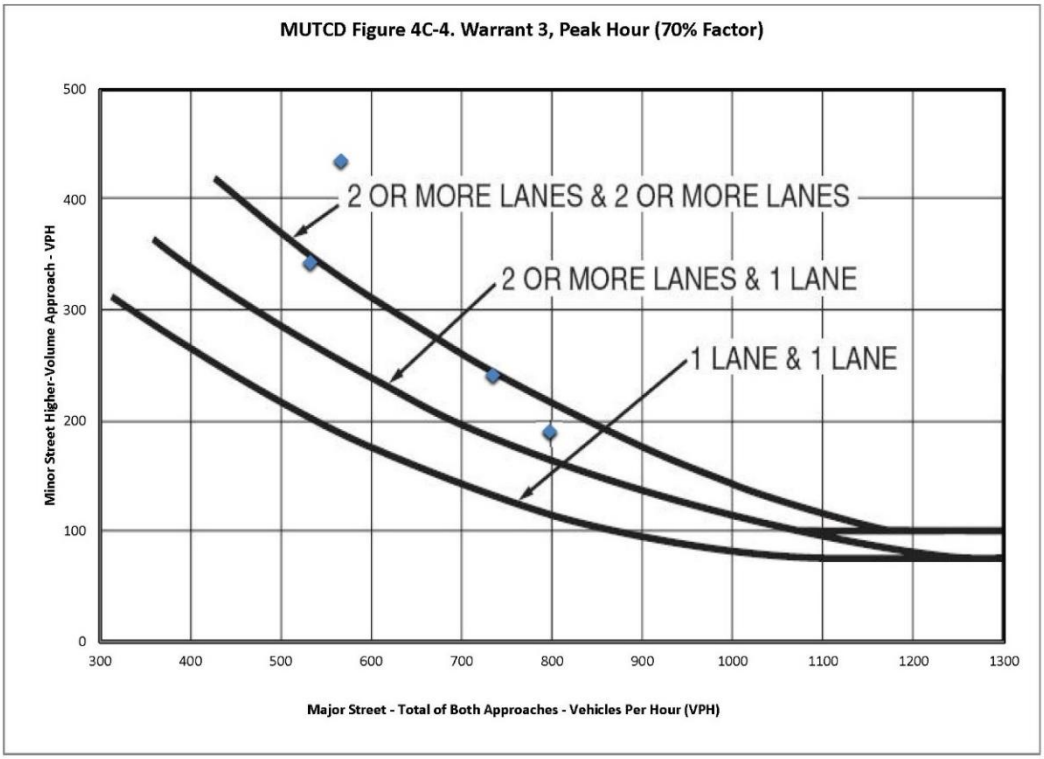


Exhibit 2. Warrant 3 Summary

Since the traffic volumes meet both Warrants 2 and 3, a traffic signal is warranted at the Pyramid Highway/Calle de la Plata intersection.

PROJECT GENERATED TRAFFIC

Project Description

The proposed project consists of 119 single-family units, as opposed to 360 multi-family units in the previous traffic study. The project location is shown in **Figure 1**.

Project Access

The project proposes two access driveways on Calle de la Plata. Both the driveways are proposed to be side-street STOP controlled with single-lane approaches.

Trip Generation

Trip generation rates for the proposed project were obtained using the *Trip Generation Manual, 8th Edition*, published by the Institute of Transportation Engineers.

Table 2 provides the Daily, AM Peak Hour, and PM Peak Hour trip generation calculations for the proposed project based on the ITE Trip Generation Manual. Detailed calculations of the trip generation estimates are provided in **Appendix B**.

Table 2: Trip Generation Estimates

ITE Land Use (#)	Size (units)	Daily	AM Peak Hour (Total Trips)			PM Peak Hour (Total Trips)		
			Total	In	Out	Total	In	Out
Single Family Housing (210)	119	1,139	89	22	67	120	72	48
TOTAL		1,139	89	22	67	120	72	48

As shown in **Table 2**, applying the ITE Trip Generation Manual trip rates, the proposed project is anticipated to generate 1,139 total daily trips, 89 total AM peak hour trips (22 inbound and 67 outbound), and 120 total PM peak hour trips (72 inbound and 48 outbound).

These trip generation estimates are approximately 45% to 50% lower than the previous 360 unit multi-family project.

Trip Distribution and Assignment

This analysis utilizes the same trip distribution and trip assignment developed in the previous study. Please refer to *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012.*

EXISTING PLUS PROJECT CONDITIONS

Traffic Volumes

Existing plus project traffic volumes were developed by adding the project generated trips (**Figure 3**) to the existing traffic volumes (**Figure 2**) and are shown on **Figure 4**, attached. The "Plus Project" condition Peak Hour Factors (PHF) and travel patterns were assumed to remain the same as existing conditions.

Intersection Level of Service Analysis

Table 3 presents the level of service analysis summary for "Plus Project" scenario. Detailed calculation sheets are provided in **Appendix C**, attached.

Table 3: Existing Plus Project Intersection Level of Service Summary

Intersection	Worst Approach/ Control	Existing				Existing Plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Pyramid Hwy/Calle de la Plata	WB	F	>100	F	53.6	F	>100	F	96.5
Pyramid Hwy/Calle de la Plata	Signalized	NA	NA	NA	NA	B	15.2	A	9.2
Calle de la Plata/Dwy A	SB	NA	NA	NA	NA	A	9.2	A	8.7
Calle de la Plata/Dwy B	SB	NA	NA	NA	NA	A	9.0	A	8.8

As shown in **Table 3**, the Pyramid Hwy/Calle de la Plata intersection continues to operate at LOS "F" with the addition of the project traffic, during both the AM and PM peak hours. The project driveways would operate at LOS "A" during both the peak hours, with the addition of the project traffic.

With a traffic signal, the Pyramid Hwy/Calle de la Plata intersection would operate at LOS "A/B" with the existing lane configurations.

Roadway Level of Service Analysis

Table 4 shows the Existing Plus Project conditions roadway LOS.

Table 4: Existing Plus Project Roadway Level of Service Summary

Roadway Segment	Functional Classification	# Lanes	Existing		Existing Plus Project	
			ADT	LOS	ADT	LOS
Pyramid Hwy N/O Calle de la Plata	High Access Control Arterial	2	4,400	B	4,515	B
Pyramid Hwy S/O Calle de la Plata		2	10,000	C	10,918	C
Calle de la Plata E/O Pyramid Hwy	Low Access Control Collector	2	1,340	C	1,397	C
Calle de la Plata W/O Pyramid Hwy		4	5,480	C	5,538	C

As shown in **Table 4**, the study roadway segments are anticipated to operate at acceptable LOS conditions with the addition of the project traffic.

Signal Warrant Analysis

The Four-Hour Vehicular Volume and Peak Hour signal warrants are met under existing conditions at the Pyramid Highway/Calle de la Plata intersection. Therefore, with the addition of project traffic, these warrants are also satisfied under Existing Plus Project Conditions. A traffic signal is recommended at this location.

2030 BACKGROUND CONDITIONS

The 2030 Background Conditions remain unchanged from the prior study. Please refer to *Village at the Peak Traffic Impact Study – Sugarloaf Peak Property, May 2012.* The report is attached in **Appendix E**.

Note that a traffic signal is assumed in the 2030 Background Conditions scenario based on the improvements outlined in the 2035 RTP and the prior study. The 2030 background traffic volumes and long-term lane configurations are shown in **Figure 6**.

2030 PLUS PROJECT CONDITIONS

Traffic Volumes

Year 2030 plus project traffic volumes were developed by adding the project generated trips to the 2030 background traffic volumes. The 2030 plus project traffic volumes and long-term lane configurations are shown in **Figure 7**.

Intersection Level of Service Analysis

Table 5 presents the level of service analysis summary for "2030 Plus Project" scenario. Detailed calculation sheets are provided in **Appendix D**, attached.

Table 5: 2030 Plus Project Intersection Level of Service Summary

Intersection	Intersection Control	AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
Pyramid Hwy/Calle de la Plata	Signal	C	28.4	D	46.1
Calle de la Plata/Dwy A	TWSC	B	10.7	C	15.1
Calle de la Plata/Dwy B	TWSC	B	11.9	C	15.8

As shown in **Table 5**, all the study intersections are anticipated to operate at acceptable LOS conditions under 2030 Plus Project conditions. This scenario includes a traffic signal at the Pyramid Highway/Calle de la Plata intersection and a variety of improvements outlined in the 2035 RTP.

Roadway Level of Service Analysis

Table 6 shows the 2030 Plus Project conditions roadway LOS. The planned roadway segments are anticipated to operate at LOS "C" with and without the addition of the project traffic.

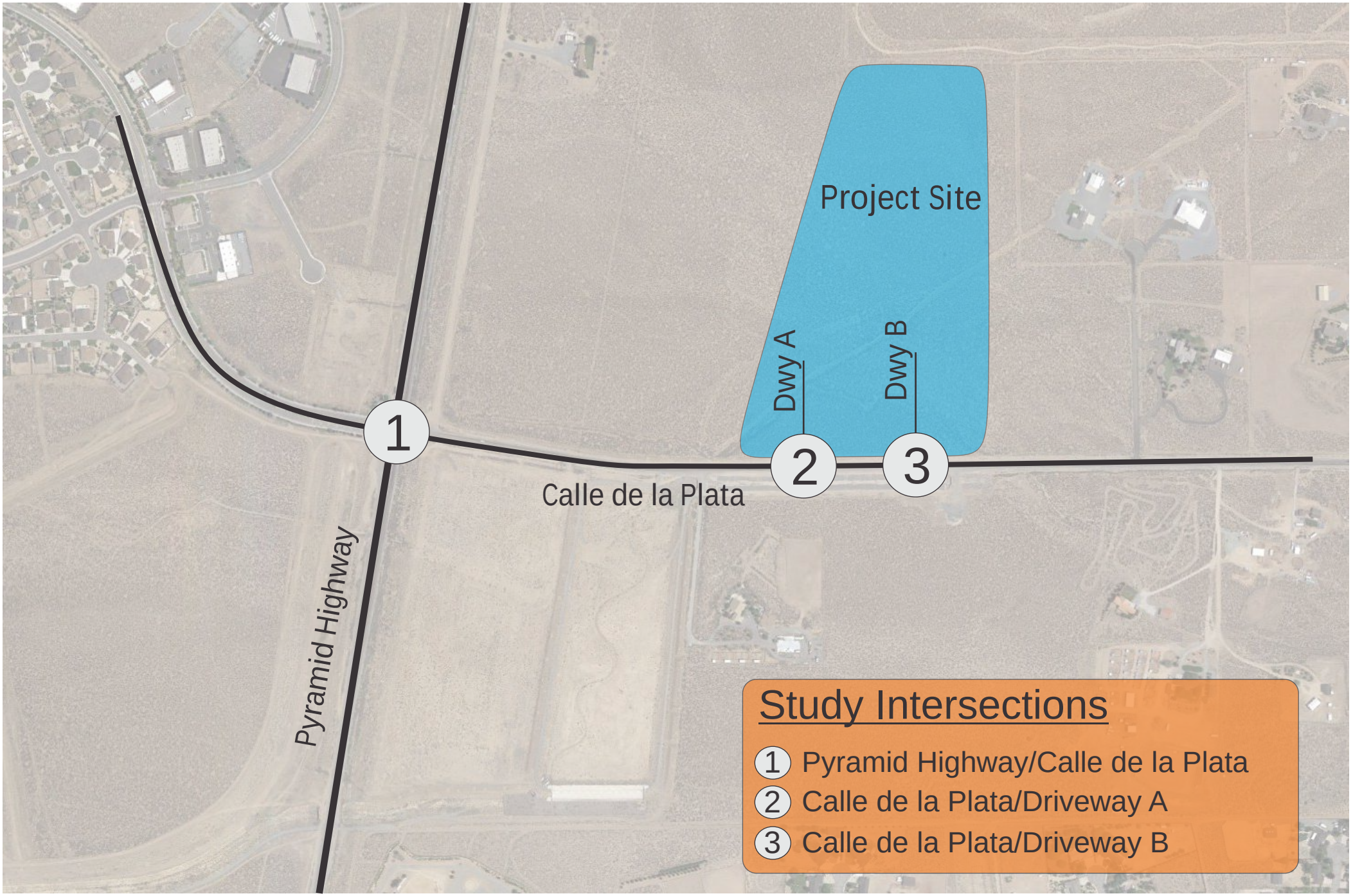
Table 6: 2030 Plus Project Roadway Level of Service Summary

Roadway Segment	Functional Classification	# Lanes	2030		2030 Plus Project	
			ADT	LOS	ADT	LOS
Pyramid Hwy N/O Calle de la Plata	High Access Control Arterial	4	26,010	C	26,240	C
Pyramid Hwy S/O Calle de la Plata		6	47,190	C	47,879	C
Calle de la Plata E/O Pyramid hwy	Low Access Control Collector	2	3,930	C	4,102	C
Calle de la Plata W/O Pyramid hwy		4	10,730	C	10,787	C

CONCLUSIONS & RECOMMENDATIONS

The following is a list of our key findings and recommendations:

- The land use density has been reduced from 360 multi-family units to 119 single family units.
- The new land use generates approximately 45% to 50% fewer trips compared to the previous project.
- The Pyramid Highway/Calle de la Plata intersection currently operates at LOS "F" during both the AM and PM peak hours.
- The Pyramid Highway/Calle de la Plata intersection will continue to operate at LOS "F" with the addition of the project traffic (with increased side street delays).
- Existing peak hour traffic volumes at the Pyramid Highway/Calle de la Plata intersection meet the Four-Hour Vehicular Volume and Peak Hour signal warrants per MUTCD guidelines. These warrants are met with or without the addition of the project traffic.
- We recommend installing a traffic signal at the Pyramid Highway/Calle de la Plata intersection to improve the LOS as it operates at LOS "F" and meets MUTCD signal warrants even without the addition of the project traffic. The Spanish Springs Area Plan recognizes that a traffic signal is needed at this intersection to address the current situation.
- Adequate roadway and intersection improvements are planned within the Regional Transportation Plan to accommodate the future regional growth in the project area.
- The study intersections and roadway segments are anticipated to operate at acceptable LOS conditions in the year 2030.
- We recommend the project enter into a Regional Road Impact Fee (RRIF) offset/waiver agreement with Washoe County and the Regional Transportation Commission for construction of a traffic signal at the Pyramid Highway/Calle de la Plata intersection. The existing lane configuration is shown to provide acceptable LOS conditions with a signal in place. If a signal is constructed prior to this project (by others) and an offset/waiver is not feasible, the applicant's mitigation responsibility will be payment of the standard traffic impact fees.

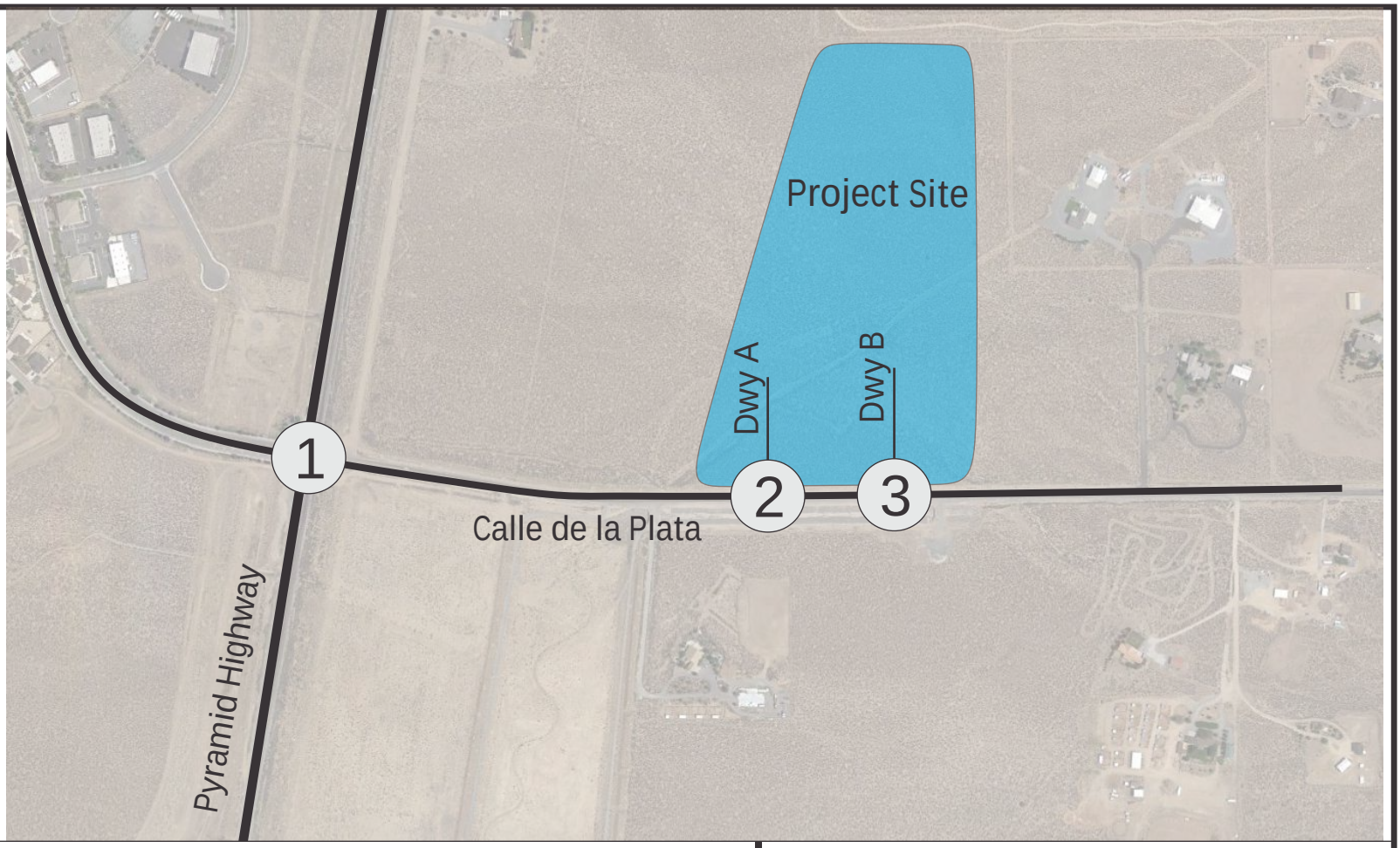


TRAFFIC WORKS LLC

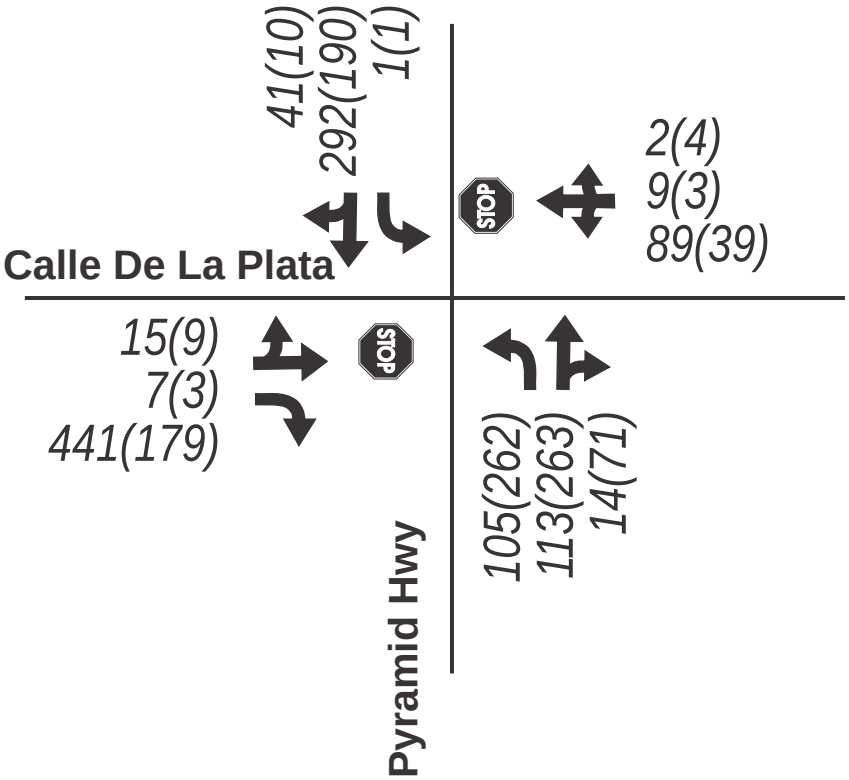
NO SCALE

Figure 1

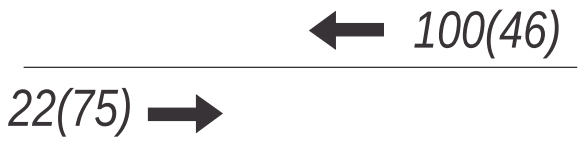
Sugarloaf Ranch Estates
Traffic Impact Study Update
Study Area



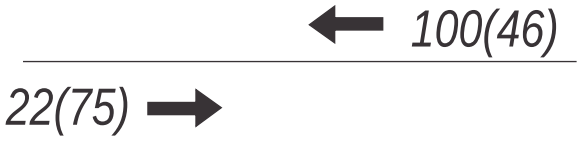
1 Pyramid Hwy/Calle de la Plata



2 Calle de la Plata/Dwy A



3 Calle de la Plata/Dwy B



TRAFFIC WORKS LLC

LEGEND

AM(PM) - Peak Hour Traffic Volumes

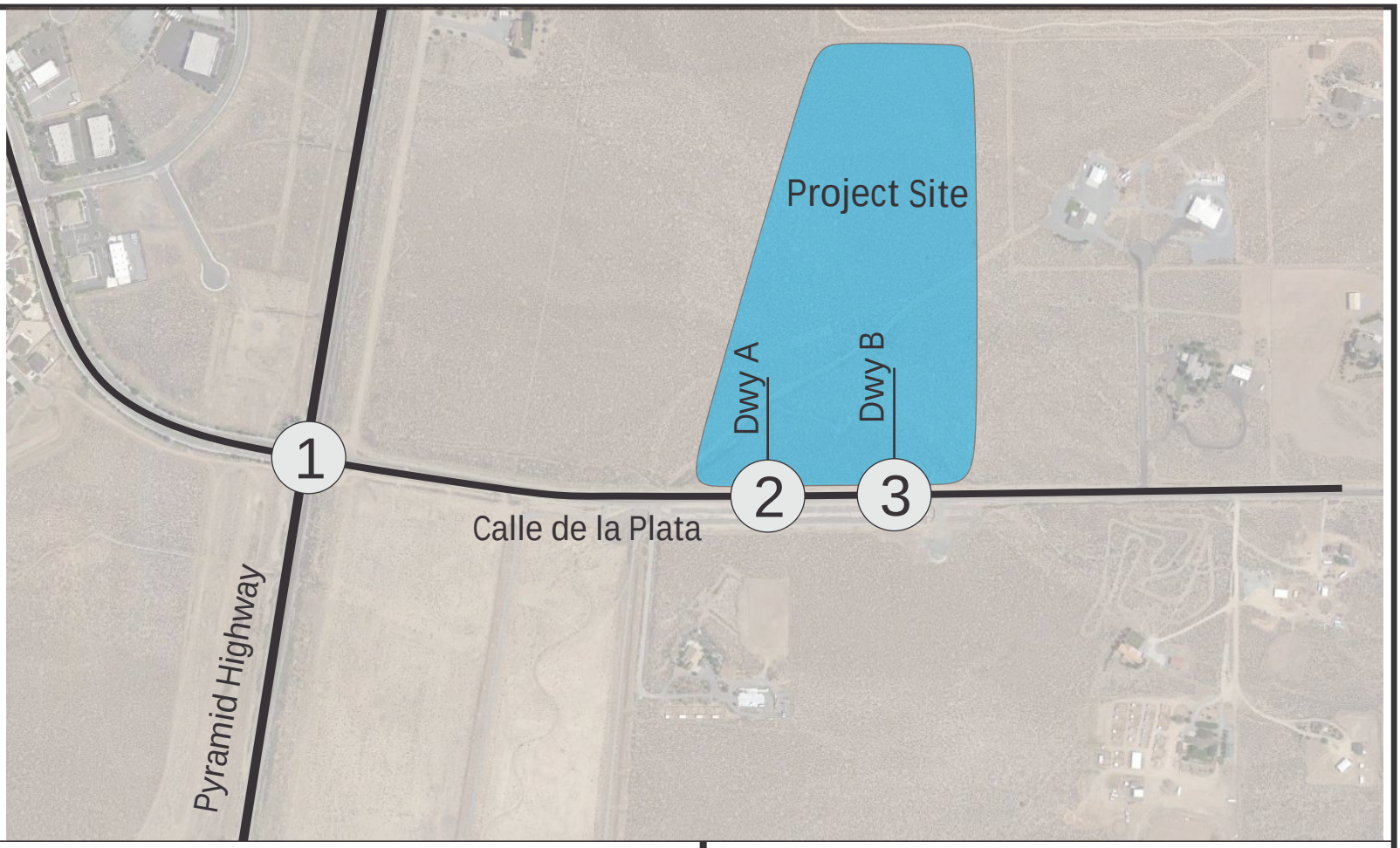
- Lane Configuration

STOP - STOP Sign

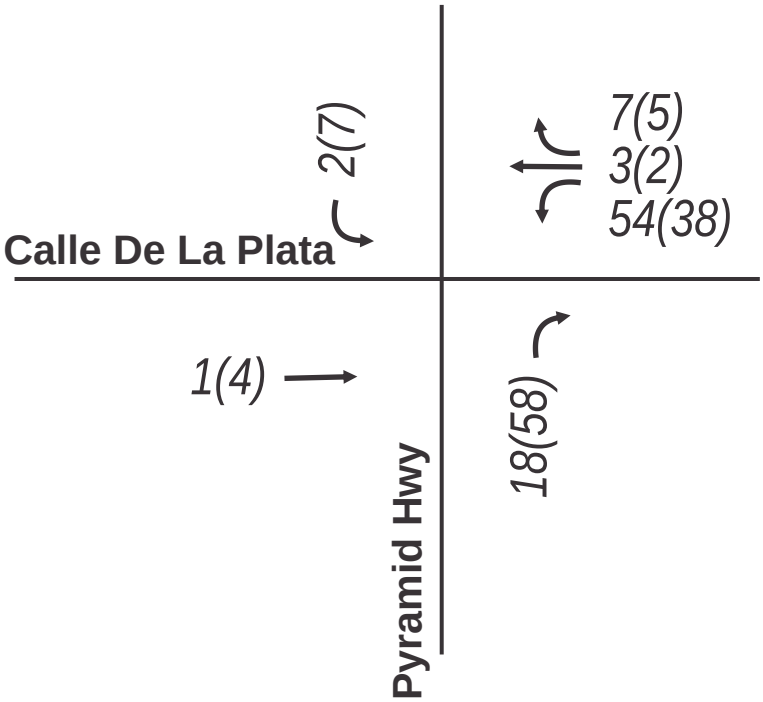
NO SCALE

Figure 2

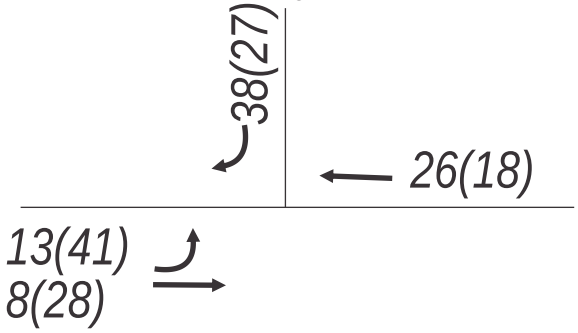
Sugarloaf Ranch Estates
Traffic Impact Study Update
Existing Traffic Volumes



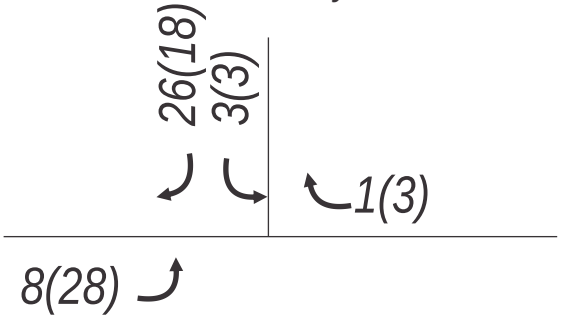
1 Pyramid Hwy/Calle de la Plata



2 Calle de la Plata/Dwy A



3 Calle de la Plata/Dwy B



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LEGEND

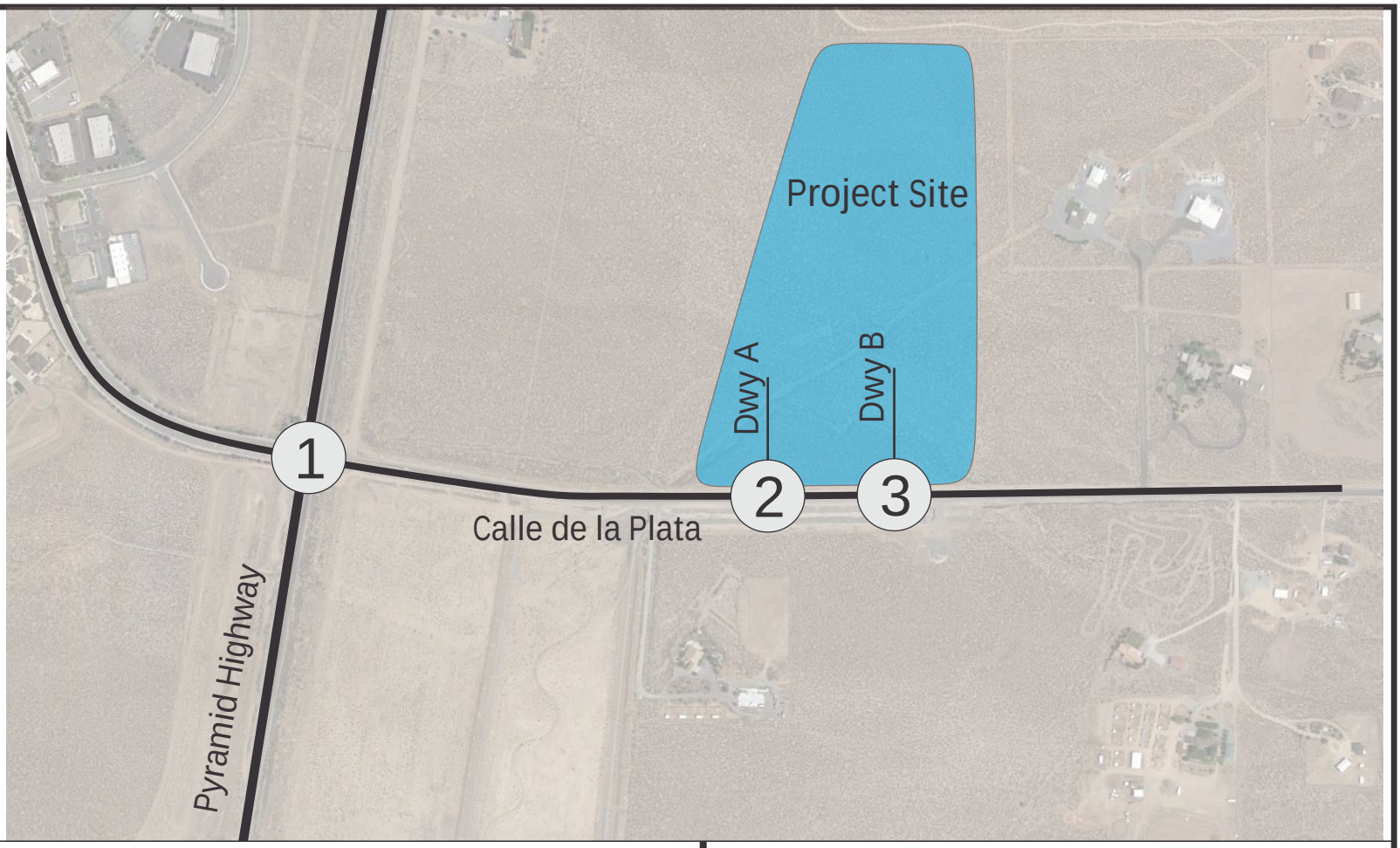
AM(PM) - Project Trips

NO SCALE

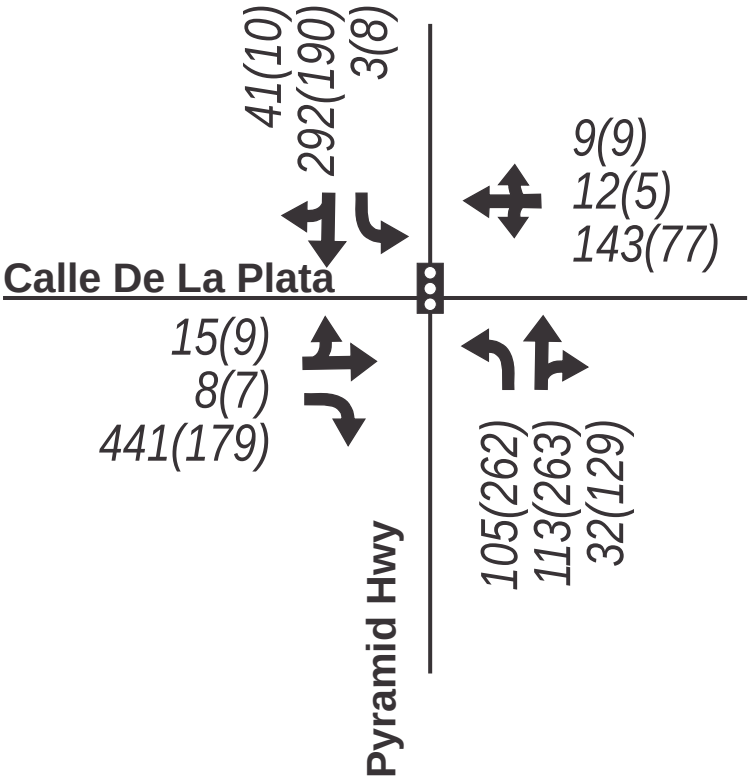
Figure 3

Sugarloaf Ranch Estates
Traffic Impact Study Update

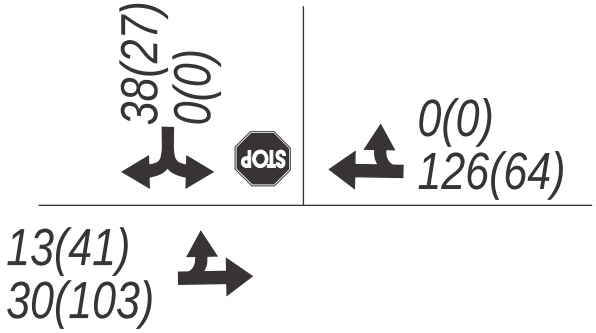
Trip Assignment



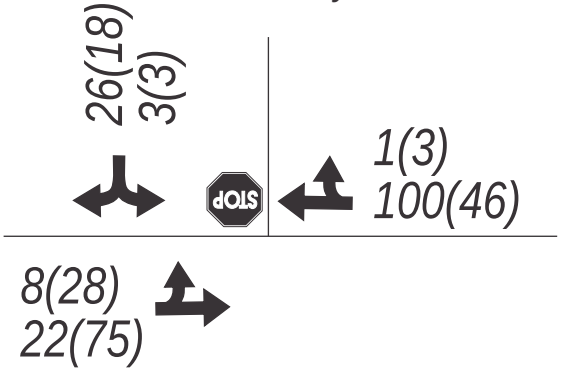
1 Pyramid Hwy/Calle de la Plata



2 Calle de la Plata/Dwy A



3 Calle de la Plata/Dwy B



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LEGEND

AM(PM) - Peak Hour Traffic Volumes

- Traffic Signal

- Lane Configuration

STOP - STOP Sign

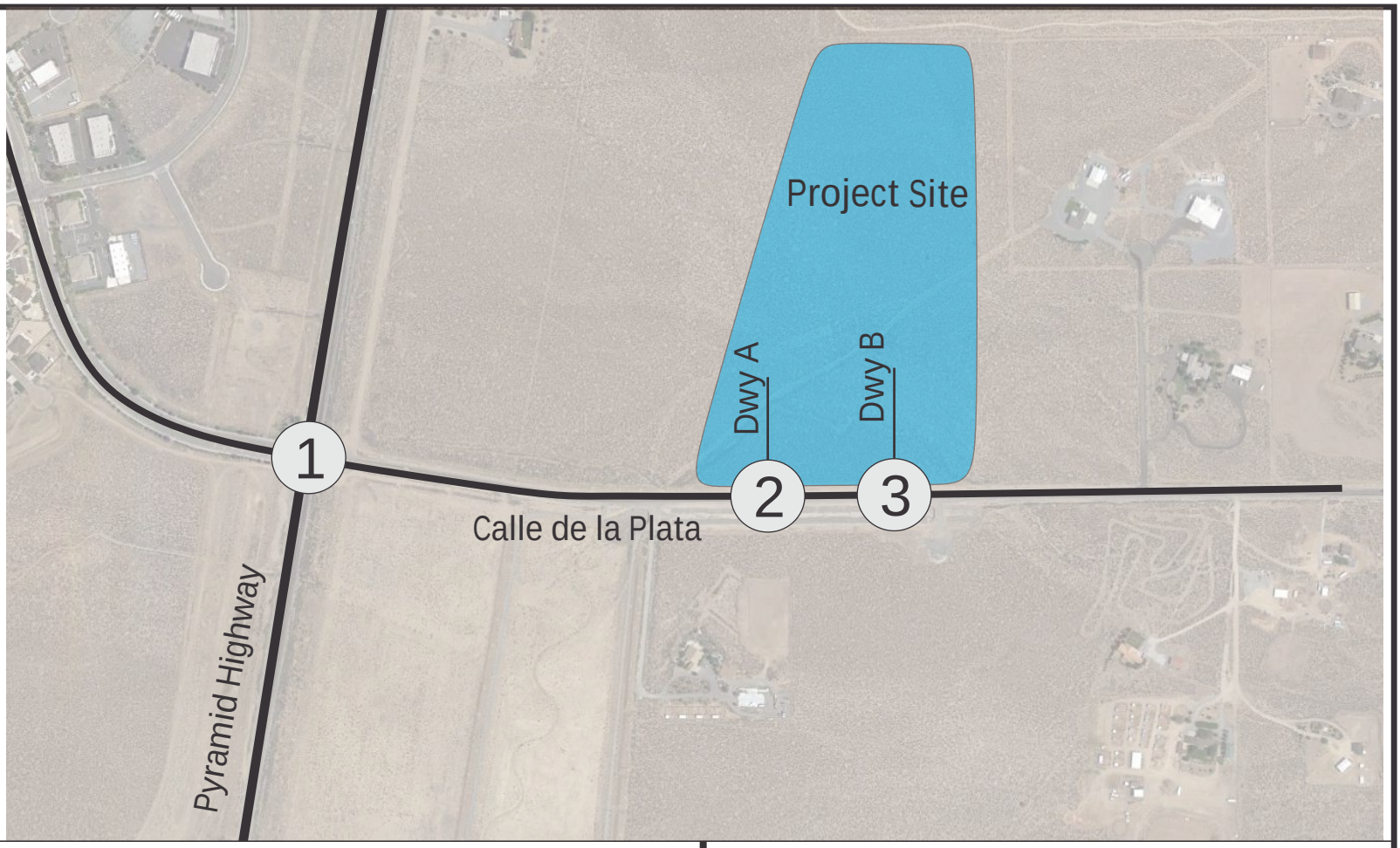
N

NO SCALE

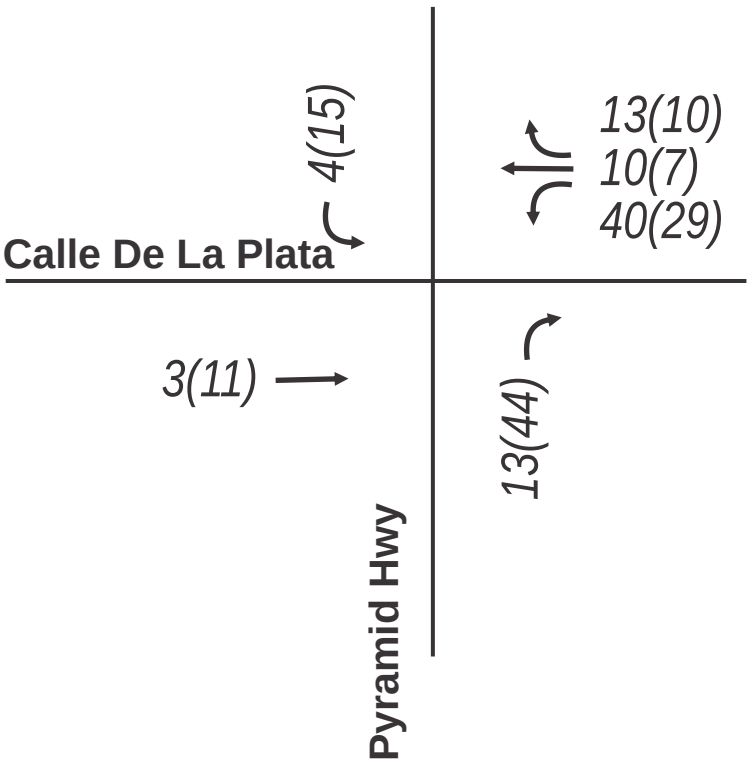
Figure 4

Sugarloaf Ranch Estates
Traffic Impact Study Update

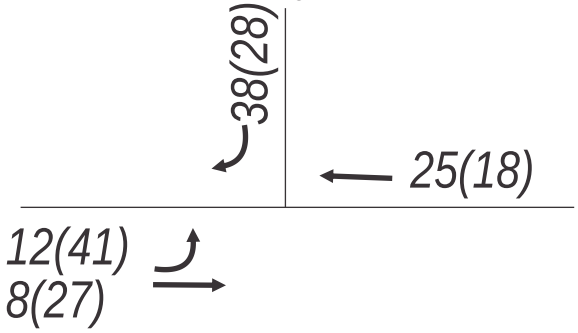
Existing Plus Project Traffic Volumes



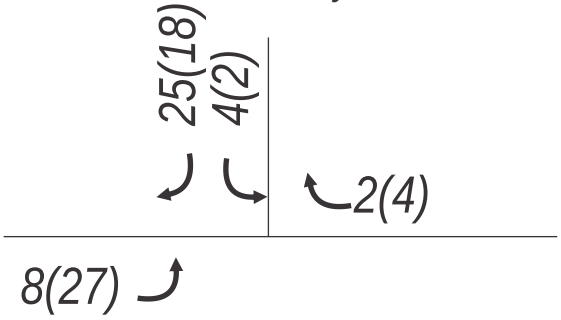
1 Pyramid Hwy/Calle de la Plata



2 Calle de la Plata/Dwy A



3 Calle de la Plata/Dwy B



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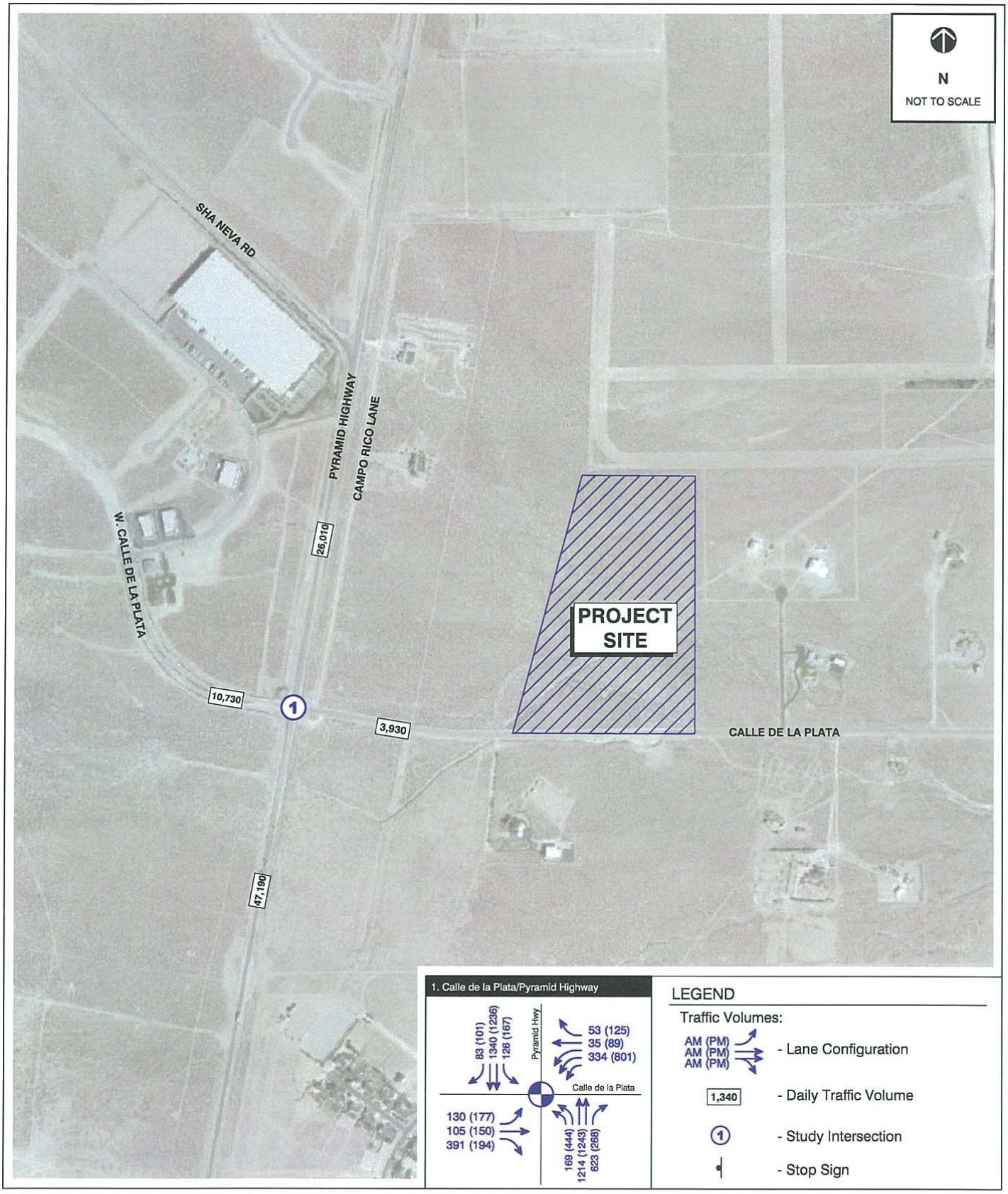
LEGEND

AM(PM) - Project Trips

NO SCALE

Figure 5

Sugarloaf Ranch Estates
Traffic Impact Study Update
2030 Trip Assignment



FEHR & PEERS
TRANSPORTATION CONSULTANTS

Village at the Peak TIS - Sugarloaf Peak Property
2030 Background Traffic Volumes,
Lane Configurations, and Traffic Control

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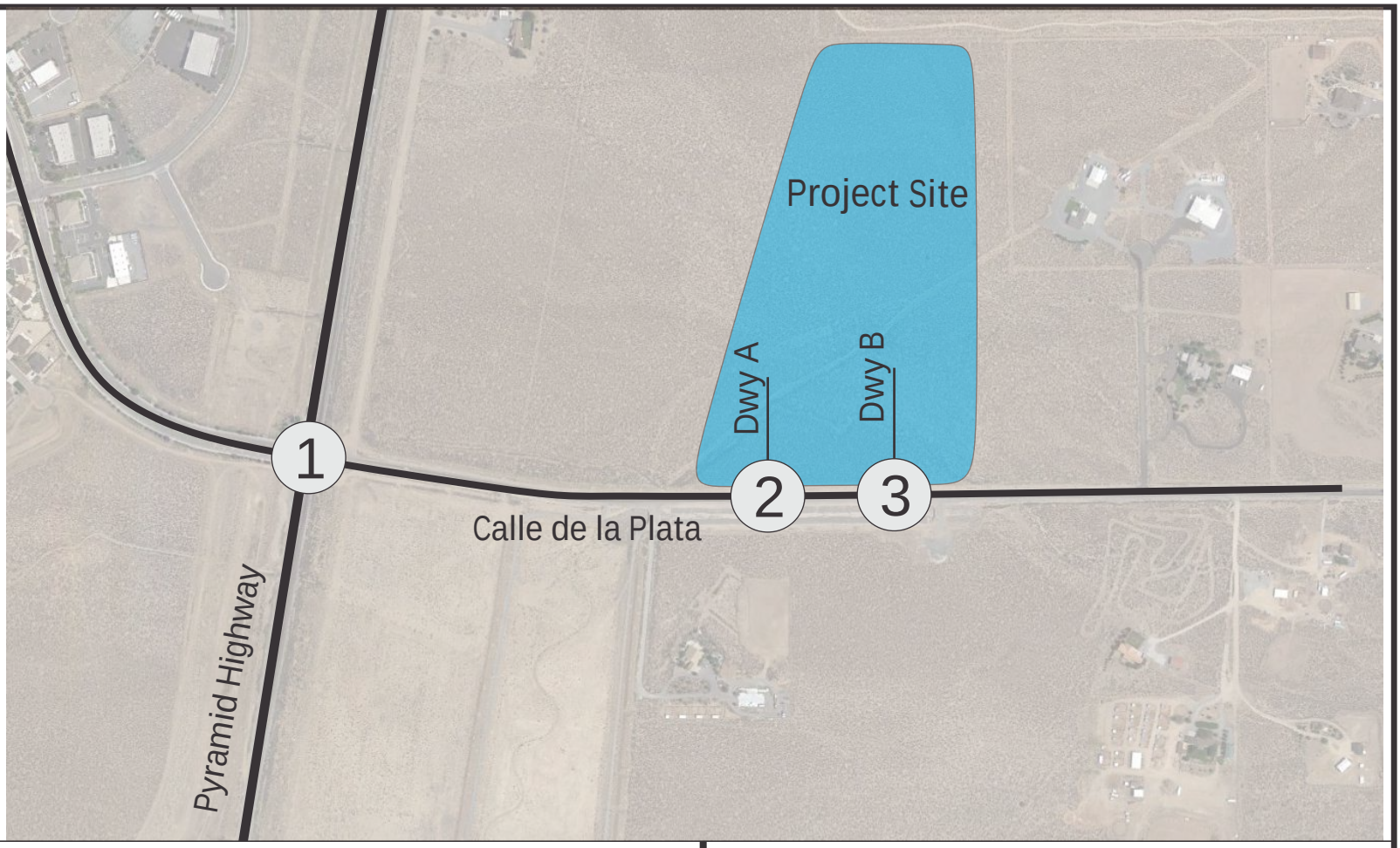
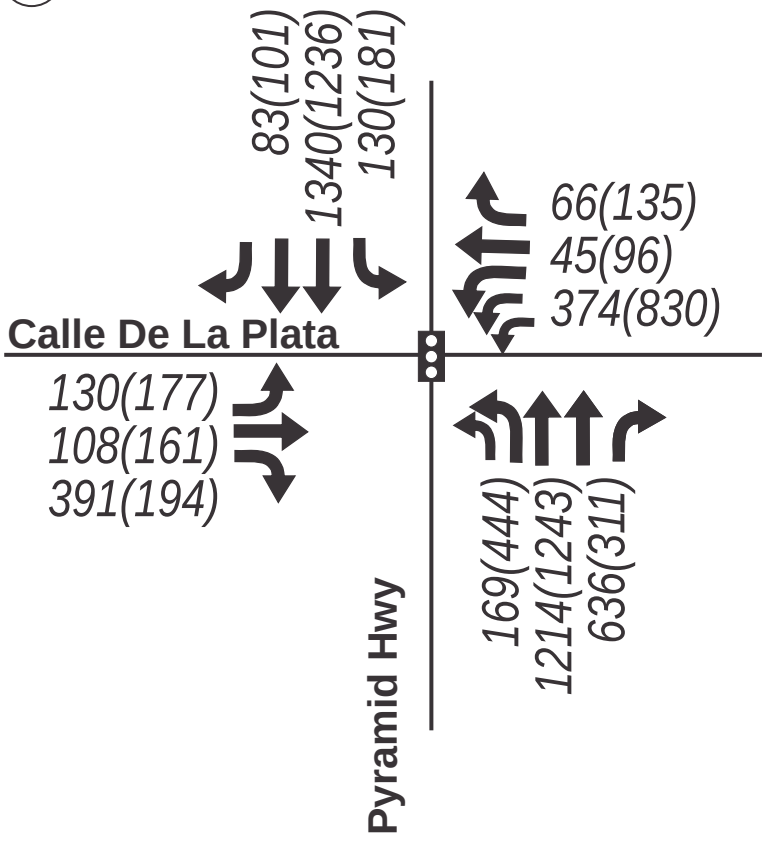
Figure 6

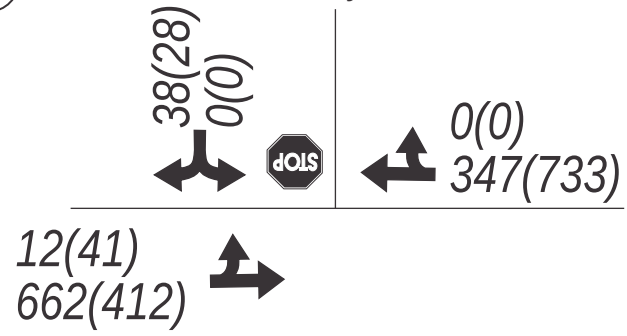
Sugarloaf Ranch Estates
Traffic Impact Study Update
2030 Background Traffic Volumes



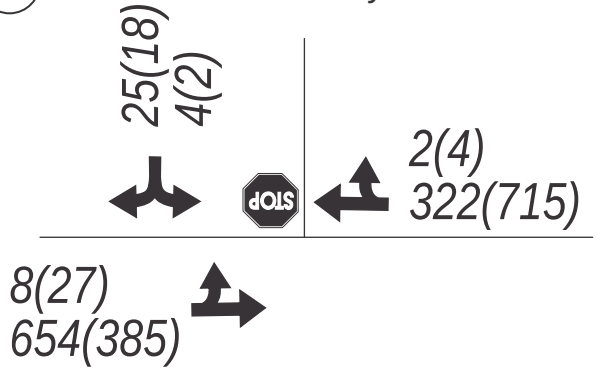
1 Pyramid Hwy/Calle de la Plata



2 Calle de la Plata/Dwy A



3 Calle de la Plata/Dwy B



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LEGEND

AM(PM) - Peak Hour Traffic Volumes

- Traffic Signal

- Lane Configuration

STOP - STOP Sign

N

NO SCALE

Figure 7

Sugarloaf Ranch Estates
Traffic Impact Study Update

2030 Plus Project Traffic Volumes

APPENDIX A

Existing Conditions LOS Calculations

Intersection	
Int Delay, s/veh	46

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	7	441	89	9	2	105	113	14	1	292	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	260	-	-	170	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	18	8	519	105	11	2	124	133	16	1	344	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	765	766	368	762	782	141	392	0	0	149	0	0
Stage 1	370	370	-	388	388	-	-	-	-	-	-	-
Stage 2	395	396	-	374	394	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	321	334	680	323	327	910	1172	-	-	1439	-	-
Stage 1	652	622	-	638	611	-	-	-	-	-	-	-
Stage 2	632	606	-	649	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	298	680	~ 69	292	910	1172	-	-	1439	-	-
Mov Cap-2 Maneuver	286	298	-	~ 69	292	-	-	-	-	-	-	-
Stage 1	583	622	-	570	546	-	-	-	-	-	-	-
Stage 2	553	542	-	152	607	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.9	$ 395.2	3.8	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	290	680	76	1439	-	-
HCM Lane V/C Ratio	0.105	-	-	0.089	0.763	1.548	0.001	-	-
HCM Control Delay (s)	8.4	-	-	18.6	25.2	$ 395.2	7.5	-	-
HCM Lane LOS	A	-	-	C	D	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	7.1	9.7	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	3	179	39	3	4	262	263	71	1	190	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	260	-	-	170	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	3	199	43	3	4	291	292	79	1	211	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1137	1172	217	1135	1138	332	222	0	0	371	0	0
Stage 1	219	219	-	914	914	-	-	-	-	-	-	-
Stage 2	918	953	-	221	224	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	180	193	825	180	202	712	1353	-	-	1193	-	-
Stage 1	786	724	-	329	353	-	-	-	-	-	-	-
Stage 2	327	339	-	784	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	147	151	825	112	158	712	1353	-	-	1193	-	-
Mov Cap-2 Maneuver	147	151	-	112	158	-	-	-	-	-	-	-
Stage 1	617	723	-	258	277	-	-	-	-	-	-	-
Stage 2	252	266	-	592	719	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	53.6	3.7	0
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1353	-	-	148	825	123	1193	-	-
HCM Lane V/C Ratio	0.215	-	-	0.09	0.241	0.416	0.001	-	-
HCM Control Delay (s)	8.4	-	-	31.7	10.7	53.6	8	-	-
HCM Lane LOS	A	-	-	D	B	F	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.3	0.9	1.8	0	-	-

APPENDIX B

Trip Generation Calculations

Weekday Average Daily Trip Generation Calculations

Land Use				Total Trips						Pass-By				Net New Trips			
Land Use	**Variable**		**ITE LU Code**	**Trip Rate**	**% In**	**% Out**	**Total**	**In**	**Out**	**% of Ext.**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Single Family Housing	119.00	Units	210	9.57	50%	50%	1139	570	569	0%	0	0	0	1139	570	569
Total							1139	570	569	0%	0	0	0	1139	570	569

Weekday AM Peak Hour Trip Generation Calculations

Land Use				Total Trips						Pass-By				Net New		
Land Use	**Variable**		**ITE LU Code**	**Trip Rate**	**% In**	**% Out**	**Total**	**In**	**Out**	**% of Ext.**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Single Family Housing	119.00	Units	210	0.75	25%	75%	89	22	67	0%	0	0	0	89	22	67
Total							89	22	67	0%	0	0	0	89	22	67

Weekday PM Peak Hour Trip Generation Calculations

Land Use				Total Trips						Pass-By				Net New		
Land Use	**Variable**		**ITE LU Code**	**Trip Rate**	**% In**	**% Out**	**Total**	**In**	**Out**	**% of Ext.**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Single Family Housing	119.00	Units	210	1.01	60%	40%	120	72	48	0%	0	0	0	120	72	48
Total							120	72	48	0%	0	0	0	120	72	48

APPENDIX C

Existing Plus Project LOS Calculations

Intersection	
Int Delay, s/veh	122.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	8	441	143	12	9	105	113	32	3	292	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	260	-	-	170	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	18	9	519	168	14	11	124	133	38	4	344	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	786	793	368	778	798	152	392	0	0	171	0	0
Stage 1	375	375	-	399	399	-	-	-	-	-	-	-
Stage 2	411	418	-	379	399	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	311	322	680	315	320	897	1172	-	-	1412	-	-
Stage 1	648	619	-	629	604	-	-	-	-	-	-	-
Stage 2	620	592	-	645	604	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	271	287	680	~ 67	285	897	1172	-	-	1412	-	-
Mov Cap-2 Maneuver	271	287	-	~ 67	285	-	-	-	-	-	-	-
Stage 1	579	617	-	562	540	-	-	-	-	-	-	-
Stage 2	534	529	-	~ 150	602	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.9	$ 832	3.5	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	276	680	75	1412	-	-
HCM Lane V/C Ratio	0.105	-	-	0.098	0.763	2.573	0.002	-	-
HCM Control Delay (s)	8.4	-	-	19.5	25.2	$ 832	7.6	-	-
HCM Lane LOS	A	-	-	C	D	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	7.1	18.6	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	13	30	126	0	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	15	35	148	0	0	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	148	0	-	0	214	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1440	-	-	-	777	901
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	768	901
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	948	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1440	-	-	-	901
HCM Lane V/C Ratio	0.011	-	-	-	0.05
HCM Control Delay (s)	7.5	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	22	100	1	3	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	9	26	118	1	4	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	119	0	-	0	163	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1475	-	-	-	830	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1475	-	-	-	825	937
Mov Cap-2 Maneuver	-	-	-	-	825	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	974	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1475	-	-	-	924
HCM Lane V/C Ratio	0.006	-	-	-	0.037
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	7	179	77	5	9	232	263	129	8	190	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	260	-	-	170	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	8	199	86	6	10	258	292	143	9	211	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1121	1185	217	1117	1119	364	222	0	0	436	0	0
Stage 1	234	234	-	879	879	-	-	-	-	-	-	-
Stage 2	887	951	-	238	240	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	184	190	825	185	208	683	1353	-	-	1129	-	-
Stage 1	771	713	-	344	367	-	-	-	-	-	-	-
Stage 2	340	340	-	768	709	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	150	153	825	115	167	683	1353	-	-	1129	-	-
Mov Cap-2 Maneuver	150	153	-	115	167	-	-	-	-	-	-	-
Stage 1	624	707	-	278	297	-	-	-	-	-	-	-
Stage 2	266	275	-	572	703	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	96.5	3.1	0.3
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1353	-	-	151	825	128	1129	-	-
HCM Lane V/C Ratio	0.191	-	-	0.118	0.241	0.79	0.008	-	-
HCM Control Delay (s)	8.3	-	-	32	10.7	96.5	8.2	-	-
HCM Lane LOS	A	-	-	D	B	F	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.4	0.9	4.7	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	41	103	64	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	46	114	71	0	0	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	277	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	206	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1536	-	-	-	715	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1536	-	-	-	692	994
Mov Cap-2 Maneuver	-	-	-	-	692	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	804	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	994
HCM Lane V/C Ratio	0.03	-	-	-	0.03
HCM Control Delay (s)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	28	75	46	3	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	31	83	51	3	3	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	54	0	-	0	199	53
Stage 1	-	-	-	-	53	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1558	-	-	-	792	1017
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1558	-	-	-	775	1017
Mov Cap-2 Maneuver	-	-	-	-	775	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1558	-	-	-	974
HCM Lane V/C Ratio	0.02	-	-	-	0.024
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	8	441	143	12	9	105	113	32	3	292	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1881	1900	1881	1900	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	18	9	519	168	14	11	124	133	38	4	344	48
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	520	239	637	449	37	22	374	514	147	512	483	67
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.07	0.37	0.37	0.00	0.30	0.30
Sat Flow, veh/h	1014	598	1599	801	92	54	1792	1408	402	1792	1616	225
Grp Volume(v), veh/h	27	0	519	193	0	0	124	0	171	4	0	392
Grp Sat Flow(s),veh/h/ln	1613	0	1599	947	0	0	1792	0	1810	1792	0	1841
Q Serve(g_s), s	0.0	0.0	14.9	7.4	0.0	0.0	2.3	0.0	3.4	0.1	0.0	9.8
Cycle Q Clear(g_c), s	0.5	0.0	14.9	7.9	0.0	0.0	2.3	0.0	3.4	0.1	0.0	9.8
Prop In Lane	0.67		1.00	0.87		0.06	1.00		0.22	1.00		0.12
Lane Grp Cap(c), veh/h	759	0	637	508	0	0	374	0	661	512	0	551
V/C Ratio(X)	0.04	0.00	0.81	0.38	0.00	0.00	0.33	0.00	0.26	0.01	0.00	0.71
Avail Cap(c_a), veh/h	1184	0	1082	769	0	0	457	0	1365	643	0	1318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	0.0	13.8	11.7	0.0	0.0	11.5	0.0	11.5	12.6	0.0	16.1
Incr Delay (d2), s/veh	0.0	0.0	2.6	0.5	0.0	0.0	0.5	0.0	0.2	0.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	7.0	2.1	0.0	0.0	1.2	0.0	1.7	0.0	0.0	5.2
LnGrp Delay(d),s/veh	9.5	0.0	16.4	12.1	0.0	0.0	12.0	0.0	11.7	12.6	0.0	17.9
LnGrp LOS	A		B	B			B		B	B		B
Approach Vol, veh/h		546			193			295			396	
Approach Delay, s/veh		16.1			12.1			11.8			17.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	22.9		24.6	7.6	19.5		24.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	39.0		35.0	6.0	37.0		35.0
Max Q Clear Time (g_c+I1), s	2.1	5.4		16.9	4.3	11.8		9.9
Green Ext Time (p_c), s	0.0	3.9		3.7	0.0	3.7		4.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	7	179	77	5	9	232	263	129	8	190	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1881	1900	1881	1900	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	10	8	199	86	6	10	258	292	143	9	211	11
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	319	198	318	413	34	25	684	475	233	448	475	25
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.14	0.40	0.40	0.01	0.27	0.27
Sat Flow, veh/h	679	998	1599	982	171	125	1792	1194	585	1792	1772	92
Grp Volume(v), veh/h	18	0	199	102	0	0	258	0	435	9	0	222
Grp Sat Flow(s),veh/h/ln	1677	0	1599	1278	0	0	1792	0	1778	1792	0	1865
Q Serve(g_s), s	0.0	0.0	3.5	1.6	0.0	0.0	2.7	0.0	5.9	0.1	0.0	3.0
Cycle Q Clear(g_c), s	0.2	0.0	3.5	2.0	0.0	0.0	2.7	0.0	5.9	0.1	0.0	3.0
Prop In Lane	0.56		1.00	0.84		0.10	1.00		0.33	1.00		0.05
Lane Grp Cap(c), veh/h	517	0	318	471	0	0	684	0	708	448	0	500
V/C Ratio(X)	0.03	0.00	0.63	0.22	0.00	0.00	0.38	0.00	0.61	0.02	0.00	0.44
Avail Cap(c_a), veh/h	1033	0	839	876	0	0	785	0	1049	666	0	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	11.2	10.5	0.0	0.0	5.5	0.0	7.3	8.1	0.0	9.3
Incr Delay (d2), s/veh	0.0	0.0	2.0	0.2	0.0	0.0	0.3	0.0	0.9	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	0.8	0.0	0.0	1.3	0.0	3.1	0.1	0.0	1.6
LnGrp Delay(d),s/veh	9.9	0.0	13.2	10.8	0.0	0.0	5.8	0.0	8.2	8.1	0.0	9.9
LnGrp LOS	A		B	B			A		A	A		A
Approach Vol, veh/h		217			102			693			231	
Approach Delay, s/veh		12.9			10.8			7.3			9.8	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	16.1		10.1	8.3	12.2		10.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	18.0		16.0	6.0	16.0		16.0
Max Q Clear Time (g_c+I1), s	2.1	7.9		5.5	4.7	5.0		4.0
Green Ext Time (p_c), s	0.0	3.0		1.0	0.1	3.2		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

APPENDIX D

2030 Plus Project LOS Calculations

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	108	391	374	45	66	169	1214	637	131	1340	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881
Adj Flow Rate, veh/h	141	117	0	407	49	72	184	1320	692	142	1457	90
Adj No. of Lanes	1	1	1	3	1	1	2	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	181	190	161	505	187	159	231	1547	692	179	1666	745
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.07	0.43	0.43	0.10	0.47	0.47
Sat Flow, veh/h	1792	1881	1599	5052	1881	1599	3476	3574	1599	1792	3574	1599
Grp Volume(v), veh/h	141	117	0	407	49	72	184	1320	692	142	1457	90
Grp Sat Flow(s),veh/h/ln	1792	1881	1599	1684	1881	1599	1738	1787	1599	1792	1787	1599
Q Serve(g_s), s	4.6	3.6	0.0	4.7	1.4	2.5	3.1	19.9	26.0	4.7	22.1	1.9
Cycle Q Clear(g_c), s	4.6	3.6	0.0	4.7	1.4	2.5	3.1	19.9	26.0	4.7	22.1	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	190	161	505	187	159	231	1547	692	179	1666	745
V/C Ratio(X)	0.78	0.62	0.00	0.81	0.26	0.45	0.79	0.85	1.00	0.79	0.87	0.12
Avail Cap(c_a), veh/h	298	345	293	505	219	186	231	1547	692	179	1666	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	25.9	0.0	26.5	25.0	25.5	27.6	15.3	17.0	26.4	14.4	9.1
Incr Delay (d2), s/veh	7.0	3.2	0.0	9.3	0.7	2.0	17.2	4.8	34.1	21.2	5.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.0	0.0	2.6	0.8	1.2	2.1	10.8	17.9	3.3	12.0	0.8
LnGrp Delay(d),s/veh	33.4	29.1	0.0	35.8	25.7	27.5	44.9	20.2	51.2	47.7	19.9	9.1
LnGrp LOS	C	C		D	C	C	D	C	D	D	B	A
Approach Vol, veh/h		258			528			2196			1689	
Approach Delay, s/veh		31.4			33.7			32.0			21.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	30.0	10.0	10.1	8.0	32.0	10.1	10.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	26.0	6.0	11.0	4.0	28.0	10.0	7.0
Max Q Clear Time (g_c+I1), s	6.7	28.0	6.7	5.6	5.1	24.1	6.6	4.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	3.9	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	12	662	347	0	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	13	720	377	0	0	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	377	0	-	0	1123	377
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	746	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1187	-	-	-	229	672
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	471	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1187	-	-	-	225	672
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1187	-	-	-	672
HCM Lane V/C Ratio	0.011	-	-	-	0.061
HCM Control Delay (s)	8.1	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	654	322	2	4	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	9	711	350	2	4	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	352	0	-	0	1079	351
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	728	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1212	-	-	-	243	695
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	480	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1212	-	-	-	240	695
Mov Cap-2 Maneuver	-	-	-	-	240	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	474	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1212	-	-	-	551
HCM Lane V/C Ratio	0.007	-	-	-	0.057
HCM Control Delay (s)	8	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	177	161	194	830	96	135	444	1243	311	182	1236	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881
Adj Flow Rate, veh/h	192	175	0	902	104	147	483	1351	338	198	1343	110
Adj No. of Lanes	1	1	1	3	1	1	2	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	227	188	160	954	305	259	502	1469	657	219	1390	622
Arrive On Green	0.13	0.10	0.00	0.19	0.16	0.16	0.14	0.41	0.41	0.12	0.39	0.39
Sat Flow, veh/h	1792	1881	1599	5052	1881	1599	3476	3574	1599	1792	3574	1599
Grp Volume(v), veh/h	192	175	0	902	104	147	483	1351	338	198	1343	110
Grp Sat Flow(s),veh/h/ln	1792	1881	1599	1684	1881	1599	1738	1787	1599	1792	1787	1599
Q Serve(g_s), s	9.4	8.3	0.0	15.9	4.4	7.6	12.4	32.2	14.2	9.8	33.1	4.1
Cycle Q Clear(g_c), s	9.4	8.3	0.0	15.9	4.4	7.6	12.4	32.2	14.2	9.8	33.1	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	188	160	954	305	259	502	1469	657	219	1390	622
V/C Ratio(X)	0.84	0.93	0.00	0.95	0.34	0.57	0.96	0.92	0.51	0.90	0.97	0.18
Avail Cap(c_a), veh/h	259	188	160	954	305	259	502	1469	657	219	1390	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	40.2	0.0	36.0	33.4	34.8	38.3	25.1	19.8	39.0	26.9	18.0
Incr Delay (d2), s/veh	19.9	46.1	0.0	17.4	0.7	2.9	30.6	9.6	0.7	36.0	16.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	6.7	0.0	8.9	2.3	3.6	8.1	17.7	6.3	7.0	19.5	1.8
LnGrp Delay(d),s/veh	58.4	86.3	0.0	53.5	34.1	37.7	68.9	34.7	20.5	74.9	43.6	18.2
LnGrp LOS	E	F		D	C	D	E	C	C	E	D	B
Approach Vol, veh/h		367			1153			2172			1651	
Approach Delay, s/veh		71.7			49.7			40.1			45.7	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	41.0	21.0	13.0	17.0	39.0	15.4	18.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	11.0	37.0	17.0	9.0	13.0	35.0	13.0	13.0
Max Q Clear Time (g_c+I1), s	11.8	34.2	17.9	10.3	14.4	35.1	11.4	9.6
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	0.0	0.0	0.1	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	46.1
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	41	412	733	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	45	448	797	0	0	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	797	0	-	0	1334	797
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	537	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	829	-	-	-	171	388
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	829	-	-	-	159	388
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	546	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	829	-	-	-	388
HCM Lane V/C Ratio	0.054	-	-	-	0.078
HCM Control Delay (s)	9.6	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	27	385	715	4	2	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	29	418	777	4	2	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	782	0	-	0	1256	779
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	477	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	840	-	-	-	190	397
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	840	-	-	-	181	397
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	15.8
HCM LOS			C

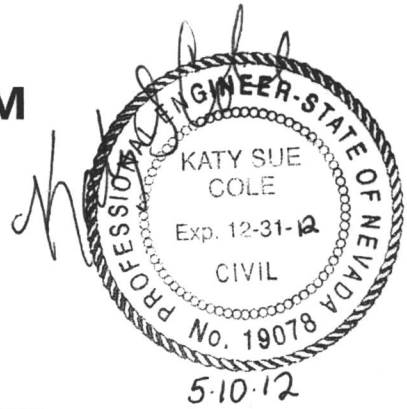
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	840	-	-	-	355
HCM Lane V/C Ratio	0.035	-	-	-	0.061
HCM Control Delay (s)	9.4	0	-	-	15.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

APPENDIX E

2012 Traffic Study Report

FEHR PEERS

MEMORANDUM



Date:	May 10, 2012
To:	Mr. Jim House, Sugarload Peak LLC Ms. Sandra Waltman, Sugarloaf Peak LLC
cc:	Mr. John Krmpotic, KLS Planning and Design Group
From:	Katy Cole, P.E., Fehr & Peers Marissa Harned, P.E., Fehr & Peers
Subject:	**Village at the Peak Traffic Impact Study – Sugarloaf Peak Property**

NV12-0499

This technical memorandum provides a summary of the data collection and traffic analysis performed for the Sugarloaf Peak property north of Calle de la Plata and east of Pyramid Highway (shown on attached **Figure 1**).

SUMMARY OF CONCLUSIONS

The following provides a summary of findings based on the analysis presented in this report:

- The proposed zoning (Specific Plan, conforming to High Density Suburban standards for up to 360 multi-family units) would generate significantly less traffic (more than 5,000 less daily trips) than the property built-out under the existing zoning.

- The Pyramid Highway/Calle de la Plata intersection currently operates at an unacceptable level of service F during the AM and PM peak hours. Based on existing traffic volumes, the intersection meets Peak Hour and Four-Hour Vehicle Volume traffic signal warrant criteria. The Spanish Springs Area Plan recognizes that a traffic signal is needed at the intersection to address the current situation.

- Build out of multi-family residential on the project site will increase delay at the Pyramid Highway/Calle de la Plata intersection. If a traffic signal is not installed at the Pyramid Highway/Calle de la Plata intersection prior to construction of the project, the project

Note that since the traffic signal is necessary to accommodate existing traffic volumes, the project should not be fully financially responsible for the improvements, and should only be responsible for a fair share based on the traffic volumes generated at the intersection by the project site.

- The Regional Transportation Commission's (RTC) *Regional Transportation Plan* (RTP) includes future regional roadway improvements to increase capacity on Pyramid Highway in the project vicinity. The *RTP* specifically indicates the following improvements:
    - Pyramid Highway – Widen from two lanes to four lanes, from Egyptian Drive to Calle de la Plata by 2018
    - Pyramid Highway – Widen from two lanes to four lanes, from Calle de la Plata to Winnemucca Ranch Road by 2030
    - Pyramid Highway – Widen from four lanes to six lanes, from Egyptian Drive to Calle de la Plata by 2030
- The 2030 analysis demonstrates adequate regional roadway improvements are planned to accommodate regional growth, approved but not yet constructed projects near the Pyramid Highway/Calle de la Plata intersection, and the proposed project

INTRODUCTION

PROJECT DESCRIPTION

The Sugarloaf Peak property is 39.8 acres and has the following zoning: 17.7 acres Neighborhood Commercial, 20 acres Industrial, and 2 acres Open Space. The proposed project would change the current zoning to Specific Plan, which would conform to High Density Suburban zoning standards. High Density Suburban would allow up to 9 multi-family units per acre for a total of 360 multi-family residential units.

STUDY INTERSECTIONS AND ROADWAY SEGMENTS

The following intersections were analyzed during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak hours:

- Pyramid Highway/Calle de la Plata
- Calle de la Plata/Project Driveway 1
- Calle de la Plata/Project Driveway 2

Daily traffic volume data was analyzed for the following roadway segments:

- Pyramid Highway north of Calle de la Plata
- Pyramid Highway south of Calle de la Plata
- Calle de la Plata west of Pyramid Highway
- Calle de la Plata east of Pyramid Highway

ANALYSIS SCENARIOS

The following scenarios were analyzed with corresponding traffic volumes and roadway network configurations:

- Existing Conditions – Peak hour intersection and daily roadway segment level of service analysis was performed based on intersection turning movement volumes and roadway segment volumes collected in April 2012, and Nevada Department of Transportation (NDOT) traffic volume data collected in 2010.
- Existing Plus Project Conditions – Project generated traffic volumes (based on 360 multi-family units) were added to existing traffic volumes, and peak hour intersection and daily roadway segment level of service analysis was performed.
- 2030 Background Conditions - 2030 background conditions traffic volumes were developed based on the Regional Transportation Commission's (RTC) regional travel demand model and trip generation volumes from planned/approved projects in the area. Peak hour intersection and daily roadway segment level of service analysis was performed.

- 2030 Background Plus Project Conditions – Project generated traffic volumes were added to 2030 background traffic volumes, and peak hour intersection and daily roadway segment level of service analysis was performed.

ANALYSIS METHODOLOGY

Transportation engineers and planners commonly use the term level of service (LOS) to measure and describe the operational status of the local roadway network. An intersection or roadway segment's level of service can range from LOS A (indicating free-flow traffic conditions with little or no delay), to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays).

The analysis methods presented in the Transportation Research Board's *Highway Capacity Manual 2000* (*HCM 2000*) were used to calculate level of service for signalized and unsignalized intersections.

Signalized Intersections

Signalized intersections were analyzed using the methodology contained in Chapter 16 of the *HCM 2000*. This methodology determines the level of service by comparing the average control delay for all vehicles approaching the intersection to the delay thresholds shown in **Table 1**.

Unsignalized Intersections

Unsignalized (side street stop controlled) intersection level of service calculations were conducted using the methods contained in Chapter 17 of the *HCM 2000*. The level of service rating is based on the average control delay expressed in seconds per vehicle. At side street stop controlled intersections, the control delay (and LOS) is calculated for each controlled movement, the left-turn movement from the major street, and for the entire intersection. For controlled approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. **Table 1** presents the thresholds for unsignalized intersections.

TABLE 1
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Signalized Intersections (Average Control Delay) [1]	Unsignalized Intersections (Average Control Delay) [2]
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	≤ 10	≤10
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	> 10 to 20	> 10 to 15
C	Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	> 20 to 35	> 15 to 25
D	Represents high-density, but stable flow.	> 35 to 55	> 25 to 35
E	Represents operating conditions at or near the capacity level.	> 55 to 80	> 35 to 50
F	Represents forced or breakdown flow.	> 80	> 50

Sources:
[1] *HCM 2000*, Chapter 16, Signalized Intersections. Values shown are in seconds/vehicle.
[2] *HCM 2000*, Chapter 17, Unsignalized Intersections. Values shown are in seconds/vehicle.

Roadway Segments

Table 2 provides roadway segment level of service standards as presented in the Regional Transportation Commission's (RTC) *Regional Transportation Plan (RTP)*. Roadway segment level of service is determined by comparing average daily traffic (ADT) volumes to the thresholds presented in the table.

TABLE 2
AVERAGE DAILY TRAFFIC LEVEL OF SERVICE THRESHOLDS BY FACILITY

Facility Type	Maximum Daily Service Flow Rate (For Given LOS)				
Number of Lanes	LOS A	LOS B	LOS C	LOS D	LOS E
Arterial - High Access Control (HAC)					
2	n/a	9,400	17,300	19,200	20,300
4	n/a	20,400	36,100	38,400	40,600
6	n/a	31,600	54,700	57,600	60,900
8	n/a	42,500	73,200	76,800	81,300
Arterial - Moderate Access Control (MAC)					
2	n/a	5,500	14,800	17,500	18,600
4	n/a	12,000	32,200	35,200	36,900
6	n/a	18,800	49,600	52,900	55,400
8	n/a	25,600	66,800	70,600	73,900
Arterial/Collector - Low Access Control (LAC)					
2	n/a	n/a	6,900	13,400	15,100
4	n/a	n/a	15,700	28,400	30,200
6	n/a	n/a	24,800	43,100	45,400
8	n/a	n/a	34,000	57,600	60,600

Source: Table 3-4 Average Daily Traffic Level of Service Thresholds By Facility Type for Roadway Planning, Washoe County *Regional Transportation Plan*, 2008

Level of Service Standards

The RTC has established level of service criteria for regionally significant roadways and intersections in the *RTP*. The *RTP* level of service standards for regional roadways and intersections are as follows:

- LOS D or better – All regional roadway facilities projected to carry less than 27,000 ADT at the latest RTP horizon
- LOS E or better – All regional roadway facilities projected to carry 27,000 or more ADT at the latest RTP horizon
- LOS F – Plumas Street from Plumb Lane to California Avenue
  Rock Boulevard from Glendale Avenue to Victorian Avenue
  South Virginia Street from Kietzke Lane to South McCarran Boulevard
  Sun Valley Boulevard from 2nd Avenue to 5th Avenue
  I-80 Ramps/North Virginia Street Intersection

All intersections shall be designed to provide a level of service consistent with maintaining the policy level of service of the intersecting corridors.

NDOT maintains a policy of LOS D or better on their facilities.

Since Pyramid Highway is an NDOT facility and is expected to carry less than 27,000 ADT, LOS D or better was used as the standard for this analysis (i.e. LOS A, B, C, or D are considered acceptable operations and LOS E or F are considered unacceptable operations).

EXISTING CONDITIONS

ROADWAY SYSTEM

Pyramid Highway is a north-south NDOT facility that runs from Interstate 80 (I-80) in the south to Pyramid Lake in the north. Pyramid Highway is a two-lane roadway with posted speed limits of 55-65 mph in the vicinity of the project. The *RTP* classifies Pyramid Highway as a High Access Control (HAC) Arterial south of Calle de la Plata and a Moderate Access Control (MAC) Arterial north of Calle de la Plata.

Calle de la Plata is a four-lane roadway west of Pyramid Highway and a two-lane roadway east of Pyramid Highway. The *RTP* classifies Calle de la Plata as a Low Access Control (LAC) Collector west of Pyramid Highway.

EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE

Intersections

Intersection turning movement counts were collected at the Pyramid Highway/Calle de la Plata intersection during the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods in April 2012. The existing volumes are shown on **Figure 2** and the raw data is provided in **Attachment 1.** Synchro computer software, which utilizes *HCM 2000* methodology was used to analyze the level of service at the study intersection. **Table 3** shows the level of service results, and the detailed calculation worksheets are provided in the **Attachment 2**.

TABLE 3
EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

Intersection	Control Type[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS	Delay[2]	LOS
Pyramid Highway/Calle de la Plata	SSSC	17 **(>50)**	C **(F)**	7 **(>50)**	A **(F)**

Notes: [1] SSSC = Side Street Stop Control
[2] Delay is reported in seconds per vehicle for the overall intersection (worst movement) for unsignalized intersections.
Bold indicates unacceptable operations.
Source: Fehr & Peers, 2012

As shown in Table 3, the side street approach of the Pyramid Highway/Calle de la Plata intersection (westbound Calle de la Plata) operates at LOS F during the AM and PM peak hours. The overall intersection operates at LOS C during the AM peak hour and LOS A during the PM peak hour.

Roadway Segments

Daily roadway segment traffic volumes were collected on Calle de la Plata in April 2012 using machine counting equipment. Traffic volume data on Pyramid Highway was obtained from the NDOT *Annual Traffic Report* (2010). Daily traffic volumes were compared to the RTC's Average Daily Traffic Roadway Level of Service Thresholds (shown in Table 2 of this report) to determine existing roadway segment level of service. The results are shown in **Table 4**.

TABLE 4
EXISTING CONDITIONS ROADWAY SEGMENT CAPACITY RESULTS

Roadway	Location	Functional Classification[1]	Lanes	Daily Two-Way Traffic Volume	LOS
Pyramid Highway	South of Calle de la Plata	HAC Arterial	2	10,000	C
Pyramid Highway	North of Calle de la Plata	MAC Arterial	2	4,400	B
Calle de la Plata	West of Pyramid Highway	LAC Collector	4	5,480	C
Calle de la Plata	East of Pyramid Highway	LAC Collector	2	1,340	C

Notes: [1] LAC = Low Access Control, MAC = Moderate Access Control, HAC = High Access Control
Source: Fehr & Peers, 2012

As shown in Table 4, Pyramid Highway and Calle de la Plata currently operate at LOS C or better, which is considered acceptable operations based on Washoe County and NDOT standards.

HISTORICAL TRAFFIC VOLUMES

NDOT's Annual Traffic Report provides Annual Average Daily Traffic (AADT) volumes on Pyramid Highway north of Calle de la Plata from 2002 to 2010. This data was used to determine historical traffic volume growth in the project vicinity. Traffic volume data on Pyramid Highway south of Calle de la Plata has only been collected since 2008 and does not provide significant historical data. Table 5 shows the historical traffic volumes and associated annual growth rate on Pyramid Highway near the project site.

TABLE 5
HISTORICAL TRAFFIC VOLUMES – PYRAMID HIGHWAY

Roadway	Location	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual Growth Rate[1]
Pyramid Highway	North of Calle de la Plata	-	3,500	3,795	4,420	4,650	5,050	4,900	4,500	4,400	4,400	2.9%

Notes: [1] Exponential Annual Growth Rate shown.
Source: Fehr & Peers, 2012

Table 5 shows that traffic volumes on Pyramid Highway north of Calle de la Plata have fluctuated over the last eight years, peaking in 2006 and decreasing each year since. The overall annual growth rate from 2002 to 2010 is 2.9% per year.

TRAFFIC SIGNAL WARRANT ANALYSIS

The *Manual on Uniform Traffic Control Devices (MUTCD)* provides analysis criteria for determining if a traffic signal is warranted at an intersection. The Peak Hour Vehicle Volume and Four-Hour Vehicle Volume signal warrants were analyzed for the Pyramid Highway/Calle de la Plata intersection to determine if a traffic signal is warranted based on existing traffic volumes. **Exhibits 1A and 1B** show the Peak Hour Vehicle Volume signal warrant results.

Exhibit 1A: Peak Hour Vehicle Volume Signal Warrant

AM Peak Hour

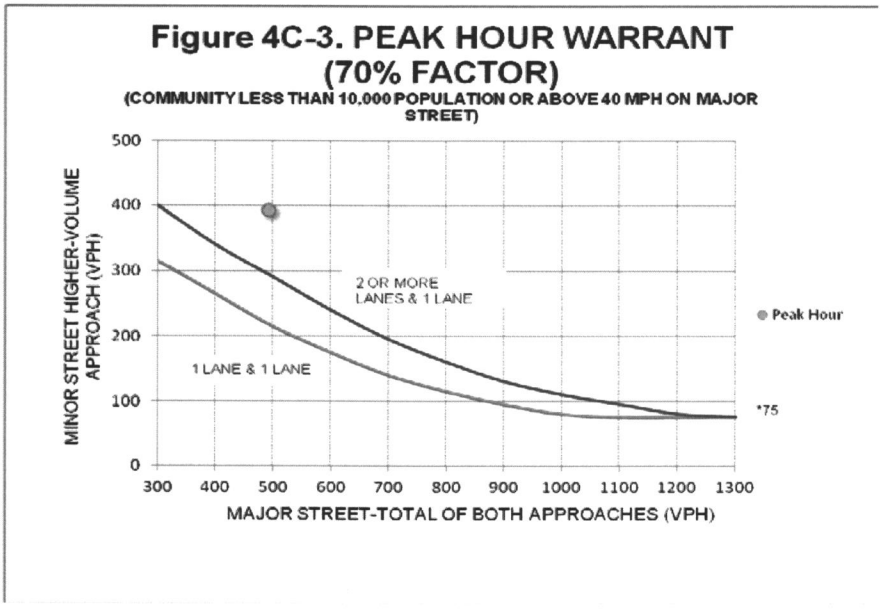
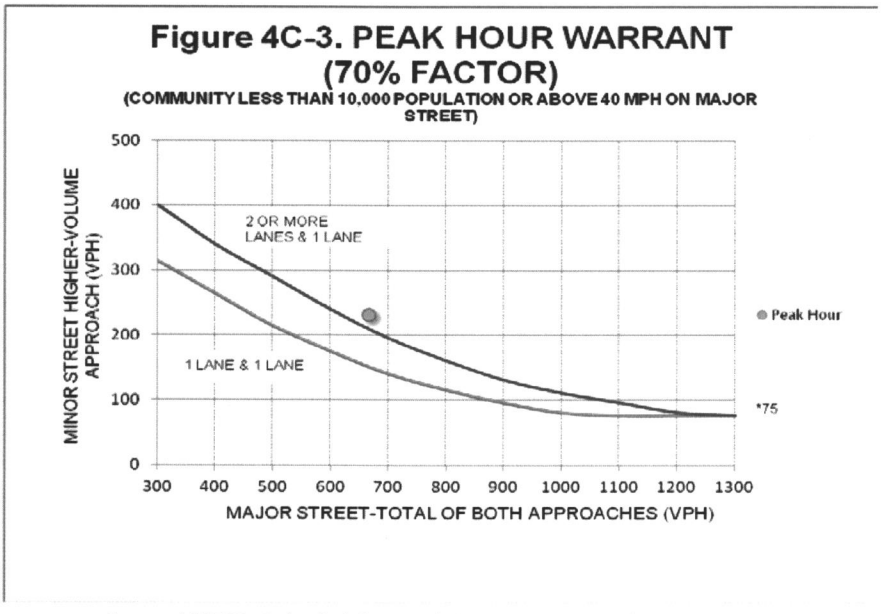


Exhibit 1B: Peak Hour Vehicle Volume Signal Warrant

PM Peak Hour

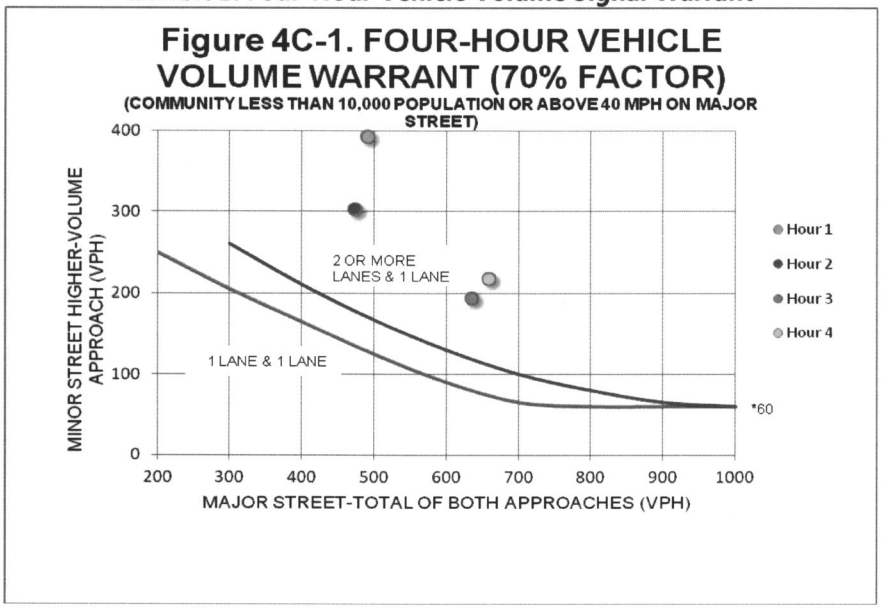


Source: MUTCD, Federal Highway Administration, 2009; Fehr & Peer, 2012

Based on the AM and PM peak hour traffic volumes at the Pyramid Highway/Calle de la Plata intersection, a traffic signal is warranted.

Exhibit 2 shows the Four-Hour Vehicle Volume signal warrant results.

Exhibit 2: Four-Hour Vehicle Volume Signal Warrant



Source: MUTCD, Federal Highway Administration, 2009; Fehr & Peer, 2012

Based on the traffic volumes during four hours of an average day at the Pyramid Highway/Calle de la Plata intersection, a traffic signal is warranted.

PROJECT CONDITIONS

PROJECT DESCRIPTION

The proposed project would change the current Neighborhood Commercial, Industrial, and Open Space zoning to High Density Suburban zoning. High Density Suburban zoning allows up to 9 units per acre for a total 360 multi-family dwelling units. The project will have two access driveways on Calle de la Plata.

TRIP GENERATION

Trips were generated for the proposed project based on average trip generation rates in the Institute of Transportation Engineers' (ITE) *Trip Generation, 8th Edition*. The trip generation rates for ITE Code 220 – Apartment, were used to estimate the trip generation for site because they are the highest multi-family residential rates. Using the highest rates provides flexibility as the project moves forward. For example, a for-sale condo or townhouse would generate less traffic than an apartment; therefore, 360 condos or townhouses would have a lesser effect on transportation conditions than the apartments analyzed in this report. The estimated trip generation is summarized in **Table 6**. A detailed trip generation spreadsheet is provided in **Attachment 3**.

TABLE 6
TRIP GENERATION ESTIMATE

Land Use	ITE Code	Size[1]	Daily	AM Peak Hour			PM Peak Hour		
			Trips	In	Out	Total	In	Out	Total
Multi-Family Residential (Apartment)	220	360 du	**2,394**	37	147	**184**	145	78	**223**
Total Trips			**2,394**	37	147	**184**	145	78	**223**

Notes: [1] du = dwelling units
Source: Fehr and Peers 2012

The project will generate approximately 2,400 daily trips, 185 AM peak hour trips, and 225 PM peak hour trips.

Existing Zoning

The Sugarloaf Peak property is currently zoned as approximately 20 acres of Industrial, 17 acres of Neighborhood Commercial, and 2 acres of Open Space. Trip generation estimates were calculated for these zoning designations assuming floor area ratios of approximately 20% and 30% for comparative purposes. This equates to approximately 175,000 – 260,000 square feet of Industrial and approximately 150,000 – 230,000 square feet of Neighborhood Commercial space. **Table 7** shows the trip generation estimates for the existing zoning, and compares it to the trip generation of the proposed project.

TABLE 7
EXISTING ZONING TRIP GENERATION ESTIMATE

Land Use	ITE Code	Size[1]	Daily	AM Peak Hour			PM Peak Hour		
			Trips	In	Out	Total	In	Out	Total
20% Floor Area Ratio									
NC (Shopping Center)	820	150 ksf	**6,441**	91	59	**150**	275	285	**560**
I (General Light Industrial)	110	175 ksf	**1,220**	142	19	**161**	20	150	**170**
Total Trips			**7,661**	233	78	**311**	295	435	**730**
Proposed Project Trips			**2,394**	37	147	**184**	145	78	**223**
Trip Difference			***5,267***	*196*	*(-69)*	***127***	*150*	*357*	***507***
30% Floor Area Ratio									
NC (Shopping Center)	820	230 ksf	**9,876**	140	90	**230**	420	438	**858**
I (General Light Industrial)	110	260 ksf	**1,812**	210	29	**239**	30	222	**252**
Total Trips			**11,688**	350	119	**469**	450	660	**1,110**
Proposed Project Trips			**2,394**	37	147	**184**	145	78	**223**
Trip Difference			***9,294***	*313*	*(-28)*	***285***	*305*	*582*	***887***

Notes: [1] ksf = 1,000 square feet
Source: Fehr and Peers 2012

As shown in Table 7, the proposed project (multi-family residential) will generate less traffic than the existing zoning land uses (Industrial and Neighborhood Commercial). If the existing zoning were constructed with a 20% floor area ratio, the property would generate approximately 5,300 more daily trips, 125 more AM peak hour trips, and 500 more PM peak hour trips than the proposed project.

TRIP DISTRIBUTION AND ASSIGNMENT

Existing Plus Project Trip Distribution

Project generated trips were distributed to the surrounding roadway network and study intersections based on existing travel patterns and the location of the project site relative to existing, complimentary land uses. The following trip distribution percentages were used in the existing plus project conditions analysis:

- 10% to/from the north on Pyramid Highway
- 80% to/from the south on Pyramid Highway

- 5% to/from the west on Calle de la Plata
- 5% to/from the east on Calle de la Plata

The project trip distribution and assignment for the existing plus project conditions analysis is shown on **Figure 3**.

2030 Plus Project Trip Distribution

There are a number of planned development projects in the study area that will include land uses that attract residential-based trips (i.e. commercial, industrial). These projects are expected to be constructed by 2030 and will therefore change the directional distribution of the project generated trips. The following trip distribution percentages were used in the 2030 plus project conditions analysis:

- 20% to/from the north on Pyramid Highway
- 60% to/from the south on Pyramid Highway
- 15% to/from the west on Calle de la Plata
- 5% to/from the east on Calle de la Plata

The project trip distribution and assignment for the existing plus project conditions analysis is shown on **Figure 6**.

EXISTING PLUS PROJECT CONDITIONS

EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LEVEL OF SERVICE

Vehicle trips generated by the proposed project were distributed to the surrounding roadway network and added to the existing traffic volumes for existing plus project conditions analysis.

Intersections

Table 8 presents the existing plus project conditions intersection level of service results. The intersection level of service Synchro printouts are provided in **Attachment 2**. **Figure 4** shows the existing plus project traffic volumes and lane configurations at the study intersections.

TABLE 8
EXISTING PLUS PROJECT CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

Intersection	Control Type[1]	Existing				Existing Plus Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
Pyramid Highway/ Calle de la Plata	SSSC	17 **(>50)**	C **(F)**	7 **(>50)**	A **(F)**	**>50 (>50)**	**F (F)**	30 **(>50)**	D **(F)**
Calle de la Plata/ Driveway A	SSSC	NA	NA	NA	NA	4 (10)	A (A)	4 (9)	A (A)
Calle de la Plata/ Driveway B	SSSC	NA	NA	NA	NA	3 (9)	A (A)	3 (9)	A (A)

Notes: [1] SSSC = Side Street Stop Control
[2] Delay is reported in seconds per vehicle for the overall intersection (worst movement) for unsignalized intersections.
Bold indicates unacceptable operations.
NA = Not Applicable
Source: Fehr & Peers, 2012

As shown in Table 6, the overall Pyramid Highway/Calle de la Plata intersection will degrade from LOS C to LOS F during AM peak hour with the project. During the PM peak hour, the side street approach (westbound Calle de la Plata) will operate at LOS F and the overall intersection will operate at LOS D. The project driveway intersections are expected to operate at LOS A during the AM and PM peak hours.

If a traffic signal is installed, the Pyramid Highway/Calle de la Plata intersection will operate at LOS C during the AM and PM peak hours.

Roadway Segments

Table 9 presents the existing plus project conditions daily roadway segment level of service results. **Figure 4** shows the existing plus project daily traffic volumes on the study roadway segments.

TABLE 9
EXISTING PLUS PROJECT CONDITIONS ROADWAY SEGMENT CAPACITY RESULTS

Roadway	Location	Functional Classification[1]	Lanes	Existing		Existing Plus Project	
				Daily Two-Way Traffic Volume	LOS	Daily Two-Way Traffic Volume	LOS
Pyramid Highway	South of Calle de la Plata	HAC Arterial	2	10,000	C	11.920	C
Pyramid Highway	North of Calle de la Plata	MAC Arterial	2	4,400	B	4,640	B
Calle de la Plata	West of Pyramid Highway	LAC Collector	4	5,480	C	5,600	C
Calle de la Plata	East of Pyramid Highway	LAC Collector	2	1,340	C	3,620	C

Notes: [1] LAC = Low Access Control, MAC = Moderate Access Control, HAC = High Access Control
Source: Fehr & Peers, 2012

As shown in Table 9, the study roadway segments will continue to operate at LOS C or better with the addition of project generated traffic.

TRAFFIC SIGNAL WARRANT ANALYSIS

Exhibits 1A, 1B, and 2 show the existing conditions Peak Hour Vehicle Volume and Four-Hour Vehicle Volume signal warrant analysis results for the Pyramid Highway/Calle de la Plata intersection. Both warrants are met based on existing traffic volumes; therefore, existing plus project conditions signal warrant analyses were not performed as the project will add more traffic to the intersection, and increase the need for a traffic signal at the intersection.

2030 BACKGROUND CONDITIONS

2030 background conditions analysis includes roadway network and intersection improvements listed in the *RTP*, as well as traffic volume increases from regional growth and planned/approved projects in the area.

2030 BACKGROUND TRAFFIC VOLUMES

Regional Travel Demand Model

The 2030 background traffic volumes were developed based on RTC's regional travel demand model. The model includes regional growth based on planned/approved project in the area.

Based on direction from Washoe County staff, the RTC's regional travel demand model was used to prepare 2030 traffic forecasts for Pyramid Highway and Calle de la Plata. The model includes regional growth based on planned/approved projects in the area. The available model years are the 2008 base year and the 2030 forecast year. The difference method was used to correct inconsistencies in the base year model outputs when compared to existing traffic volumes. This correction uses the existing count data as the basis for the forecast volumes by adding the incremental difference in the model volumes between the 2008 base year and 2030 forecast year to determine the adjusted 2030 background volumes.

It should be noted that the traffic volumes at the Pyramid Highway/Calle de la Plata intersection increase by approximately five percent per year based on the travel demand model. This is considered an aggressive growth rate; therefore, the 2030 analysis should be considered conservative. In addition, the RTC is currently in the process of updating the regional travel demand model. The general consensus on the current travel demand model is that it predicts very aggressive and potentially unachievable growth rates region wide. The updated model will take a new view at future growth and provide a more realistic picture of future traffic conditions.

The regional travel demand model output and difference method calculations are provided in **Attachment 4**.

Planned/Approved Projects

There are three planned/approved development projects in the study area that were not fully accounted for in the 2030 model volumes. Trip generation and traffic volume information from their corresponding traffic studies were used to develop the final 2030 background traffic volumes. These projects include:

- *Frear Comprehensive Plan Amendment Traffic Analysis (also known as Village Green Commercial Center)* (Solaegui Engineers, 2008)

  - Located at two sites south of Calle de la Plata and east of Pyramid Highway, this project includes commercial space, gas station with convenience market, drive-thru pharmacy, restaurant, car wash, and industrial space.
  - Net New Trip Generation: Daily – 15,889, AM Peak – 1,116, PM Peak - 1,502
- *Campo Rico Business Center Traffic Analysis* (Solaegui Engineers, 2008)
  - Located north of Calle de la Plata along Pyramid Highway, this project includes an industrial park, residential dwelling units, and commercial space.
  - Net New Trip Generation: Daily - 13,608, AM Peak - 1,088, PM Peak - 1,423
- *Calle de la Plata/Pyramid Highway Retail Project Traffic Impact Study* (Fehr & Peers, 2007)
  - Located on the northeast corner of the Pyramid Highway/Calle de la Plata intersection, this project includes a fitness center, restaurants, commercial space, and a gas station with convenience market and car wash.
  - Net New Trip Generation: Daily – 2,941, AM Peak - 150, PM Peak - 291

ROADWAY NETWORK AND INTERSECTION IMPROVEMENTS BY OTHERS

The *RTP* lists regional roadway improvements to be completed by 2018 and 2030 including:

- Widen Pyramid Highway from Egyptian Drive to Calle de la Plata from two lanes to four lanes by 2018
- Widen Pyramid Highway from Calle de la Plata to Winnemucca Ranch Road from two lanes to four lanes by 2030
- Widen Pyramid Highway from Egyptian Drive to Calle de la Plata from four lanes to six lanes by 2030

These improvements were included in the 2030 background conditions analysis.

The Pyramid Highway/Calle de la Plata intersection meets the Peak Hour and Four-Hour Vehicle Volumes signal warrants (MUTCD) based on existing traffic volumes. In addition, the traffic analyses for the three planned/approved projects listed above all discuss the need for a traffic signal at the Pyramid Highway/Calle de la Plata intersection, as well as the Spanish Springs Area Plan. Therefore, under 2030 conditions, the study intersection was analyzed with a traffic signal.

The necessary intersection lane configurations, including left and right-turn pockets, were determined based on the 2030 background conditions AM and PM peak hour analysis. It is

reasonable to assume that these improvements would be constructed with the RTP planned widening of Pyramid Highway and Calle de la Plata.

Figure 5 shows the 2030 background traffic volumes and the assumed intersection lane configurations.

2030 LEVEL OF SERVICE

Intersections

Table 10 shows the 2030 background conditions intersection level of service results, and the detailed calculation worksheets are provided in **Attachment 2**.

TABLE 10
EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

Intersection	Control Type[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS	Delay[2]	LOS
Pyramid Highway/Calle de la Plata	Signal	26	C	43	D

Notes: [1] SSSC = Side Street Stop Control
[2] Delay is reported in seconds per vehicle for the overall intersection (worst movement) for unsignalized intersections.
Bold indicates unacceptable operations.
Source: Fehr & Peers, 2012

As shown in Table 10, the Pyramid Highway/Calle de la Plata will operate at LOS D or better during the AM and PM peak hours with the 2030 background traffic volumes and proposed intersection lane configurations.

Roadway Segments

The 2030 daily roadway segment level of service results are shown in **Table 11**.

TABLE 11
2030 BACKGROUND CONDITIONS ROADWAY SEGMENT CAPACITY RESULTS

Roadway	Location	Functional Classification[1]	Lanes	Daily Two-Way Traffic Volume	LOS
Pyramid Highway	South of Calle de la Plata	HAC Arterial	6	47,190	C
Pyramid Highway	North of Calle de la Plata	MAC Arterial	4	26,010	C
Calle de la Plata	West of Pyramid Highway	LAC Collector	4	10,730	C
Calle de la Plata	East of Pyramid Highway	LAC Collector	2	3,930	C

Notes: [1] LAC = Low Access Control, MAC = Moderate Access Control, HAC = High Access Control
Source: Fehr & Peers, 2012

As shown in Table 11, Pyramid Highway and Calle de la Plata currently will operate at LOS C with 2030 traffic volumes and proposed roadway improvements.

2030 PLUS PROJECT CONDITIONS

2030 PLUS PROJECT TRAFFIC VOLUMES AND LEVEL OF SERVICE

Vehicle trips generated by the proposed project were distributed to the surrounding roadway network and added to the 2030 background traffic volumes for 2030 plus project conditions analysis.

Intersections

Table 12 presents the 2030 plus project conditions intersection level of service results, and the detailed calculation worksheets are provided in **Attachment 2**. **Figure 7** shows the 2030 plus project traffic volumes and lane configurations at the study intersections.

TABLE 12
2030 PLUS PROJECT CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

Intersection	Control Type[1]	2030 Background				2030 Plus Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
Pyramid Highway/ Calle de la Plata	Signal	26	C	43	D	27	C	48	D
Calle de la Plata/ Driveway 1	SSSC	NA	NA	NA	NA	2 (11)	A (B)	2 (13)	A (B)
Calle de la Plata/ Driveway 2	SSSC	NA	NA	NA	NA	1 (10)	A (B)	1 (12)	A (B)

Notes: [1] SSSC = Side Street Stop Control
[2] Delay is reported in seconds per vehicle for the overall intersection (worst movement) for unsignalized intersections.
Bold indicates unacceptable operations.
NA = Not Applicable
Source: Fehr & Peers, 2012

As shown in Table 12, the Pyramid Highway/Calle de la Plata will operate at LOS D during the AM and PM peak hours with the 2030 plus project traffic volumes and proposed intersection lane configurations. The project driveway intersections are expected to operate at acceptable levels of service during the AM and PM peak hours.

Roadway Segments

Table 13 presents the 2030 plus project conditions daily roadway segment level of service results. **Figure 7** shows the 2030 plus project daily traffic volumes on the study roadway segments.

TABLE 13
2030 PLUS PROJECT CONDITIONS ROADWAY SEGMENT CAPACITY RESULTS

Roadway	Location	Functional Classification[1]	Lanes	2030 Background		2030 Plus Project	
				Daily Two-Way Traffic Volume	LOS	Daily Two-Way Traffic Volume	LOS
Pyramid Highway	South of Calle de la Plata	HAC Arterial	6	47,190	C	48,630	C
Pyramid Highway	North of Calle de la Plata	MAC Arterial	4	26,010	C	26,490	C
Calle de la Plata	West of Pyramid Highway	LAC Collector	4	10,730	C	11,090	C
Calle de la Plata	East of Pyramid Highway	LAC Collector	2	3,930	C	6,200	C

Notes: [1] LAC = Low Access Control, MAC = Moderate Access Control, HAC = High Access Control
Source: Fehr & Peers, 2012

As shown in Table 13, the study roadway segments will operate at LOS C with and without the addition of project generated traffic.

CONCLUSIONS AND RECOMMENDATIONS

The Pyramid Highway/Calle de la Plata intersection currently operates at LOS F during the AM and PM peak hours. Based on existing traffic volumes, the intersection meets Peak Hour and Four-Hour Vehicle Volume signal warrant criteria. The Spanish Springs Area Plan recognizes that a traffic signal is needed at the intersection to address the current situation.

The proposed project will increase delay at the Pyramid Highway/Calle de la Plata intersection, and degrade the overall intersection level of service from LOS C to LOS F during the AM peak hour. If a traffic signal is not installed at the Pyramid Highway/Calle de la Plata intersection prior to construction of the project, the project should construct the traffic signal to accommodate project generated traffic volumes. Note that since the traffic signal is necessary to accommodate existing traffic volumes, the project should not be fully financially responsible for the improvements, and should only be responsible for a fair share based on the traffic volumes generated at the intersection by the project site.

The *RTP* includes future regional roadway improvements to increase capacity on Pyramid Highway in the project vicinity. The *RTP* specifically indicates the following improvements:

- Pyramid Highway – Widen from two lanes to four lanes, from Egyptian Drive to Calle de la Plata by 2018
- Pyramid Highway – Widen from two lanes to four lanes, from Calle de la Plata to Winnemucca Ranch Road by 2030
- Pyramid Highway – Widen from four lanes to six lanes, from Egyptian Drive to Calle de la Plata by 2030

The *RTP* does not include recommendations for specific intersection improvements, recognizing that the specific intersection configurations should be determined at the time when the corridor is improved and actual turning movements are known. The *RTP* projects listed above assume that intersection upgrades will be accomplished with the widenings.

It is important to note that this analysis is conservative and comprehensive with regard to 2030 future traffic volumes because it assumes that, in addition to high background traffic growth (up to 5% per year at the Pyramid Highway/Calle de la Plata intersection), the following projects will be built out:

- Village Green Commercial Center (southeast corner of Pyramid Highway/Calle de la Plata intersection)
- Campo Rico Business Center (north of Calle de la Plata along Pyramid Highway)
- Calle de la Plata Retail Project (northwest corner of Pyramid Highway/Calle de la Plata intersection)

In addition, the proposed project would generate significantly less traffic than the property built-out under the existing zoning.

The 2030 analysis demonstrates adequate regional roadway improvements are planned to accommodate regional growth, approved but not yet constructed projects near the Pyramid Highway/Calle de la Plata intersection, and the proposed project.

PRELIMINARY HYDROLOGY REPORT

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APPENDICES

General Figures and Tables

Hydrologic Design Reference Materials

1. INTRODUCTION

This report represents the preliminary hydrology report for Surgarloaf Ranch Estates Tentative Subdivision. This report was prepared in accordance with the Washoe County Tentative Subdivision Map requirements and the Washoe County Hydrologic Criteria and Drainage Design Manual, hereinafter referred to as the WCDDM.

1.1 PROJECT DESCRIPTION/LOCATION

Sugarloaf Ranch Estates is a proposed 119 unit single family residential subdivision located in Spanish Springs approximately ¼ mile east of Pyramid Highway adjacent to Calle De La Plata on the north side. (Reference Figure 1 Vicinity Map). The property is approximately 39.85 acres in size and lies in a portion of Section 24, Township 21 North, Range 20 East. (APN is 534-562-07). The site is bounded by Calle De La Plata on the south, a single family residential lot on the east, undeveloped land to the west and the Donovan Ranch Development to the north. The portion of the Donovan Ranch project adjacent to the subject property is currently undeveloped. The site slopes down from the east to the west toward Pyramid Lake Highway with an approximate gradient of 1.3% with a low point existing towards the middle of the property.

1.2 PREVIOUS DRAINAGE STUDIES

The following drainage reports were used for reference materials in the analysis of the Sugarloaf Ranch Hydrology. 1. "Master Drainage Study for Donovan Ranch" prepared by Matrix Engineering & Consulting, Inc., dated September 2004. (Matrix) 2. "Draft Final Drainage Report for North Spanish Springs Flood Detention Facilities" prepared by AMEC Infrastructure dated May 2006 (AMEC). 3. "Application for Conditional Letter of Map Revision (CLOMR)" prepared by Quad Knopt dated October 2006 (Quad Knopt) and 4. "Application for Letter of Map Amendment (LOMR)" prepared by Aqua Hydrologic Consulting LLC dated October 2008 (Aqua).

1.3 FEMA FLOOD HAZARD INFORMATION

A portion of the site lies within a designated flood hazard area (Zone AO with depths of 1 foot) as outlined on the Flood Insurance Rate Map 32031C2865G (revised March 2009) which is included in the back of this report. This flood zone was established from the offsite flows associated with Griffith Canyon which historically overtopped Calle De La Plata and flowed through the site. The Griffith Canyon flows have since been diverted to the North Spanish Springs Detention Facility by means of the Calle Channel as outlined in the AMEC report [1]. Subsequent to the AMEC analysis, a CLOMR and final LOMR were obtained from FEMA for

the areas removed from the flood hazard area by the detention facility (Quad Knopt [3], Aqua [4]). The results of all studies concluded that a portion of the 100-year flow calculated to be 104 cfs would still overtopped Calle De La Plata upstream of the project site and therefore a small portion of the south west corner remains in the flood zone AO as shown on the FIRM map. The tentative map application for Sugarloaf Estates was preceded by a Master Plan Amendment (MPA) application. Within the MPA staff report, Washoe County Engineering staff indicated that more recent improvements to drainage facilities in the general vicinity of the project have likely removed the Zone AO constraint from the subject property. A detailed analysis of those improvements would be required however to support a new LOMR application to FEMA in order to officially remove the property from the flood hazard area. In the absence of said LOMR, the final elevations of the proposed homes on the affected lots within the flood hazard area must be elevated to the depths associated with the AO zone and the Washoe County Flood Ordinance. Flood Insurance requirements would also be required to obtain mortgages on those homes.

1.4 REQUIRED DETENTION

A detention basin is proposed within the subdivision to reduce developed peak discharges from the proposed development to at or below existing runoff rates.

2. HYDROLOGIC ANALYSIS

The hydrologic analysis included in this report consists of peak runoff flow computations for the existing and proposed conditions for the 5 and 100-year design storms.

2.1 DESIGN RAINFALL

Precipitation intensity values were obtained from the NOAA Atlas 14 website. The rainfall data is specific to the latitude and longitude of the project site. A copy of the values obtained are included in this report. The NOAA Atlas 14 values are somewhat higher than the regional rainfall values for the Spanish Springs Valley outlined in the WCDDM which are the values used in the previous drainage studies referenced herein. For the purposes of the subdivision design, the higher NOAA 14 values are therefore conservative in terms of pipe and channel designs. Final design of the subdivision drainage facilities could possibly be based on the lower regional rainfall values if acceptable to the designer and if approved by the Washoe County engineering department.

2.2 METHODOLOGY

The SCS TR-55 unit hydrograph methodology was used to determine peak flows for the large

off-site drainage are tributary to the project. The off-site area is greater than 100 acres in size and therefore the SCS method was a more appropriate method over the Rational Method. The SCS method uses the Drainage Area, Curve Number, Time of Concentration and a Unit Hydrograph to compute peak flows. A computer program version of TR55 is currently available and was used in the analysis. It is important to note that the new version of TR55 uses time of concentration and not lag time which was part of the older version and as outlined in the WCDDD. Runoff Curve numbers were determined using Table 702 in the WCDDM and soil types obtained from the SCS soil conservation service web-site. A map of the existing soil types are included in the back of this report.

The Rational Method was used to compute the peak runoff for the remaining drainage areas in the existing condition and also for the developed condition project runoff. The Rational Method uses the formula Q=C*I*A where; (Q) is the peak flow in cfs, (C) is the runoff coefficient, (I) is the rainfall intensity in inches per hour and (A) is the drainage area in acres. The drainage areas for both methods were measured in AutoCad. Time of Concentrations were calculated using the drainage flow paths measured in autocad along with Figure 701 from the WCDDM . Runoff coefficients (C) were obtained from table 701 of the WCDDM. The values for the average of 1/8 and 1/4 acre lots were used and are equal to 0.55 for the 5-year storm and 0.72 for the 100-year storm. C values for "Forest" were used for the existing condition drainage areas due to the high infiltration rates of the underlying A soil group. This is line with a CN value of 40 used for soil group A in TR55.

2.3 EXISTING RUNOFF

The first source looked at to determine existing runoff was the USGS quadrangle map for Griffith Canyon which was obtained in pdf format from the USGS website (2011). Figure DR-1 is a copy of the quadrangle map which shows the subject site in relation to the off-site tributary drainage areas A, B, C, D and E. Areas A and D together encompasses a substantial off-site drainage area was historically tributary to the project site. The upper portion defined by Area A has since been diverted into the existing gravel pit as outlined in the Matrix report for the Donovan Ranch Subdivision stating that the pit captured and retained all of the flows from this drainage area upstream of that subdivision. As part of this analysis for Sugarloaf Estates, an examination of google earth images did conclude that the upper portion of the watershed defined by Area A is being diverted into the pit with Area D still tributary to the project site. Area B on the quad map is shown to flow across Calle De La Plata in a defined drainage path to combine with the Griffith Canyons flows on the south side of the road. This area is also part of the previous drainage studies and is included in the total Griffith Canyon flows diverted to the Calle Channel, Refer to Basin 3 as shown on Plate 1 from the Quad Knopt report. In an examination

of current Google street view images however, a culvert at the location of the drainage crossing over Calle De La Plata is not evident therefore it is not certain what storm duration actually overtops Calle De La Plata. There is also an existing roadside ditch on the north side of the road that appears to have capacity for the minor storm flows from Area B. Although the flow from this area would likely not impact the project site itself, it would have an impact on the existing roadside ditch that exists along the project frontage of Calle De La Plata. A more detailed study of upstream flows tributary to the roadside ditch is recommended with final design of the Sugarloaf subdivision to determine if the 100-year flow from Area B must be accounted for in the roadside ditch on the north side of Calle De La Plata. Continuing with review of the quadrangle map, Area C is shown as sheet flow directed south westerly toward both Calle De La Plata and the project site. Area E is an area of sheet flow toward to the project site.

The quad map represents an overall view of the off-site watersheds but was not used for any calculations. For hydrologic calculations, areas C, D and E were further analyzed using the Washoe County CSD system which includes 2' CI contours and parcel lines. Figure DR-2 is the drainage map created using an image file generated from CSD and best-fit into AutoCad. The drainage areas were then drawn and measured in Autocad. The area designations on the CSD map relative to the quad map are as follows: Area E was split into two drainage areas and labeled as E1A and E2A and Areas C and D were combined into one area labeled E3A. These areas represent the off-site tributary drainage areas to the project which must be perpetuated through the subdivision. The continuation of these drainage areas through the project site were given the designations E1B, E2B and E3B, respectively, which represent the existing condition of the project site, and when combined with the off-site areas represent the total tributary area and flow at the downstream end of the project. The locations of existing flow outlets from the property are also shown on the map.

Figure DR-2 shows the location near the southeast corner of the gravel pit where google earth images showed an opening in the existing berm exists to allow flows to enter the pit. South of this area flows would continue to the project site. It is important that the design engineer who prepares the final plans for Sugarloaf Estates verifies that this opening still exists at that time and that it is a permanent opening otherwise a significant amount of flow from area A could end up in the project site should the opening ever be closed. Figure DR-2 also shows that although the off-site flow pattern within each area is primarily sheet flow perpendicular to the existing contours, somewhat defined drainage paths were evident and were drawn and used to calculate the time of concentrations for each drainage area. An important consideration regarding areas E3A and E3B are that historically these areas drained through the middle of the site to Outlet 2. This is verified by both the drainage line on the quadrangle map and from

the existing contour lines. Sometime in the recent past however a dirt road was constructed diagonally across the drainage areas which over time has become a diversion channel for this flow and is directing it to Outlet 3 at Calle De La Plata. As will be discussed in the proposed condition section of this report, the proposed design is to route the off-site flow from Area E3A to Outlet 3. Table 1 summarizes the existing runoff calculations.

3. PROPOSED DRAINAGE FACILITIES

3.1 ON-SITE STORM DRAINAGE SYSTEM

Figure DR-3 represents the proposed drainage system including all catch basin locations and their respective drainage areas and flows. Table 2 summarizes all flow information. The system is described as follows: the offsite upstream flows north of Chestnut Vine Drive (Area E3A from DR-2) will be picked up via a cut-off channel and routed between lots 6 and 7 to an inlet structure in Seaberry way, south in Seaberry in 42" pipe to new trapezoidal channel running parallel to Calle de la Plata and flowing west meeting the existing drainage path at the south west side of the site (Outlet 3). Alternatively, this newly installed 42" pipe could exit into the existing drainage channel south of Calle De La Plata, directing the flows to the regional detention/sedimentation facility. There are three catch basin areas that combine with this off-site flow, A, B and L. The SCS TR-55 model was used to route area E3A through the pipe and open channel and combine with these three areas at outlet 3. The total flows to outlet 3 are Q (5) = 2.62 cfs and Q (100) = 45.62 cfs which represents a slight increase from existing flows at this location of Q (5)=1.70 cfs and Q (100) =41.03 cfs. This increase can be mitigated with final design by reducing discharges from the proposed detention basin.

The existing roadside channel on the north side of Calle De La Plata is not planned to be modified nor are flows planned to be changed. This could change with final design however depending on verification of off-site flows from Area B from DR-1, and the 104 cfs of overflow from Griffith Canyon as outlined previously in this report.

Off-site flows north of Chestnut Vine Drive (Areas E1A and E1B from DR-2) will be intercepted via a cut-off channel along the east boundary of lots 14-20 and routed to the north side of the project and then west back into the original flow path of E1A within the existing adjacent open space and County park area (Outlet 1). The plan will add existing off-site area E2A to the outlet 1 flows but subtracts the on-site area flows from E1B and E2B. The total proposed flows at outlet 1 are Q (5)= 0.53 cfs and Q (100) = 7.99 cfs which represent slight increases from the existing flows of Q (5) = 0.42 cfs and Q (100) = 6.28 cfs. As with outlet 3, this slight increase in flow can be mitigated by detaining more of the developed area flows in the detention pond.

On site flows will be collected via catch basins and conveyed to a proposed detention pond located on the west side of the project between lots 33 and 34. The pond will be sized to mitigate increased storm flows due to development and release storm flows in the current low-point of the property. The current estimated volume of storage required for the pond is 1.02 acre-feet. The available storage is 4.82 acre-feet. It is suggested that the property adjacent to Sugarloaf Ranch Estates to the west coordinate their detention facilities with this project so that one pond, rather than two be built in this area.

3.2 STREET CAPACITY CALCULATIONS

Street drainage capacities will be verified with final design to capture the 5-year flow in ½ a travel lane and the 100-year flow to top of curb.

3.3 CONCLUSIONS

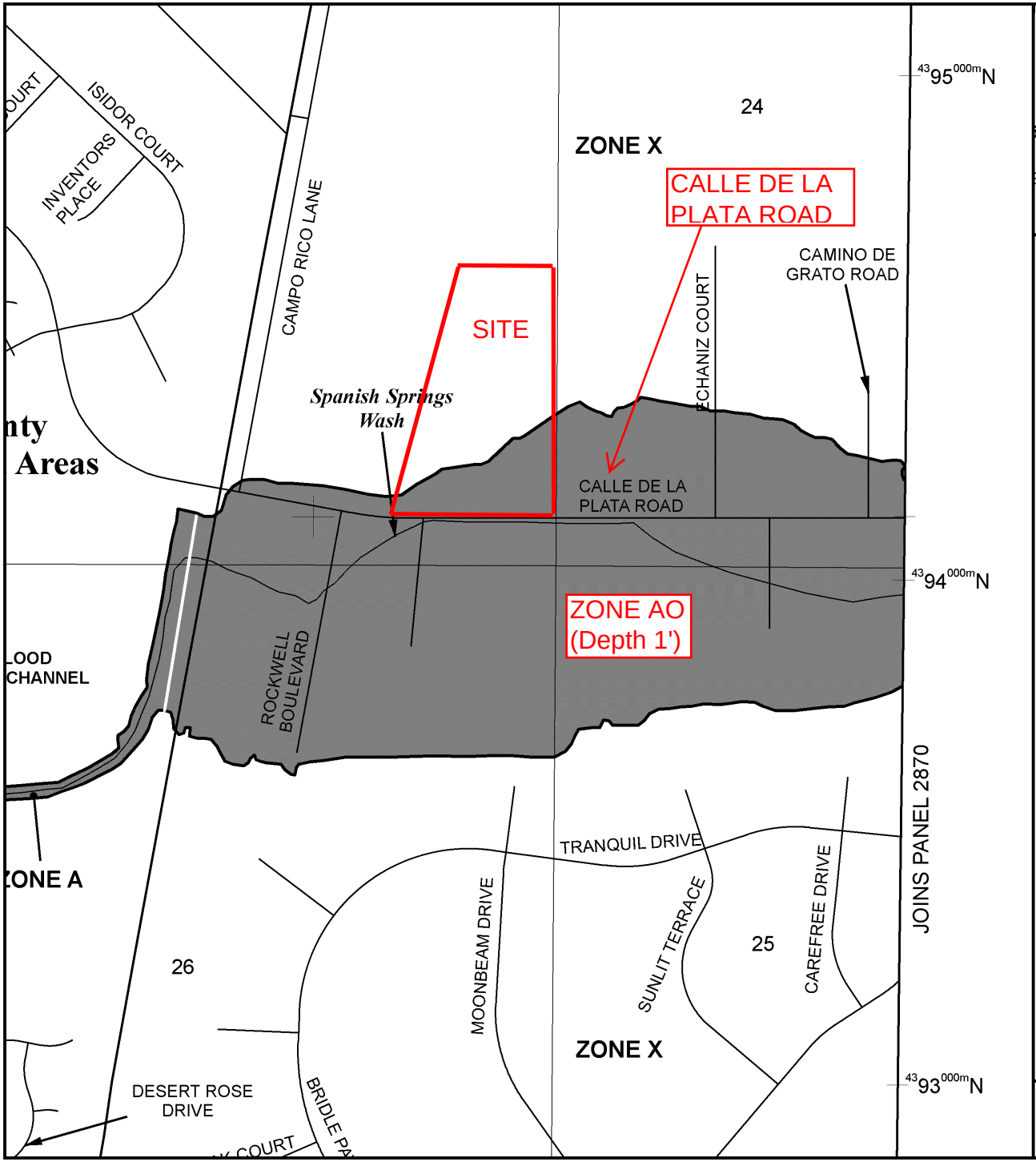
In conclusion, the Sugarloaf Ranch Estates Tentative Map has been designed to meet the Washoe County Drainage Code and will result in slight to no increase in downstream flows. Recommendations are contained herein for further analysis on upstream watershed flow paths and drainage improvements as part of the final design of the subdivision. All exhibits and supporting calculations are included in the Appendix of this report.

4. REFERENCES

Washoe County Hydrologic Criteria and Drainage Design Manual, December 2, 1996

N.T.S.

FIGURE 1 - VICINITY MAP



tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2865G

FIRM

FLOOD INSURANCE RATE MAP

WASHOE COUNTY, NEVADA
AND INCORPORATED AREAS

PANEL 2865 OF 3475
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SPARKS, CITY OF	320021	2865	G
WASHOE COUNTY	320019	2865	G

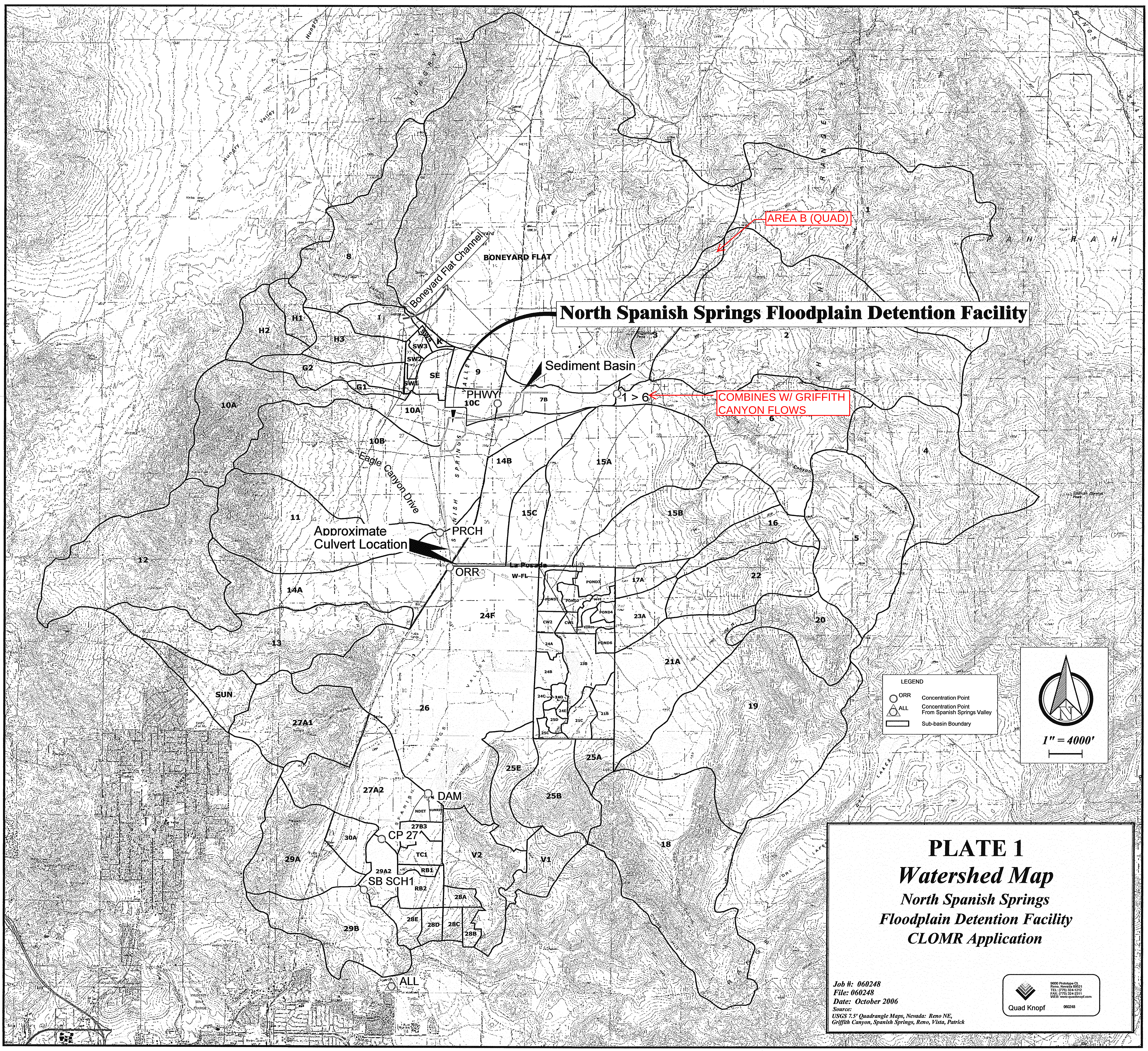
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
32031C2865G

MAP REVISED
MARCH 16, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



North Spanish Springs Floodplain Detention Facility
AREA B (QUAD)
COMBINES W/ GRIFFITH CANYON FLOWS
Sediment Basin
Boneyard Flat Channel
BONEYARD FLAT
Approximate Culvert Location
Eagle Canyon Drive
PHWY
PRCH
ORR
DAM
CP 27
SB SCH1
ALL
1 > 6
La Posada
W-FL
1
2
3
4
5
6
7B
8
9
10A
10B
10C
11
12
13
14A
14B
15A
15B
15C
16
17A
18
19
20
21A
21B
21C
22
23A
23B
24A
24B
24C
24D
24E
24F
25A
25B
25C
25D
25E
26
27A1
27A2
27B3
28A
28B
28C
28D
28E
29A
29A2
29B
30A
G1
G2
H1
H2
H3
I
K
SE
SW1
SW2
SW3
SW4
CW1
CW2
POND1
POND2
POND3
POND4
POND5
POND6
NDET
SUNRISE
TC1
RB1
RB2
V1
V2
SUN
LEGEND
ORR Concentration Point
ALL Concentration Point From Spanish Springs Valley
Sub-basin Boundary
N
1" = 4000'

PLATE 1

Watershed Map

North Spanish Springs Floodplain Detention Facility CLOMR Application

Job #: 060248
File: 060248
Date: October 2006
Source:
USGS 7.5' Quadrangle Maps, Nevada: Reno NE, Griffith Canyon, Spanish Springs, Reno, Vista, Patrick

Quad Knopf
9600 Prototype Ct. Reno, Nevada 89521
TEL: (775) 324-1212
FAX: (775) 324-2311
WEB: www.quadknopf.com
060248

TABLE 1 - EXISTING DEVELOPED SUB-BASIN SUMMARY

BASIN NO.	AREA (acres)	Tc (min)	C5	C100	i5	i100	Q_5 (cfs)	Q_{100} (cfs)	Destination
E1A	9.94	50.3	0.05	0.3	0.58	1.47	0.29	4.38	
E1B	5.81	8.5	0.05	0.3	1.6	4	0.46	6.97	
E1	**15.75**	**58.8**	**0.05**	**0.3**	**0.53**	**1.33**	**0.42**	**6.28**	**Outlet 1**
E2A	8.96	46.5	0.05	0.3	0.61	1.55	0.27	4.17	
E2B	7.63	16.5	0.05	0.3	1.17	2.95	0.45	6.75	
E2	**16.59**	**63**	**0.05**	**0.3**	**0.51**	**1.27**	**0.42**	**6.32**	**Outlet 2**
E3A	244.94	85.3	CN=61		TR55 METHOD		1.61	45.03	
E3B	26.4	27.7	0.05	0.3	0.87	2.2	1.15	17.42	
E3	**271.34**	**113**	**CN=61**		**TR55 METHOD**		**1.70**	**41.03**	**Outlet 3**

TABLE 2 - DEVELOPED SUB-BASIN SUMMARY

BASIN NO.	AREA (acres)	Tc (min)	C5	C100	i5	i100	Q_5 (cfs)	Q_{100} (cfs)	DESTINATION
E1A	9.94	50.3	0.05	0.3	0.58	1.47	0.29	4.38	
E2A	8.96	46.5	0.05	0.3	0.61	1.55	0.27	4.17	
Combined	**18.9**	**53.6**	**0.05**	**0.3**	**0.56**	**1.41**	**0.53**	**7.99**	**Outlet 1**
A	1.51	10.00	0.55	0.72	1.89	3.49	1.57	3.79	CB #1
B	1.01	10.00	0.55	0.72	1.89	3.49	1.05	2.54	CB #1
L	1.41	10.00	0.55	0.72	1.89	3.49	1.47	3.54	CB #7
ABL	3.93				Rational		4.09	9.88	Outlet 3
ABL	3.93	10.00	CN=79		TR55		**2.62**	**9.68**	Outlet 3
E3A	244.94	85.3	CN=61		TR55		1.61	45.03	Open Channel
Routed					TR55		1.61	45.00	Open Channel
Combined	**248.87**				TR55		**2.62**	**45.62**	**Outlet 3**

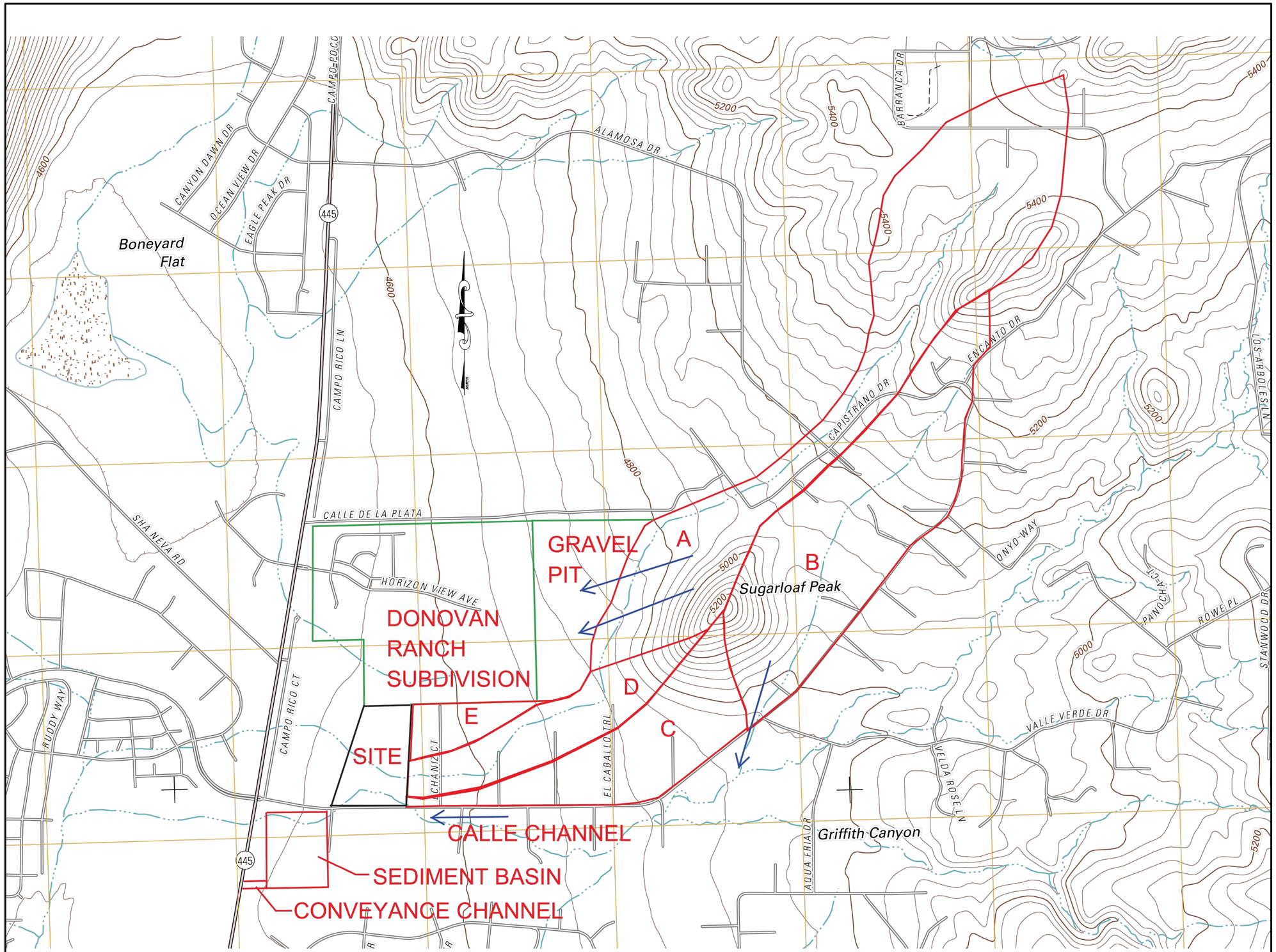
TABLE 2 - DEVELOPED SUB-BASIN SUMMARY (continued)

BASIN NO.	AREA (acres)	Tc (min)	C5	C100	i5	i100	Q_5 (cfs)	Q_{100} (cfs)	DESTINATION
C	2.39	10.00	0.55	0.72	1.89	3.49	2.48	6.01	CB #2
D	1.51	10.00	0.55	0.72	1.89	3.49	1.57	3.79	CB #3
E	1.42	10.00	0.55	0.72	1.89	3.49	1.48	3.57	CB #3
F	1.29	10.00	0.55	0.72	1.89	3.49	1.34	3.24	CB #4
G	2.06	10.00	0.55	0.72	1.89	3.49	2.14	5.18	CB #4
H	1.35	10.00	0.55	0.72	1.89	3.49	1.40	3.39	CB #5
I	2.98	10.00	0.55	0.72	1.89	3.49	3.10	7.49	CB #5
J	1.63	10.00	0.55	0.72	1.89	3.49	1.69	4.10	CB #6
K	1.19	10.00	0.55	0.72	1.89	3.49	1.24	2.99	CB #6
L	1.41	10.00	0.55	0.72	1.89	3.49	1.47	3.54	CB #7
M	1.46	10.00	0.55	0.72	1.89	3.49	1.52	3.67	CB #7
N	0.74	10.00	0.55	0.72	1.89	3.49	0.77	1.86	CB #8
O	0.46	10.00	0.55	0.72	1.89	3.49	0.48	1.16	CB #8
P	2.08	10.00	0.55	0.72	1.89	3.49	2.16	5.23	CB #9
Q	3.37	10.00	0.55	0.72	1.89	3.49	3.50	8.47	CB #9
R	1.25	10.00	0.55	0.72	1.89	3.49	1.30	3.14	CB #10
S	3.21	10.00	0.55	0.72	1.89	3.49	3.34	8.07	CB #10
T	1.75	10.00	0.55	0.72	1.89	3.49	1.82	4.40	CB #11
U	0.49	10.00	0.55	0.72	1.89	3.49	0.51	1.23	CB #12
V	1.22	10.00	0.05	0.30	1.89	3.49	0.12	1.28	Det Pond
Combined	**33.26**						**33.31**	**81.79**	**Det Pond**
						Discharge	**0.42**	**6.32**	**Outlet 2**
						Storage	**32.88**	**75.47**	**cfs**
						Volume	**0.45**	**1.04**	**ac-feet**

SugarLoaf Estates
Off Site Area E3A
Reno-W County, Nevada

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 5-Yr (cfs)	(hr)	100-Yr (cfs)	(hr)
SUBAREAS				
E3A	1.61	14.35	45.03	12.96
ABL	0.64	12.06	5.13	12.02
REACHES				
channel	1.61	14.35	45.03	12.96
Down	1.61	14.53	45.00	13.05
OUTLET	1.67		45.45	



QUAD MAP

N.T.S.

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TENTATIVE MAP APPLICATION FOR
SUGARLOAF RANCH ESTATES
EXISTING CONDITION DRAINAGE MAP
WASHOE COUNTY, NEVADA

revisions

drawn:	GKG
checked:	GKG
date:	FEBRUARY 2016
scale:	N.T.S.
project no:	15021

DR-1

OF 4

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EXISTING DONOVAN RANCH

DIRECT FLOW

AREA A (QUAD)

BERM

FLOW CHANNEL

SUGARLOAF PEAK

EXISTING GRAVEL PIT

AREA B (QUAD)

FUTURE DONOVAN RANCH

OPENING IN BERM

OUTLET 1

DETENTION AREA

100-YEAR OVERTOPS CALLE DE LA PLATA (SEE QUAD MAP)

SITE

AREA E1B

AREA E1A

AREA E2B

AREA E2A

FLOW PATH (TYPICAL)

OUTLET 2

AREA E3B

AREA E3A

FEMA ZONE X

OUTLET 3

FEMA ZONE AO

GRIFFITH CANYON FLOWS

CALLE DE LA PLATA

EXISTING SEDIMENT BASINS

EXISTING FLOOD CONTROL CHANNEL (CALLE CHANNEL)

FEMA ZONE A

DIRT ROAD HAS DIVERTED NATURAL DRAINAGE PATH.

300' 0 150' 300' 600'

SCALE: 1"=300'

CSD MAP

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TENTATIVE MAP APPLICATION FOR
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scale:	1"=300'
project no:	15021

DR-2

OF 4

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OUTLET 3
Q_5=2.62 CFS
Q_{100}=45.62 CFS

AREA "A"
Q_5=1.57 CFS
Q_{100}=3.79 CFS

AREA "U"
Q_5=0.51 CFS
Q_{100}=1.23 CFS

OUTLET 2
Q_5=0.42 CFS
Q_{100}=1.23 CFS

AREA "B"
Q_5=1.05 CFS
Q_{100}=2.54 CFS

AREA "C"
Q_5=2.48 CFS
Q_{100}=6.01 CFS

AREA "D"
Q_5=1.57 CFS
Q_{100}=3.79 CFS

AREA "E"
Q_5=1.48 CFS
Q_{100}=3.57 CFS

AREA "F"
Q_5=1.34 CFS
Q_{100}=3.24 CFS

AREA "G"
Q_5=2.14 CFS
Q_{100}=5.18 CFS

AREA "H"
Q_5=1.40 CFS
Q_{100}=3.39 CFS

AREA "I"
Q_5=3.10 CFS
Q_{100}=7.49 CFS

AREA "J"
Q_5=1.69 CFS
Q_{100}=4.10 CFS

AREA "K"
Q_5=1.24 CFS
Q_{100}=2.99 CFS

AREA "L"
Q_5=1.47 CFS
Q_{100}=3.54 CFS

AREA "M"
Q_5=1.52 CFS
Q_{100}=3.67 CFS

AREA "N"
Q_5=0.77 CFS
Q_{100}=1.86 CFS

AREA "O"
Q_5=0.48 CFS
Q_{100}=1.16 CFS

AREA "P"
Q_5=2.16 CFS
Q_{100}=5.23 CFS

AREA "Q"
Q_5=3.50 CFS
Q_{100}=8.47 CFS

AREA "R"
Q_5=1.30 CFS
Q_{100}=3.14 CFS

AREA "S"
Q_5=3.34 CFS
Q_{100}=8.07 CFS

AREA "T"
Q_5=1.82 CFS
Q_{100}=4.40 CFS

OUTLET 1
Q_5=0.53 CFS
Q_{100}=7.99 CFS

DETENTION BASIN
AREA "V"
AVAILABLE VOLUME= 4.82 AC-FT
MINIMUM VOLUME 1.04 AC-FT

ALTERNATE DISCHARGE POINT FOR OFF-SITE FLOWS

OFF-SITE FLOW E3A

OFF-SITE FLOW E2A

OFF-SITE FLOW E1A

PATH & DRAINAGE AREA

CLOUD BERRY DR.

CLOUD BERRY CT.

CHESTNUT VINE DR.

CHESTNUT VINE CT.

MALABAR DRIVE

MALABAR CT.

SEABERRY WAY

PECAN CT.

BAYBERRY DR.

BAYBERRY CT.

EXISTING OPEN CHANNEL (CALLE CHANNEL)

CALLE DE LA PLATA

PROPOSED OPEN CHANNEL

DEVLOPED DRAINAGE MAP
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TENTATIVE MAP APPLICATION FOR
SUGARLOAF RANCH ESTATES
DEVELOPED CONDITION DRAINAGE MAP
WASHOE COUNTY, NEVADA

revisions

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date:	FEBRUARY 2016
scale:	N.T.S.
project no:	15021

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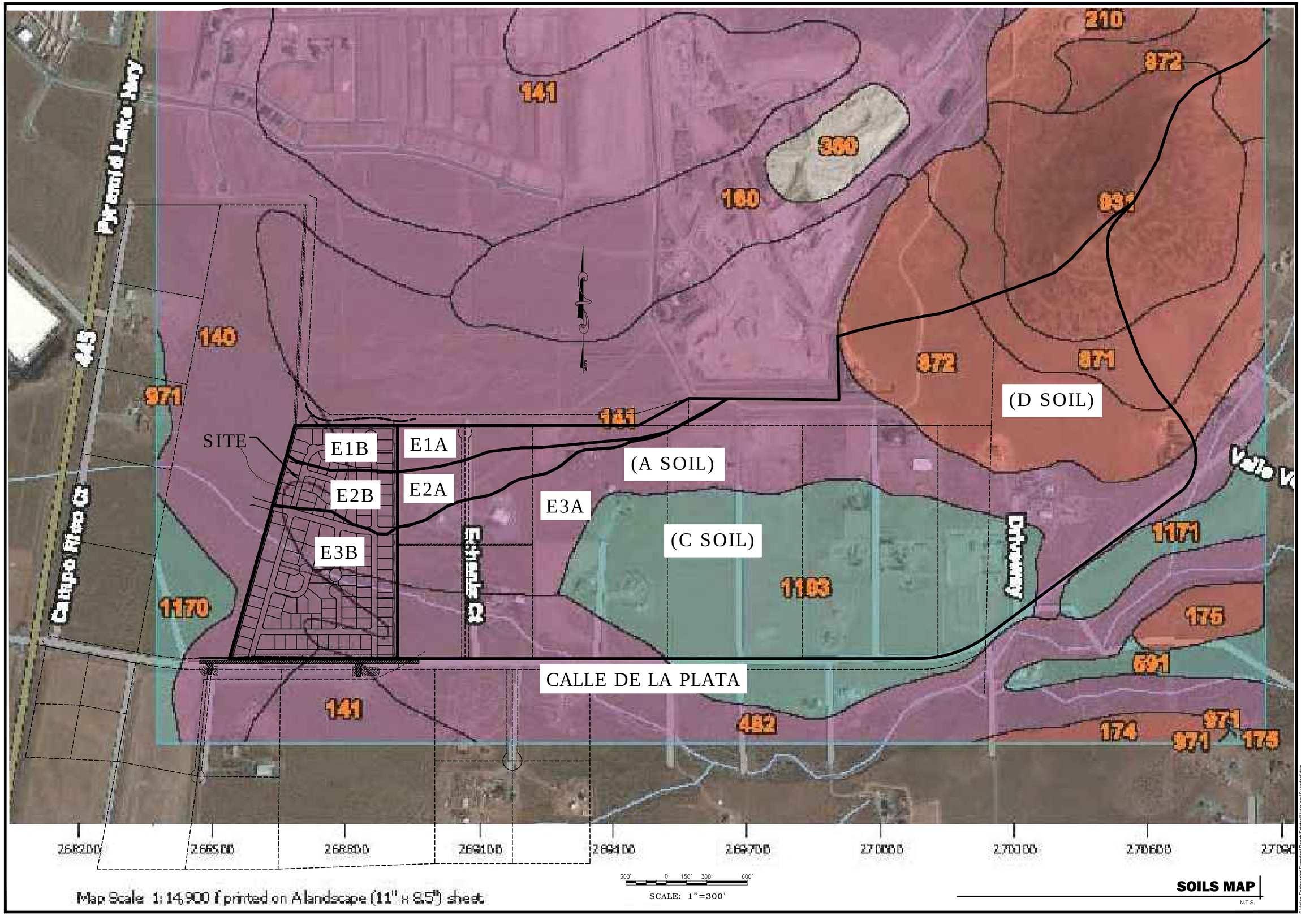
DR-3

OF 4



SOILS MAP
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PH 775-771-5554 / FX 775-856-3951

TENTATIVE MAP APPLICATION FOR
SUGARLOAF RANCH ESTATES
HYDROLOGIC SOILS MAP
WASHOE COUNTY, NEVADA

revisions

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scale:	N.T.S.
project no:	15021

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DR-4

NOAA Atlas 14, Volume 1, Version 5
Location name: Sparks, Nevada, US*
Latitude: 39.6698°, Longitude: -119.6877°
Elevation: 4621 ft*
* source: Google Maps

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	0.100 (0.084-0.115)	0.125 (0.104-0.146)	0.168 (0.141-0.198)	0.208 (0.175-0.248)	0.277 (0.227-0.335)	0.341 (0.272-0.418)	0.418 (0.325-0.521)	0.513 (0.383-0.653)	0.667 (0.471-0.880)	0.810 (0.548-1.10)
10-min	0.152 (0.128-0.176)	0.190 (0.159-0.222)	0.255 (0.214-0.301)	0.317 (0.266-0.377)	0.421 (0.346-0.509)	0.519 (0.414-0.636)	0.637 (0.494-0.793)	0.780 (0.582-0.994)	1.01 (0.717-1.34)	1.23 (0.834-1.67)
15-min	0.189 (0.158-0.218)	0.236 (0.197-0.275)	0.316 (0.266-0.373)	0.393 (0.330-0.468)	0.522 (0.429-0.631)	0.643 (0.514-0.788)	0.789 (0.612-0.982)	0.967 (0.722-1.23)	1.26 (0.889-1.66)	1.53 (1.03-2.07)
30-min	0.254 (0.213-0.293)	0.317 (0.265-0.370)	0.425 (0.358-0.503)	0.529 (0.444-0.629)	0.703 (0.578-0.850)	0.867 (0.692-1.06)	1.06 (0.825-1.32)	1.30 (0.972-1.66)	1.70 (1.20-2.24)	2.06 (1.39-2.78)
60-min	0.315 (0.263-0.363)	0.392 (0.328-0.458)	0.526 (0.443-0.622)	0.655 (0.550-0.779)	0.870 (0.715-1.05)	1.07 (0.857-1.31)	1.31 (1.02-1.64)	1.61 (1.20-2.05)	2.10 (1.48-2.77)	2.55 (1.72-3.44)
2-hr	0.415 (0.365-0.481)	0.516 (0.455-0.600)	0.665 (0.580-0.774)	0.796 (0.684-0.924)	0.998 (0.836-1.17)	1.18 (0.966-1.40)	1.40 (1.11-1.67)	1.68 (1.30-2.08)	2.19 (1.62-2.80)	2.66 (1.90-3.48)
3-hr	0.500 (0.443-0.569)	0.621 (0.556-0.712)	0.781 (0.692-0.892)	0.911 (0.801-1.04)	1.10 (0.950-1.26)	1.26 (1.07-1.47)	1.46 (1.22-1.72)	1.75 (1.42-2.09)	2.24 (1.77-2.82)	2.70 (2.08-3.51)
6-hr	0.707 (0.632-0.801)	0.884 (0.789-1.00)	1.10 (0.972-1.25)	1.26 (1.11-1.43)	1.48 (1.29-1.69)	1.64 (1.41-1.88)	1.80 (1.53-2.10)	2.01 (1.68-2.37)	2.43 (1.99-2.90)	2.84 (2.29-3.55)
12-hr	0.943 (0.841-1.06)	1.19 (1.06-1.33)	1.50 (1.33-1.69)	1.74 (1.53-1.96)	2.06 (1.80-2.34)	2.31 (1.99-2.64)	2.56 (2.18-2.96)	2.81 (2.36-3.30)	3.15 (2.58-3.77)	3.46 (2.77-4.19)
24-hr	1.18 (1.06-1.33)	1.49 (1.33-1.68)	1.92 (1.71-2.16)	2.26 (2.01-2.55)	2.75 (2.42-3.10)	3.14 (2.73-3.56)	3.55 (3.06-4.05)	3.98 (3.39-4.57)	4.58 (3.82-5.31)	5.05 (4.15-5.93)
2-day	1.42 (1.25-1.61)	1.80 (1.59-2.05)	2.35 (2.07-2.67)	2.79 (2.45-3.18)	3.43 (2.97-3.92)	3.94 (3.39-4.53)	4.49 (3.81-5.20)	5.07 (4.25-5.93)	5.89 (4.82-6.99)	6.56 (5.27-7.89)
3-day	1.55 (1.37-1.76)	1.97 (1.74-2.25)	2.60 (2.29-2.97)	3.12 (2.73-3.56)	3.86 (3.35-4.42)	4.46 (3.83-5.14)	5.12 (4.33-5.94)	5.81 (4.84-6.80)	6.80 (5.53-8.08)	7.61 (6.08-9.17)
4-day	1.68 (1.48-1.91)	2.14 (1.90-2.45)	2.86 (2.52-3.26)	3.45 (3.02-3.94)	4.29 (3.72-4.93)	4.99 (4.26-5.75)	5.74 (4.84-6.67)	6.55 (5.43-7.67)	7.71 (6.24-9.18)	8.67 (6.89-10.5)
7-day	1.98 (1.73-2.28)	2.54 (2.21-2.92)	3.40 (2.96-3.93)	4.12 (3.56-4.76)	5.15 (4.40-5.98)	5.99 (5.06-7.00)	6.90 (5.76-8.13)	7.88 (6.47-9.36)	9.28 (7.45-11.2)	10.4 (8.24-12.8)
10-day	2.23 (1.94-2.57)	2.88 (2.51-3.32)	3.86 (3.36-4.46)	4.66 (4.03-5.38)	5.78 (4.95-6.71)	6.68 (5.67-7.80)	7.65 (6.41-8.99)	8.67 (7.16-10.3)	10.1 (8.17-12.2)	11.3 (8.97-13.8)
20-day	2.78 (2.43-3.20)	3.59 (3.14-4.13)	4.82 (4.20-5.54)	5.76 (5.00-6.62)	7.02 (6.06-8.09)	8.00 (6.85-9.26)	9.02 (7.63-10.5)	10.1 (8.46-11.9)	11.6 (9.55-13.9)	12.9 (10.4-15.5)
30-day	3.27 (2.86-3.77)	4.23 (3.70-4.88)	5.66 (4.93-6.53)	6.76 (5.87-7.78)	8.23 (7.09-9.49)	9.36 (8.01-10.8)	10.5 (8.92-12.3)	11.7 (9.82-13.8)	13.4 (11.1-16.0)	14.8 (12.1-17.8)
45-day	3.92 (3.42-4.46)	5.07 (4.43-5.77)	6.76 (5.89-7.69)	8.02 (6.97-9.12)	9.68 (8.36-11.0)	10.9 (9.40-12.5)	12.2 (10.4-14.1)	13.5 (11.4-15.7)	15.4 (12.8-18.1)	16.9 (13.9-20.0)
60-day	4.51 (3.92-5.14)	5.86 (5.11-6.67)	7.81 (6.79-8.88)	9.19 (7.98-10.4)	10.9 (9.46-12.5)	12.2 (10.5-14.0)	13.5 (11.5-15.5)	14.7 (12.5-17.0)	16.5 (13.8-19.2)	17.8 (14.7-21.0)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

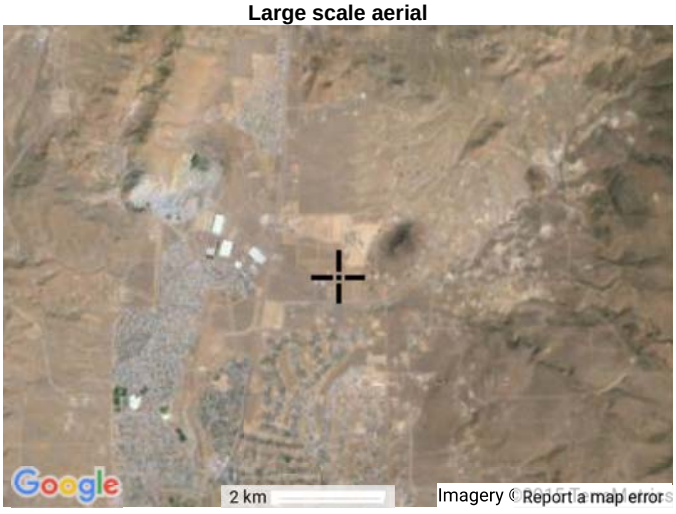
Back to Top

PF graphical

Large scale terrain

Large scale map

Large scale aerial



RATIONAL FORMULA METHOD
RUNOFF COEFFICIENTS

Land Use or Surface Characteristics	Aver. % Impervious Area	Runoff Coefficients 5-Year (C_5)	Runoff Coefficients 100-Year (C_{100})
Business/Commercial:			
Downtown Areas	85	.82	.85
Neighborhood Areas	70	.65	.80
Residential:			
(Average Lot Size)			
⅛ Acre or Less (Multi-Unit)	65	.60	.78
¼ Acre	38	.50	.65
⅓ Acre	30	.45	.60
½ Acre	25	.40	.55
1 Acre	20	.35	.50
Industrial:	72	.68	.82
Open Space:			
(Lawns, Parks, Golf Courses)	5	.05	.30
Undeveloped Areas:			
Range	0	.20	.50
Forest	0	.05	.30
Streets/Roads:			
Paved	100	.88	.93
Gravel	20	.25	.50
Drives/Walks:	95	.87	.90
Roofs:	90	.85	.87

Notes:

1. Composite runoff coefficients shown for Residential, Industrial, and Business/Commercial Areas assume irrigated grass landscaping for all previous areas. For development with landscaping other than irrigated grass, the designer must develop project specific composite runoff coefficients from the surface characteristics presented in this table.

RUNOFF CURVE NUMBERS

Land Use or Surface Characteristics	Aver. % Impervious Area	Runoff Curve Numbers			
		Soil Comp A	Soil Comp B	Soil Comp C	Soil Comp D
Business/Commercial:					
Downtown Areas	85	89	92	94	95
Neighborhood Areas	70	80	87	91	93
Residential:					
(Average Lot Size)					
1/8 Acre or Less (Multi-Unit)	65	77	85	90	92
1/4 Acre	38	61	75	83	87
1/3 Acre	30	57	72	81	86
1/2 Acre	25	54	70	80	85
1 Acre	20	51	68	79	84
Industrial:	72	81	88	91	93
Irrigated Areas:					
Lawns, Parks, Golf Courses/	5	41	62	75	81
Agriculture	0	39	61	74	80
Undeveloped Areas (Open Space):					
Herbaceous (grasses)	0	40	62	74	85
Mixed Grass and Shrub	0	39	61	73	82
Shrub/Brush	0	35	56	70	77
Forest (Evergreen)	0	30	54	66	75
Outcrops	70	77	86	91	94
Street/Roads:					
Paved	100	98	98	98	98
Gravel	20	76	85	89	91
Drives/Walks:	95	97	97	97	97
Roofs:	90	95	95	95	95

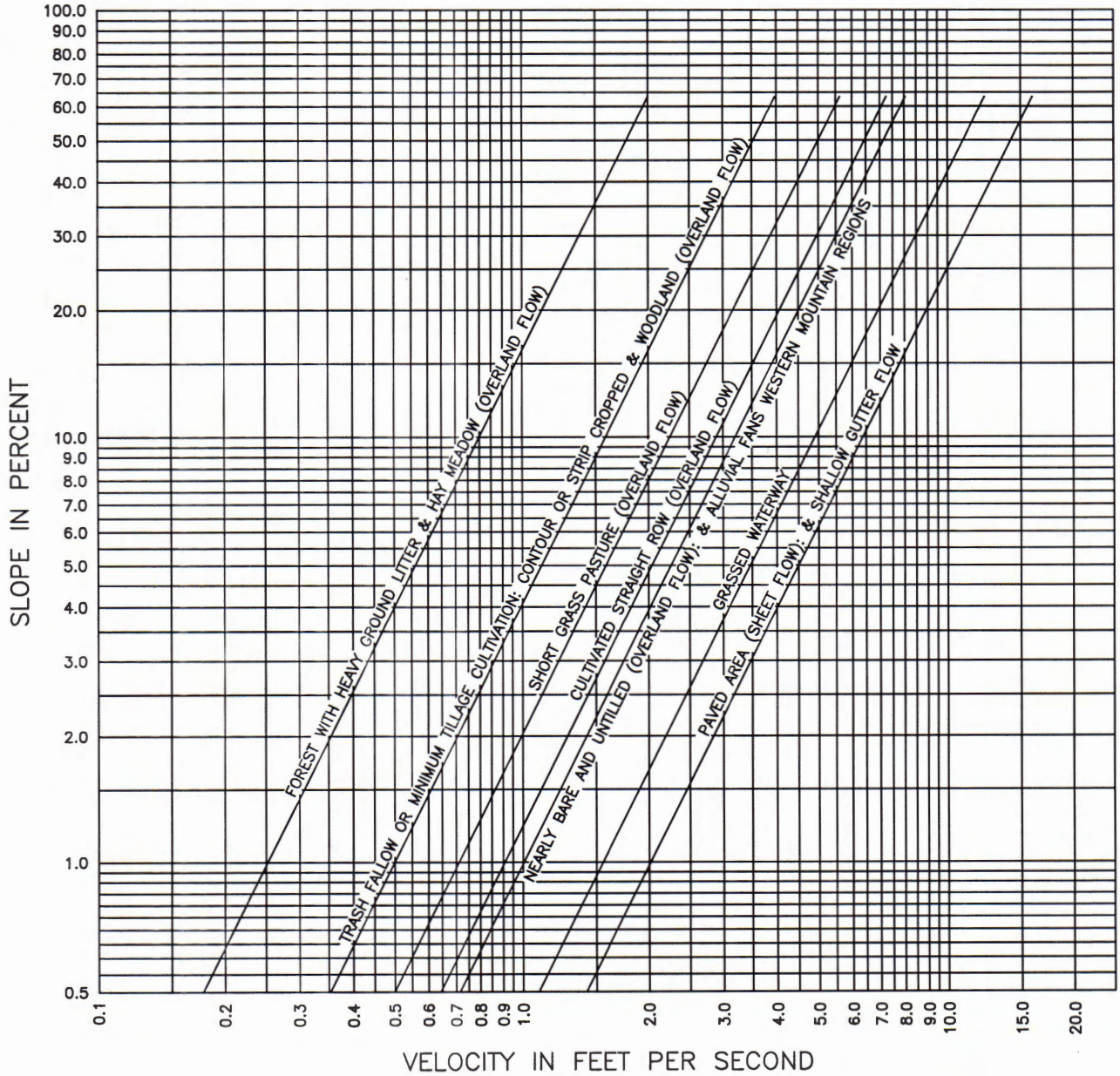
Notes:

1. Grass - Grassed Landscaping or Irrigated Vegetation

WASHOE COUNTY

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

TRAVEL TIME VELOCITY



VERSION: December 2, 1996	REFERENCE: Soil Conservation Service, 1985 (Modified)	FIGURE 701
WRC ENGINEERING, INC.		

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PRELIMINARY SEWER REPORT

SUGARLOAF RANCH ESTATES
PRELIMINARY SEWERAGE REPORT

INTRODUCTION

Sugarloaf Ranch Estates is a proposed 119 unit single family residential subdivision located in Spanish Springs approximately ¼ mile east of Pyramid Highway adjacent to Calle De La Plata on the north side. (Reference Figure 1 Vicinity Map). The proposed development is surrounded by undeveloped land with the exception of a single family residence towards the northeasterly side of the site. This report will address the project at full build-out and possibilities for connecting to the existing Washoe County sewer system.

Sugarloaf Ranch Estates is bounded by Calle De La Plata on the south, a single family residential lot on the east, undeveloped land to the west and the Donovan Ranch Development to the north. The portion of the Donovan Ranch project adjacent to the subject property is currently undeveloped. The property is approximately 39.85 acres in size and lies in a portion of the SE 1/4 section 23 and a portion of the SW 1/4 of section 24, T. 21 N, R. 20 E., M.D.B. & M. (APN is 534-562-07).

The site slopes down from the east to the west toward Pyramid Lake Highway with an approximate gradient of 1.3% with a low point existing towards the middle of the property. No existing sewer facilities are immediately available adjacent to the proposed development at this time and two options exist to obtain sewer service. They are discussed below:

OPTIONS

1) The first option would be to construct offsite sewer improvements from the proposed project west down Calle De La Plata, across Pyramid Highway, and further down Calle De La Plata on the east side of Pyramid Highway. This option would require approximately 2,500 liner feet of sewer main, associated manholes, road repair, and jack and bore under Pyramid Highway. With this option the sewer system would be constructed in public right of way and not require obtaining any easements. An NDOT encroachment permit would be required however.

2) The second option would be to connect to the Donavan Ranch project to the north. This would require crossing the County owned property adjacent to the project's north boundary, constructing approximately 2,400 linear feet of sewer main and associated manholes, and necessary easements to connect to the existing sewer main in the Donavan Ranch development. Sewage flows from the Donavan Ranch development ultimately flow to the Pebble Creek Lift Station. A capacity analysis of the existing lift station and the corresponding force main would need to be performed to determine the impacts connecting to this system would have on the existing infrastructure.

Both options are graphically shown in Figure 2 – Site Plan.

DESIGN REQUIREMENTS

Average peak flows were determined to be 96,390 gallons per day based on the following Washoe County Department of Water Resources (WCDWR) design requirements:

Average Flow = 270 gallons/day

Peaking Factor = 3.0

Zoning = Single Family Residential

Minimum Velocity = 2.5 feet/second

Peak Flow Calculation:

Q_P = (avg flow) (peaking factor) (# of dwelling units)

Q_P = (270) (3.0) (119) = 96,390 gpd

It is anticipated that the minimum pipe slope on the proposed sewer mains will be 0.5% which yields a half full velocity of 2.65 fps meeting the County minimum half full velocity of 2.5 fps.

CONCLUSION

It is our understanding that the WCDWR has commissioned a sewer study for the area that Sugarloaf Ranch Estates will contribute sewer flows to. Once completed any downstream inadequacies beyond the points of connection shown in Figure 2 will be identified and the impact of the proposed development on the downstream system can be determined. The information shown above should be included in the model and at final design an agreement can be worked out for any cost sharing should that be the route the County chooses.

N.T.S.

FIGURE 1 - VICINITY MAP

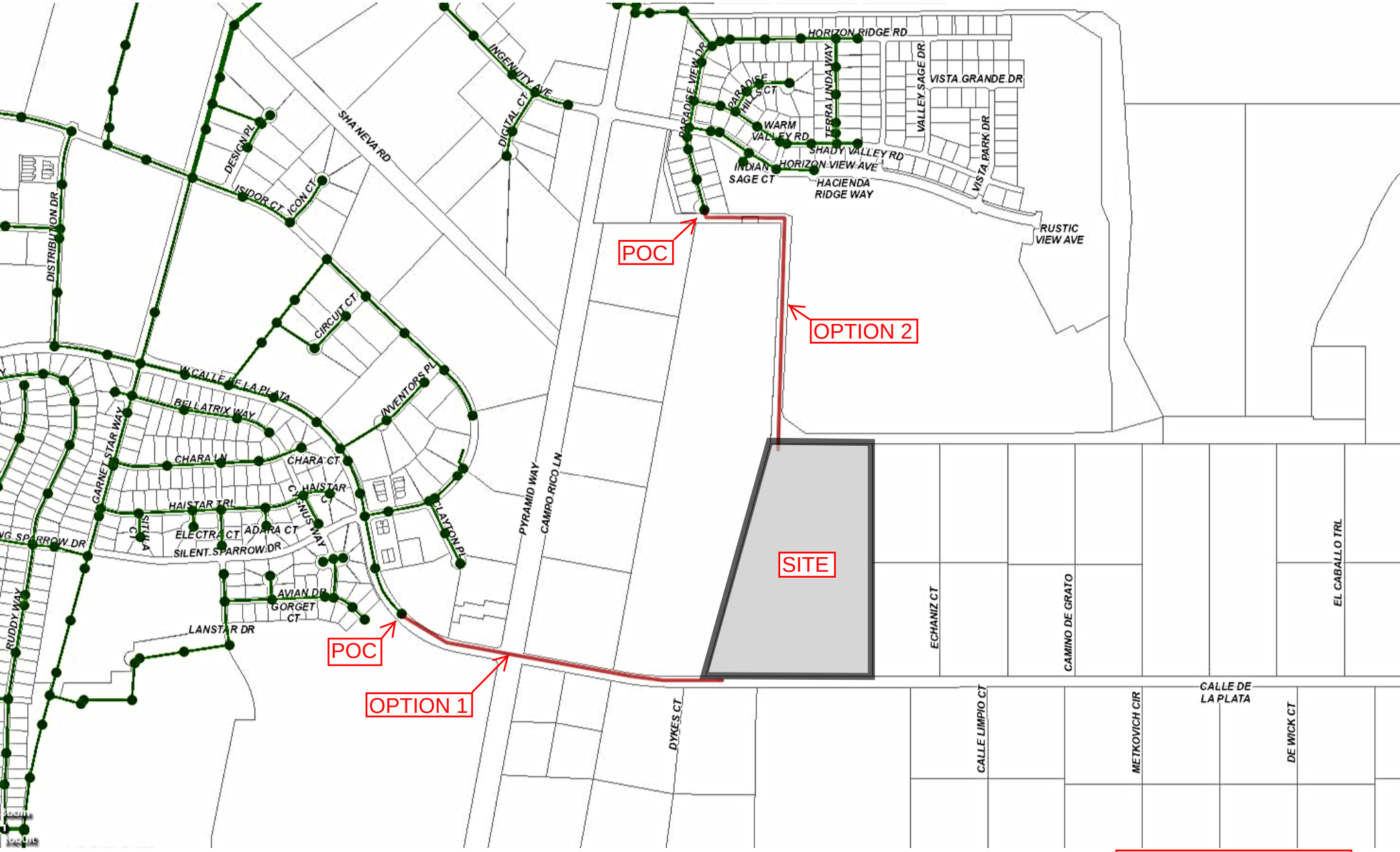


FIGURE 2 - SITE PLAN

U.S. FISH & WILDLIFE
iPac REPORT

Axion ENGINEERING
Civil Engineering • Land Development

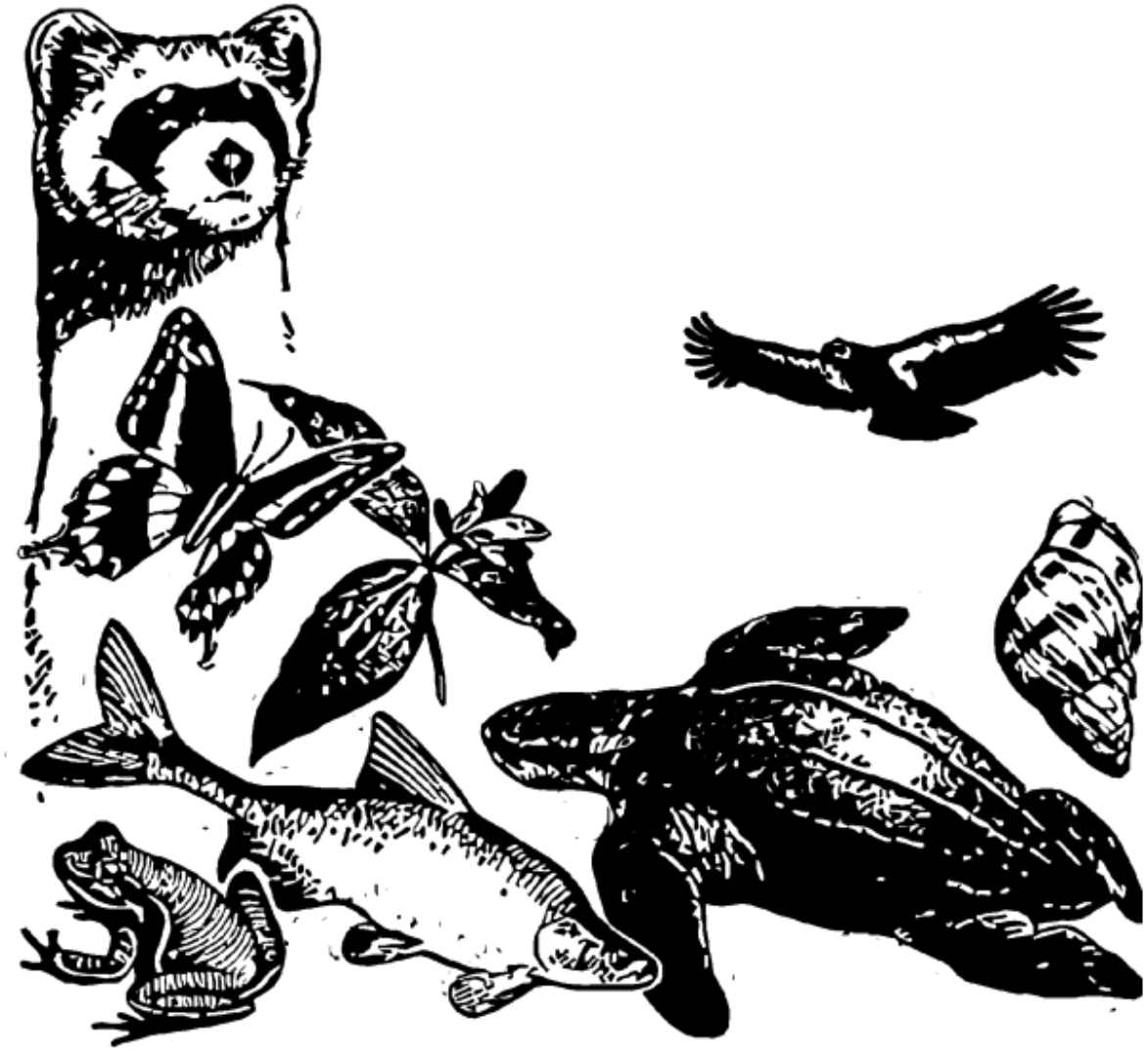
U.S. Fish & Wildlife Service

Sugarloaf Ranch Estates

IPaC Trust Resource Report

Generated January 21, 2016 02:56 PM MST, IPaC v2.3.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

US Fish & Wildlife Service

IPaC Trust Resource Report

NAME

Sugarloaf Ranch Estates

LOCATION

Washoe County, Nevada

DESCRIPTION

39.85 acre, 119 unit single family residential subdivision

IPAC LINK

https://ecos.fws.gov/ipac/project/4EW5H-WAUTN-BHXMR-SYOHV-QLZEYE

U.S. Fish & Wildlife Contact Information

Trust resources in this location are managed by:

Nevada Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require FWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from the Regulatory Documents section in IPaC.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Fishes

Cui-ui Chasmistes cujus — Endangered

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E001

Lahontan Cutthroat Trout Oncorhynchus clarkii henshawi — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E00Y

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black Rosy-finch Leucosticte atrata — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0J4

Brewer's Sparrow Spizella breweri — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HA

Burrowing Owl Athene cunicularia — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0NC

Calliope Hummingbird Stellula calliope — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0K3

Eared Grebe Podiceps nigricollis — Bird of conservation concern
Season: Breeding

Fox Sparrow Passerella iliaca — Bird of conservation concern
Year-round

Greater Sage-grouse Centrocercus urophasianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06W

Green-tailed Towhee Pipilo chlorurus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0IO

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Long-billed Curlew Numenius americanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06S

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pinyon Jay Gymnorhinus cyanocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0I0

Sage Thrasher Oreoscoptes montanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0ID

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Plover Charadrius alexandrinus — Bird of conservation concern
Season: Breeding

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070

Tricolored Blackbird Agelaius tricolor — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06P

Western Grebe aechmophorus occidentalis — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

White Headed Woodpecker Picoides albolarvatus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HU

Williamson's Sapsucker Sphyrapicus thyroideus — Bird of conservation concern

Year-round

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FX

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuges in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location

TENTATIVE MAP APPLICATION

SUGARLOAF RANCH ESTATES

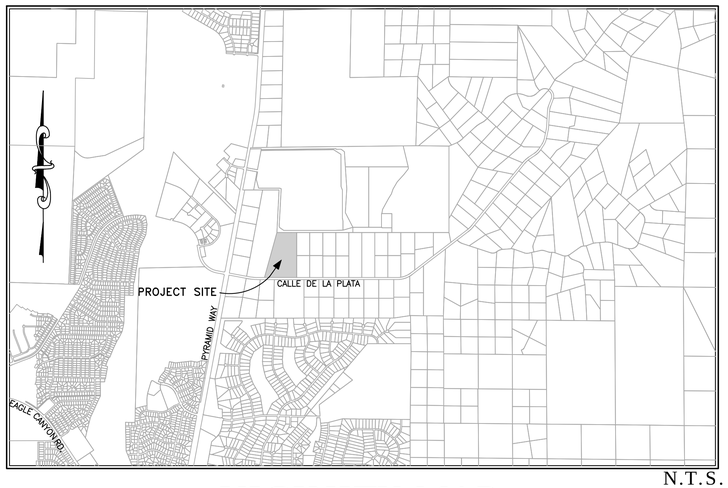
WASHOE COUNTY, NEVADA

OWNER/DEVELOPER

SUGARLOAF PEAK, LLC
2777 NORTHTOWNE LANE
RENO, NV 89512
ATTN: JIM HOUSE

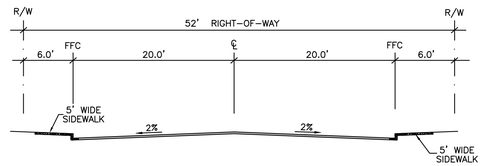
PUBLIC SERVICES

GAS & ELECTRICAL SERVICE: NV ENERGY
WATER SERVICE: TRUCKEE MEADOWS WATER AUTHORITY
SEWER SERVICE: WASHOE COUNTY
TELEPHONE: AT&T
CABLE TV: CHARTER COMMUNICATIONS
FIRE PROTECTION: TRUCKEE MEADOWS FIRE DEPARTMENT
POLICE PROTECTION: WASHOE COUNTY SHERIFF DEPARTMENT

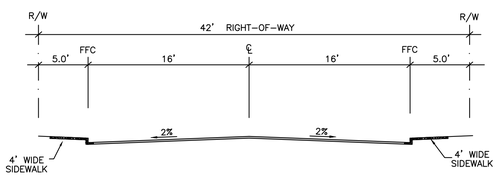


N.T.S.

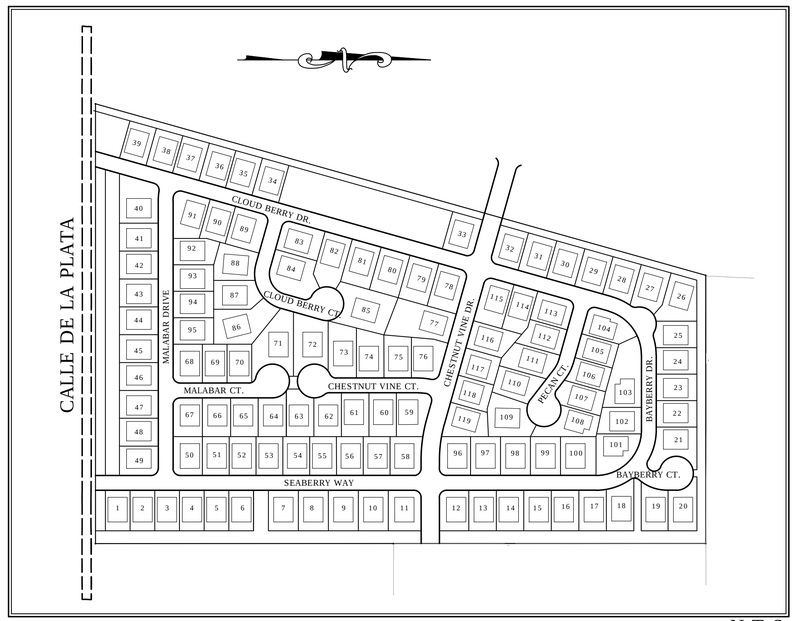
VICINITY MAP



RESIDENTIAL COLLECTOR STREET SECTION



RESIDENTIAL STREET SECTION



N.T.S.

SITE

ENGINEER

Axion ENGINEERING
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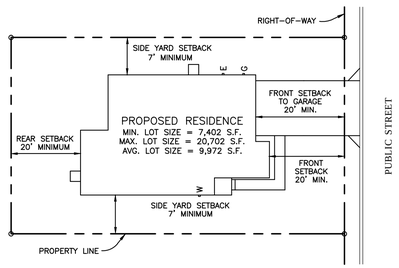
681 EDISON WAY – RENO, NEVADA 89502
PH 775-771-5554 / FX 775-856-3951

SHEET INDEX

MINIMUM SETBACKS



ENGINEERS STATEMENT

I, GARY K. GUZELIS, DO HEREBY CERTIFY THAT THIS MAP HAS BEEN PREPARED BY ME, OR UNDER MY SUPERVISION AND WAS COMPLETED ON THIS 16th DAY OF FEBRUARY, 2016.

GARY K. GUZELIS P.E. #10372

SUGARLOAF RANCH ESTATES TITLE SHEET

C1

SCALE: 1"=100'

LEGEND

64	LOT NUMBER
OHP	OVER HEAD POWER
(E)	EXISTING
AP	ANGLE POINT
RP	RADIUS POINT
SS	SNOW STORAGE
PP	POWER POLE

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UNSHADED X
FEMA 100 YEAR FLOOD LIMIT
ZONE AO (1' DEPTH)
EXISTING BOX CULVERT
28' NV ENERGY EASEMENT
PROJECT BOUNDARY
APN: 534-571-01 JACIE LLC
APN: 534-561-09STN 375 THOMAS
10' PUBLIC UTILITY EASEMENT
POTENTIAL ROAD CONNECTION TO WESTERLY PROPERTY
NV ENERGY MANHOLES
DETENTION BASIN
CLOUD BERRY DR.
CLOUD BERRY CT.
MALABAR DRIVE
MALABAR CT.
CHESTNUT VINE DR.
CHESTNUT VINE CT.
PECAN CT.
BAYBERRY DR.
BAYBERRY CT.
SEABERRY WAY
28' NV ENERGY UNDERGROUND ELECTRIC TRANSMISSION LINE PER DOC. NO. 477225
CALLE DE LA PLATA
APN: 534-561-10 STN 375 CALLE GROUP LLC
APN: 534-450-05 WASHOE COUNTY
CONNECT TO SHADOW RIDGE TRAIL
EXISTING TRAIL
APN: 534-450-13 RYDER SHADOW LLC
PROPOSED CHANNEL
EXISTING BOX CULVERT
PROJECT BOUNDARY
ROAD CONNECTION TO EASTERLY PROPERTY (OPTIONAL BASED ON NEIGHBOR'S DESIRE)
APN: 534-562-06 ECHAINZ
APN: 534-562-05 THEISS
FEMA 100 YEAR FLOOD LIMITS
APN: 534-56-11 VOLTL 1994 TRUST
ECHAINZ CT.

OVERALL MAP

1'=100'

C2

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COMMON OPEN SPACE DEVELOPMENT

1.	TOTAL PROJECT SITE	39.84 ACRES
2.	LOT AREA	26.76 ACRES
3.	RIGHT OF WAY	7.42 ACRES
4.	COMMON AREA	5.66 ACRES
5.	GROSS DENSITY	2.99 DU/ACRE
6.	NET DENSITY	4.45 DU/ACRE
7.	AVERAGE LOT SIZE	10,317 SF
8.	MAXIMUM LOT SIZE	17,261 SF
9.	MINIMUM LOT SIZE	8,050 SF
10.	DWELLING UNITS	119 EA

28' NV ENERGY TRANSMISSION EASEMENT

COMMON AREA "C"

DETENTION BASIN
COMMON AREA "C"
85,430 SF

CLOUD BERRY DR.

CLOUD BERRY CT.

COMMON AREA "B"
60,149 SF

CHESTNUT VINE CT.

CHESTNUT VINE DR.

PECAN CT.

BAYBERRY DR.

BAYBERRY CT.

MALABAR DRIVE

MALABAR CT.

CALLE DE LA PLATA

COMMON AREA "E"

COMMON AREA "F"
934 SF

SEABERRY WAY

COMMON AREA "A" 41,260 SF

COMMON AREA "B" 60,149 SF

SUGARLOAF PEAK OS & TRAIL

EXISTING TRAIL

10' P.U.E.

42' ROW

SCALE: 1"=60'

1'=60'

SITE PLAN

C3

EARTHWORK ESTIMATE
100,000 CY IMPORT.

LEGEND

	GRADE BREAK
64	LOT NUMBER
4462	EXISTING CONTOUR LINE
OHP	OVER HEAD POWER POLE
70.00 FG	FINISHED GRADE ELEVATION
72.57 TC	TOP OF CURB ELEVATION
99.20 FL	FLOW LINE ELEVATION
89.18 LP	LOW POINT ELEVATION
5%	SLOPE IN PERCENT
(E)	EXISTING
2:1	SLOPE RATIO (VERT:HORIZ)
AP	ANGLE POINT
RP	RADIUS POINT
PP	POWER POLE

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TRAIL CONNECTION TO ADJACENT PROPERTY

DETENTION BASIN

CLOUD BERRY DR.

CLOUD BERRY CT.

CHESTNUT VINE DR.

MALABAR DRIVE

MALABAR CT.

CHESTNUT VINE CT.

PECAN CT.

BAYBERRY DR.

BAYBERRY CT.

SEABERRY WAY

EXISTING CHANNEL

CALLE DE LA PLATA

CONNECT TO SHADOW RIDGE TRAIL

PROPOSED TRAIL

CONNECT TO SHADOW RIDGE TRAIL

SCALE: 1"=60'

GRADING PLAN

1"=60'

C4

NOTES:

1. ±3400 LF TO WATER MAIN POINT OF CONNECTION @ SILENT SPARROW DRIVE.
2. ±3700 LF TO WATER MAIN POINT OF CONNECTION @ EL CABALLO TRAIL
3. SEE TMWA DISCOVERY INCLUDED IN TENTATIVE MAP APPLICATION
4. ±2500 LF TO SEWER POINT OF CONNECTION CALLE DE LA PLATA ±900' WEST OF PYRAMID INTERSECTION

LEGEND:

- MANHOLE
- CATCH BASIN
- SD 18" — STORM DRAIN MAIN (DASHED IF EXISTING)
- SS 8" — SANITARY SEWER MAIN (DASHED IF EXISTING)
- 8"W — WATER MAIN
- WATER VALVE
- ELBOW FITTINGS (w/THRUST BLOCKS)
- FLUSH VALVE ASSEMBLY

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EXISTING DRAINAGE CHANNEL

NOTE ④

NOTE ①

EXISTING CHANNEL

CALLE DE LA PLATA

POWER COMPANY ACCESS ROAD

PROPOSED TRAPEZOIDAL DRAINAGE CHANNEL

MALABAR DRIVE

DETENTION BASIN

DETENTION POND RELEASE @ EXISTING NATURAL DRAINAGE COURSE

WATER STUB FOR FUTURE CONNECTION

CLOUD BERRY DR.

CLOUD BERRY CT.

CHESTNUT VINE DR.

CHESTNUT VINE CT.

MALABAR CT.

PECAN CT.

BAYBERRY DR.

BAYBERRY CT.

SEABERRY WAY

NOTE ②

EXISTING OVERHEAD POWER

OFFSITE DRAINAGE

WATER STUB FOR FUTURE CONNECTION

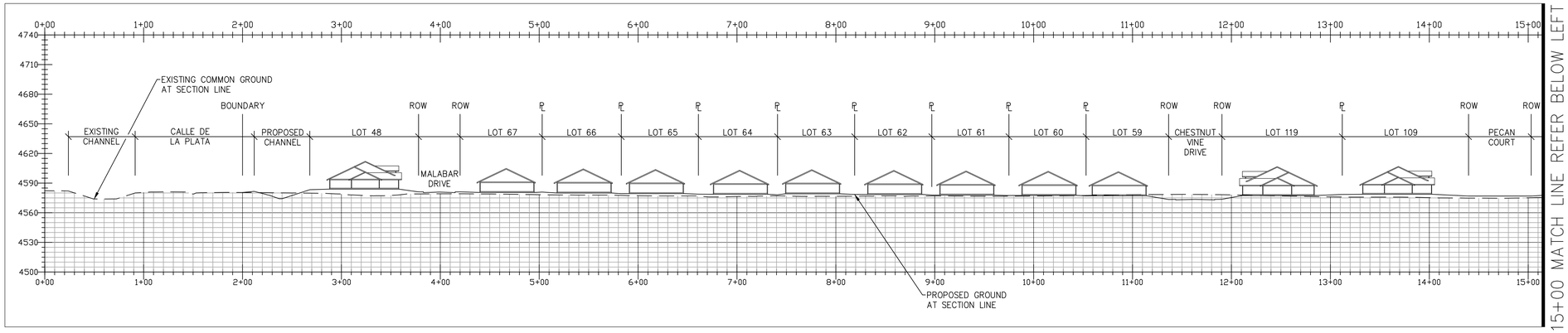
60 0 30 60 120

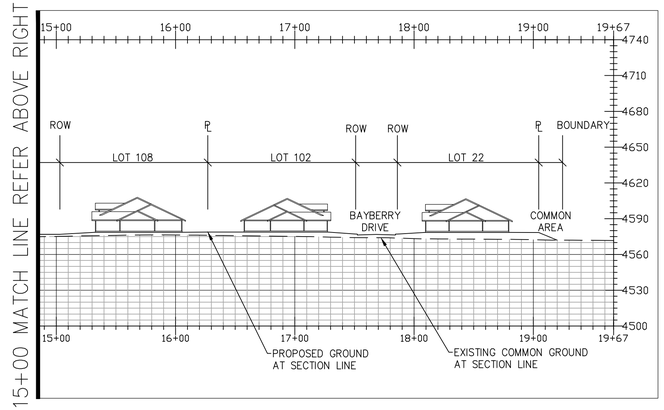
SCALE: 1"=60'

UTILITY PLAN

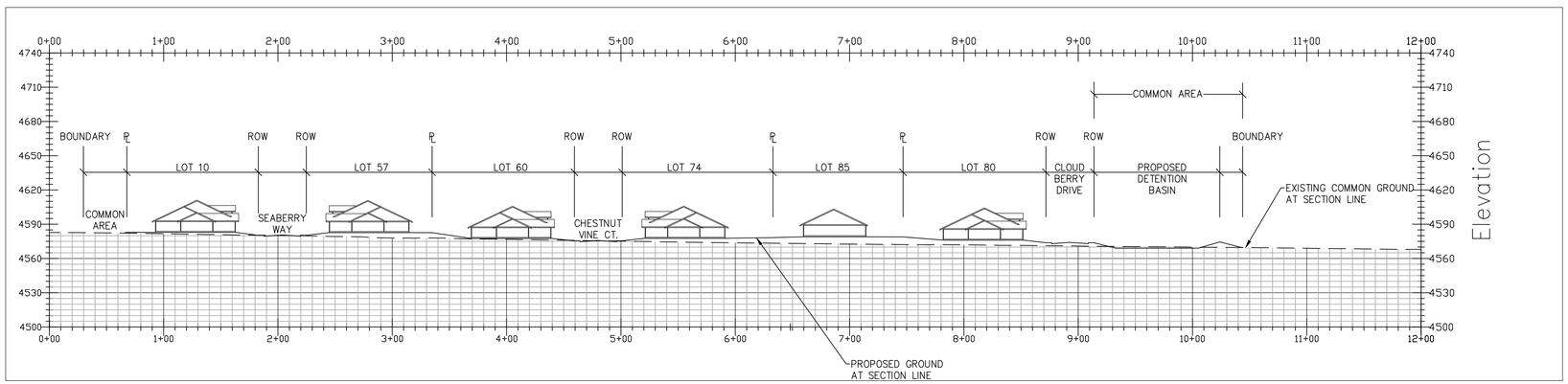
1'=60'

C5





SECTION A-A



SECTION B-B

60 0 30 60 120

SCALE: 1"=60'

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CROSS SECTION PLAN
1"=60'

C6

GENERAL NOTES

1) ALL PLANTING AND IRRIGATION SHALL BE INSTALLED PER LOCAL GOVERNING CODES.

2) FINAL PLANT SELECTION AND LAYOUT WILL BE BASED ON SOUND HORTICULTURAL PRACTICES RELATING TO MICRO-CLIMATE, SOIL, AND WATER REGIMES. ALL TREES WILL BE STAKED SO AS TO REMAIN UPRIGHT AND PLUMB FOLLOWING INSTALLATION. PLANT SIZE AND QUALITY AT TIME OF PLANTING WILL BE PER CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).

3) ALL PLANTER BEDS WILL RECEIVE 4" DEPTH OF MULCH WITH WEED CONTROL.

4) ALL LANDSCAPING WILL BE AUTOMATICALLY IRRIGATED UNLESS NOTED OTHERWISE ON THE PLAN. CONTAINER PLANTINGS WILL BE DRIP IRRIGATED. A REDUCED-PRESSURE-TYPE BACKFLOW PREVENTOR WILL BE PROVIDED ON THE IRRIGATION SYSTEM AS REQUIRED PER CODE.

LANDSCAPE DATA

SITE AREA: 39.83 ACRES (1,735,212 SQ FT)
ZONING: MDS: MEDIUM DENSITY SUBURBAN
REQUIRED LANDSCAPE AREA: N/A

PROVIDED LANDSCAPE AREA: 119,925 SQ FT (7% TOTAL SITE AREA).

TREES REQUIRED: 274 TREES
- 1 TREE PER 50 LINEAR FEET OF FRONT YARD STREET FRONTAGE: 12,430 LF MINUS AVERAGE (120) 28' WIDE DRIVEWAYS = 249 TREES
- 1 TREE PER 50 LF OF SUBDIVISION PERIMETER FRONTAGE ADJOINING AN ARTERIAL STREET: CALLE DE LA PLATA 1,247 LF = 25 TREES

TREES PROVIDED: 274 TREES

SHRUBS REQUIRED: 1,644 SHRUBS (6 SHRUBS PER TREE)

SHRUBS PROVIDED: 1,644 MINIMUM

L.A. Studio Nevada
the landscape architecture studio
1552 C Street Sparks, NV 89431 (775) 323-2223 NV RLA #440
www.lastudionevada.com

Preliminary Landscape Plan

SUGARLOAF RANCH ESTATES

Axion Engineering

Washoe Co. Nevada

Spanish Springs

No.	Revision Date

LA No:	532-508-08-15
Designed:	GSS
Drawn:	GSS
Checked:	RMH
CAD File:	LI-532-508-Prel
Date:	1/29/16

Sheet
L1
of
1