



STAFF REPORT

Report To: Board of Supervisors

Meeting Date: December 1, 2016

Staff Contact: Hope Sullivan, Planning Manager

Agenda Title: For Possible Action: To approve a request from Lumos & Associates (property owner Andersen Family Associates) for a Tentative Planned Unit Development (TPUD-16-092) on 78.2 acres for the proposed Vintage at Kings Canyon development for (1) Tentative Map approval to create 212 single family residential lots ranging in size from 1,690 square feet to 17,000 square feet; (2) a Zoning Map Amendment to rezone 5.6 acres of land as shown in Figure 8 of the application for a Tentative Planned Unit Development: Vintage at Kings Canyon dated August 18, 2016 from Single Family 6,000 (SF6) and Single Family 12,000 (SF12) to Neighborhood Business (NB) zoning; and (3) a Special Use Permit for Congregate Care Housing in the Neighborhood Business (NB) zoning district, on property located at North Ormsby Boulevard, 1450 Mountain Street and 1800 Kings Canyon Road, APNs 007-573-06, and -08. Hope Sullivan, Planning Manager, (HSullivan@carson.org) .

Staff Summary: The applicant is seeking a Tentative Planned Unit Development on 78.2 acres for the construction of 212 single family residential lots with a clubhouse and pool, a 96 unit congregate care facility with associated ancillary uses, a park, and a trail system, including a zoning map amendment to rezone 5.6 acres of land from Single Family 6,000 (SF6) and Single Family 12,000 (SF12) to Neighborhood Business (NB), and including approval of a Special Use Permit to allow a 96 unit Congregate Care Facility with associated ancillary uses, a reduction in the side setbacks in the SF6 zoning, the use of a modified parking standard, and the use of a modified street design for the property located at 1450 Mountain Street and property located west of Ormsby Boulevard and north of Kings Canyon Road.

Agenda Action: Formal Action/Motion

Time Requested: 1 hour

Proposed Motion

I move to approve a request from Lumos & Associates (property owner Andersen Family Associates) for a Tentative Planned Unit Development on 78.2 acres for the proposed Vintage at Kings Canyon development for (1) Tentative Map approval to create 212 single family residential lots ranging in size from 1,690 square feet to 17,000 square feet; (2) a Zoning Map Amendment to rezone 5.6 acres of land as shown in Figure 8 of the application for a Tentative Planned Unit Development: Vintage at Kings Canyon dated August 18, 2016 from Single Family 6,000 and Single Family 12,000 to Neighborhood Business zoning; and (3) a Special Use Permit for Congregate Care Housing in the Neighborhood Business zoning district, on property located at North Ormsby Boulevard, 1450 Mountain Street and 1800 Kings Canyon Road, APNs 007-573-06, and -08 based on the ability to make the required findings and subject to the conditions of approval included in the Memorandum from the Planning Manager dated November 21, 2016.

Board's Strategic Goal

Quality of Life

Previous Action

none

Background/Issues & Analysis

Per CCMC 17.09.045, the Board of Supervisors has the authority to approve a TPUD upon making the findings required per CCMC 17.07 in the affirmative. The Planning Commission considers requests for TPUDs and makes a recommendation to the Board.

At its meeting of September 29, 2016, the Planning Commission conducted a public hearing on the subject request, and recommended approval of TPUD based on the ability to make the required findings and subject to conditions of approval. The vote of the Planning Commission was 4-2 (1 recused.)

The report to the Planning Commission specifically addressing the subject request and the findings, as well as the Minutes of the Planning Commission meeting of September 29, 2016, Late Material provided to the Planning Commission at its meeting of September 29, 2016, and correspondence to the Board of Supervisors are attached to the staff report regarding a Master Plan Amendment.

Attached to this report is a Memorandum from the Planning Manager dated November 21, 2016 identifying the conditions of approval recommended by the Planning Commission with some modifications recommended by the staff, a revised Handbook prepared by the applicant at the request of the Planning Commission, and the application for a TPUD.

Applicable Statute, Code, Policy, Rule or Regulation

NRS Chapter 278A (Planned Development), CCMC 17.07 (Findings), CCMC Section 17.09 (Planned Unit Development), CCMC Section 18.02.080 (Special use Permits), CCMC Section 18.04.120 (Neighborhood Business)

Financial Information

Is there a fiscal impact? Yes No

If yes, account name/number:

Is it currently budgeted? Yes No

Explanation of Fiscal Impact: Actions by the Board of Supervisors pursuant to NRS 278 are exempt from Business Impact Statement requirements.

Alternatives

Approve the TPUD subject to conditions different than those identified in the November 21, 2016 Memorandum from the Planning Manager.

Deny the request for a TPUD based on the inability to make the required findings, noting which findings can not be met.

Board Action Taken:

Motion: _____

1) _____

Aye/Nay

2) _____

(Vote Recorded By)



Carson City Planning Division

108 E. Proctor Street
Carson City, Nevada 89701
(775) 887-2180 – Hearing Impaired: 711
planning@carson.org
www.carson.org/planning

MEMORANDUM

Board of Supervisors Meeting of December 1, 2016

TO: Board of Supervisors

FROM: Hope Sullivan, AICP
Planning Manager

DATE: November 21, 2016

SUBJECT: TPUD-16-092 – A request from Lumos & Associates (property owner Andersen Family Associates) for a Tentative Planned Unit Development (TPUD) on 78.2 acres for the proposed Vintage at Kings Canyon development.

DISCUSSION

On September 29, 2016, the Planning Commission considered the above referenced request, and recommended approval subject to conditions. The conditions recommended by the Planning Commission are included in this memo as they differ from the conditions recommended by the staff in the staff report to the Planning Commission. Additionally, the staff is suggesting some further modifications to the conditions of approval recommended by the Planning Commission. These modifications are shown with revision marks.

An explanation of staff's recommended modifications is as follows.

Condition 13: The Planning Commission's motion recommended reduced construction hours on Saturdays. The applicant has recommended 9:00 a.m. to 5:00 p.m., which constitutes a reduction in the construction hours of 7:00 a.m. to 5:00 p.m. on Saturdays allowed per CCMC 18.02. Staff believes that the term "reduced hours" is open to interpretation, and recommends stating specific hours.

Condition 23: This has been submitted.

Condition 24: Items proposed for deletion have been adequately addressed in the revised handbook. Added item is to correct a typographical error.

Condition 88: The objective of condition 88 is to recognize the unsafe condition for pedestrians and bicyclists along Kings Canyon Road, and to have improvements installed as part of the Planned Unit Development consistent with a sidewalk and bike land as required in the standard collector street section, or an alternative design approved by the Public Works Director. The design must be approved prior to issuance of improvement permits, and installed with the Phase 1 improvements.

Staff recommends that if the Board is able to make the required findings, it include the following conditions of approval.

Conditions of Approval

1. All development shall be substantially in accordance with TPUD plans and application materials reviewed by the Board of Supervisors at its meeting of (date), all on file with the Carson City Planning Division.
2. All on and off-site improvements shall conform to City standards and requirements.
3. Consistent with NRS 278.360 for the recordation of final maps, the applicant must record a final map for the first phase of development within four years after the approval of the PUD by the Board of Supervisors. Final maps for subsequent phases must be recorded within two years of the recordation of the preceding final map. Upon request by the applicant, the Board of Supervisors may approve not more than a two-year extension for the recordation of any final maps for subsequent phases provided such request and justification for the extension is submitted in writing to the Community Development Department at least 45 days prior to the expiration date. All final maps in full compliance with the conditions of approval must be submitted to the Community Development Department with a Final PUD Map application form and all required materials at least 30 days prior to the expiration date for the applicable final map. If the applicant fails to comply with these provisions, all proceedings concerning the subdivision are terminated.
4. The applicant must sign and return the Notice of Decision within ten (10) days of receipt of notification. If the Notice of Decision is not signed and returned within ten (10) days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.
5. All parcel maps or preferably final maps shall be in substantial accord with the approved tentative map.
6. Prior to submittal of any parcel map or preferably final map, the Development Engineering Department shall approve all on-site and off-site improvements. The applicant shall provide construction plans to the Development Engineering Department for all required on-site and off-site improvements, prior to any submittals for approval of a final map. The plan must adhere to the recommendations contained in the project soils and geotechnical report.
7. Lots not planned for immediate development shall be left undisturbed and mass grading and clearing of natural vegetation shall not be allowed. Any and all grading shall comply with City standards. A grading permit from the Nevada Division of Environmental Protection shall be obtained prior to any grading. Noncompliance with this provision shall cause a cease and desist order to halt all grading work.
8. *This is left intentionally blank.*
9. With the submittal of any parcel map or preferably final maps, the applicant shall provide evidence to the Planning and Community Development Department from the Health and Fire Departments indicating the agencies' concerns or requirements have been satisfied.

Said correspondence shall be included in the submittal package for any parcel map or preferably final maps and shall include approval by the Fire Department of all hydrant locations.

10. The following note shall be placed on all parcel maps or preferably final maps stating:

"These parcels are subject to Carson City's Growth Management Ordinance and all property owners shall comply with provisions of said ordinance."
11. All other departments' conditions of approval, which are attached, shall be incorporated as conditions of this report.
12. Placement of all utilities, including AT&T Cablevision, shall be underground within the subdivision. Any existing overhead facilities shall be relocated prior to the submittal of a parcel map or preferably final maps.
13. Hours of construction will be limited to 7:00 a.m. to 7:00 p.m., Monday through Friday, and ~~reduced hours~~ 9:00 a.m. to 5:00 p.m. on Saturday. No construction activity will occur on Sundays. If the hours of construction are not adhered to, the Carson City Building Department will issue a warning for the first violation, and upon a second violation, will have the ability to cause work at the site to cease immediately.
14. The applicant shall adhere to all City standards and requirements for water and sewer systems, grading and drainage, and street improvements.
15. The applicant shall obtain a dust control permit from the Nevada Division of Environmental Protection. The site grading must incorporate proper dust control and erosion control measures.
16. A detailed storm drainage analysis, water system analysis, and sewer system analysis shall be submitted to the Development Engineering Department prior to approval of a final map.
17. Prior to the recordation of the final map for any phase of the project, the improvements associated with the project must either be constructed and approved by Carson City, or the specific performance of said work secured, by providing the City with a proper surety in the amount of one hundred fifty percent (150%) of the engineer's estimate. In either case, upon acceptance of the improvements by the City, the developer shall provide the City with a proper surety in the amount of ten percent (10%) of the engineer's estimate to secure the developer's obligation to repair defects in workmanship and materials which appear in the work within one (1) year of acceptance by the City.
18. A "will serve" letter from the water and wastewater utilities shall be provided to the Nevada Health Division prior to approval of a final map.
19. The District Attorney shall approve any CC&R's prior to recordation of the first final map.
20. All lot areas and lot widths shall meet the zoning requirements approved as part of this planned unit development with the submittal of any parcel map or preferably final map.

21. The applicant shall preserve as many trees as practicable within the common open space areas. Mature trees damaged by fire and others in poor health shall be removed only after approval of the Planning and Community Development Department.
22. The homeowner's association shall maintain all common open space areas including the area devoted to the guest parking.

The following are conditions that must be met prior to review of the first final map by the Community Development Director. TPUD by the Board of Supervisors.

- ~~23. The plans must be modified to show all existing easements, and demonstrate that the proposed plan is not in conflict with the function of any easements. The document number for each easement must be identified.~~
24. The proposed handbook must be modified to include the following.
 - ~~a. A legible map of the site showing area street names and area lot lines.~~
 - ~~b. A legible map depicting the interior lots and streets with the zoning superimposed.~~
 - ~~c. A lot layout identifying what model home is proposed on each lot.~~
 - ~~d. Dimensional requirements for each lot including required setbacks and building height.~~
 - ~~e. Tentatively approved building elevations with materials called out.~~
 - ~~f. Tentatively approved floor plans.~~
 - ~~g. As uses have been identified, remove references to Special Use Permits (1.4.1.e)~~
 - ~~h. Remove reference to a Specific Plan (1.4.1.f)~~
 - ~~i. Remove reference to average lot size as that will not be part of the dimensional criteria (1.4.2.a)~~
 - ~~j. Include the Phasing Plan with the improvements associated with each phase clearly articulated.~~
 - ~~k. Remove the reference to wetlands are there are none. (2.1.2.a)~~
 - ~~l. Clarify limitations on signage on Mountain Street and Orsmy Boulevard. (2.1.6.d)~~
 - ~~m. Clarify if wood can be used for a trash enclosure (2.1.8.c)~~
 - ~~n. Incorporate text that vehicular gates will be open from 7:00 AM – 7:00 PM.~~
 - ~~o. Remove reference to attached residential units. (2.2.2.)~~
 - ~~p. Clarify if lots will be identified by number or letter (2.2.2.f)~~
 - ~~q. Include the open space diagram so as to ensure that no improvements in conflict with the open spaces are pursued.~~
 - ~~r. Remove references to walls along collector roadways (2.2.6.a)~~
 - ~~s. Call out that buffer areas are as shown on the TPUD. To the extent there is conflict between the handbook and the TPUD plan, the plan prevails. (2.3.b)~~
 - ~~t. Bollard lighting will not be included on the public trail system. (2.3.d)~~
 - ~~u. Modify the Residential Architectural Elements (2.4.2) to better describe the proposed elevations.~~
 - ~~v. Incorporate operations and maintenance information, agreed to by the Parks and Recreation Director and City Engineer, regarding operations and maintenance of common areas, drainage areas, the park, trails, and other areas subject to maintenance by the HOA. To the extent there are outstanding details, provide a reference as a place holder.~~

- w. Clarify that the park and trail maintenance will be the responsibility of the HOA. (3.1.4.a). Section 3.1.4.f shall be modified to recognize both parks "and public trails" in both the first and second sentences.
- ~~x. Modify references to traffic impact reports to recognize additional reports will be required when there are changes that effect traffic counts or flow patterns. If there are no changes that effect traffic counts or flow patterns, a sealed memo will be submitted with the construction permit application stating that the traffic impact study for the tentative map applies to the proposed improvements. (3.7)~~
- ~~y. References to Fire Protection and Police Protection to be modified to recognize the scope of development is included in the TPUD, and there is no future project that may require conditions. (3.8 and 3.9)~~
- ~~z. The handbook shall include a statement of purpose recognizing that it is a regulatory device intended to complement the zoning ordinance, and any modification to the handbook would be a modification to the Planned Unit Development requiring review by the Planning Commission and review and approval by the Board of Supervisors.~~
- aa. The handbook shall include a limit of single story buildings, with no multi-story buildings allowed.
- bb. ~~The handbook shall limit the permanent occupants to a home to two.~~
- cc. ~~The handbook shall recognize that this is an over 55 year old community.~~
- dd. The reference in 2.4.8 to 2.3.1 will be corrected to reference 2.4.6.

The following are general conditions of approval.

- 25. An updated water main analysis must be provided addressing the system capacity and the water and fire flow demands for the development per Division 15.3 of the Carson City Development Standards (CCDS).
- 26. Plans must be revised to show an isolation valve where the water main for the PUD connects to the water main in N Ormsby Blvd, labeled as "Normally Closed". This valve is required for pressure zone separation.
- 27. Plans must be revised to show a 20 foot wide public utility easement (PUE) along the north side of Ash Canyon Creek from N Ormsby Blvd to the west boundary of the project. This PUE must also cross the creek on the west side of the project. This PUE must be labeled "public utility easement" This easement will be required per Section 17.01.015.4 of the Carson City Municipal Code for a future water transmission line per the Carson City Water Master Plan. Dedication of this PUE shall be at the time the first final map recordation for TPUD-16-092 or at the time of parcel map recordation, whichever occurs first.
- 28. Plans must be revised to show a 20 foot wide public utility easement (PUE) along the north side of Ash Canyon Creek from N Ormsby Blvd to the west boundary of the project. This PUE must also cross the creek on the west side of the project. This PUE must be labeled "proposed public utility easement, to be created with Final Map." This easement will be required per Section 17.01.015.4 of the Carson City Municipal Code for a future water transmission line per the Carson City Water Master Plan.
- 29. Plans must be updated to show water on the south side of Merlot Dr, per Carson City Standard Detail C-1.2.4

30. Approval of new water mains must be obtained from NDEP after Carson City plan review is complete. A sample station will be required, location to be determined.
31. An updated sewer main analysis must be provided, addressing the system capacity and the sanitary sewer demands for the development per Division 15.3 of the Carson City Development Standards (CCDS).
32. An updated traffic impact study must be provided if there are any changes that effect traffic counts or flow patterns. If there are no changes that effect traffic counts or flow patterns, a sealed memo must be submitted with the construction permit application stating that the traffic impact study for the tentative map applies to the proposed improvements. This shall apply to improvement phasing also.
33. Ormsby Blvd. is identified as a Collector and shall meet the standard cross section per Carson City Standard Details along the project frontage. The pedestrian connections on each side of Ormsby to the North and South must be made by sidewalk or concrete multi use path. Include striping for a cross walk at Washington St. and ADA ramps. Final improvements to be reviewed and approved by the City Engineer.
34. Plans must be updated to show the new public trail outside of the boundary fence.
35. Plans must be updated to show access for maintenance vehicles to detention/retention basins. Ormsby Blvd and Mountain St may not be the only access adjacent to any basins. Any paved walkways along said access must have appropriate thickness to allow for vehicles.
36. Plans must be updated to indicate that common space drainage, storm drains and basins are to be privately maintained by the HOA. The Handbook and the CC&Rs shall reflect this.
37. Plans must be updated to give building pads a minimum of 2 feet of flood freeboard.
38. Several lots have back lot line elevations that are significantly higher than the existing grade. Plans must be updated to clarify how this will work.
39. There is a discrepancy between the drainage report and the plans, calling the basins both detention and retention basins. Please clarify the function of these basins. Retention basins will require additional information about infiltration rates in the Technical Drainage Study.
40. Provide a full Technical Drainage Study per Division 14.9 of the CCDS. This technical drainage study must address the following:
 - a. There is a culvert that exits the southeast corner of the property by the park at Mountain Street. This culvert is known to overtop during 5 year storm events. The inlet to this facility, and storm drain in Mountain Street, must be analyzed to determine what remediation is necessary to accommodate additional flows, if any, from the project.
 - b. There are existing culverts that cross Ormsby Blvd for site runoff and for Ash Canyon Creek. The ability of the subject property to store flood waters may potentially aid in the ability of these structures to handle storm flows. Structural

- fill for the development may reduce this storage capacity for storm events. The ability of these structures to handle storm events after development must be analyzed.
- c. The report must address the propagation of irrigation flows to any downstream water rights holders.
 - d. A drainage plan must be provided that shows the flood volume 1:1 balance and shows a clear, free draining, 100 year flow path. Account for on and off site flows on this plan.
 - e. Update the report to account for offsite flow coming from the area between Vicee and Ash Canyon, namely areas VC03, AC10, and AC09, and offsite flow from upstream subdivisions such as Long Ranch Estates and Wellington Crescent.
 - f. The offsite flow table shows 12cfs for 10%, 2%, and 1% chance events. There is little to no fluctuation between these values, also these values seem low considering the flows reported for the areas between Vicee and Ash Canyon in the WCR Freeway Analysis. Please address this.
 - g. The pre and post development flow seems low. Please address this.
 - h. The drainage report must state that a CLOMR will be required for the development.
 - i. Show sizing of the culvert crossings at Bolero and at Lexington streets. These culverts must be designed to handle the 100 year storm flows.
41. Plans must show that vertical and horizontal data are tied to the Carson City control network and use the network for all floodplain base flood and structure elevations.
 42. The plans and the drainage study must demonstrate adherence to Flood Protection ordinance 12.09 and erosion and sediment control ordinance 12.12.
 43. The project must get approval of a CLOMR from FEMA and give Carson City funds to process a LOMR once the project is completed.
 44. A stormwater pollution prevention permit, and a dust control permit must be obtained from the Nevada Division of Environmental Protection (NDEP).
 45. Plans must be updated to address street lighting requirements per Division 12.14 of the CCDS.
 46. Plans must be updated to show that trees do not hinder minimum sight distance per Division 12.11 of the CCDS, and to show that trees are not within 10 feet of water or sewer mains.
 47. Plans must be updated to give instructions for identification and removal of on-site perennial pepperweed.
 48. As part of the Final Map, plans must be updated to show a Public Utility Easement per the above requirements.
 49. All roadway gates must provide a minimum of 20' clear width when open.
 50. All roadway gates with electric operators must have a Knox key switch for emergency vehicle access.

51. All roadway gates that have manual locks must have an approved Knox box or other CCFD approved method of providing a way to unlock the gate.
52. Once more than 30 building permits for dwelling units are applied for there must be a second approved access to the subdivision.
53. Project must comply with the 2012 International Fire Code (IFC) and Northern Nevada Fire Code amendments. Hydrants don't comply with 2012 IFC Appendix C spacing requirements.
54. The assisted living complex needs to provide turn-arounds due to the length of the fire access road to the rear of the parking lot, or provide a connected loop route.
55. Additional hydrants will be required for the assisted living complex.
56. Provide more detail of the assisted living area. Some type of covered patient loading area is preferred.
57. The proposed independent and assisted living buildings will require fire sprinklers and fire alarms. The other proposed commercial buildings may require fire alarms and fire sprinklers depending on the final design.
58. All Building plans need to be submitted to Carson City Building Department for Health and Human Services review.
59. The Assisted Living facilities will need approval from Nevada Division and Public and Behavioral Health Bureau of Health Care Quality and Compliance prior to construction.
60. This project must meet all applicable codes as found in 40 CFR 408, CCMC 12.06., CCMC 12.12, and 2012 UPC.
61. Any commercial facility will be required to install a properly sized grease interceptor if that facility will be engaged in preparing food for the public or its residences i.e.: club house, assisted living facility, deli, and or extended care facilities. Per CCMC 12.06.245, and 2012 UPC.
62. Any new facility that will be engaged in food preparation will also need to connect trash enclosure to a grease interceptor. Per CCMC Appendix 18 Division 15.5.
63. Dependent on the type of facility, amounts and types of chemicals used, commercial facilities may also be required to provide 100% secondary containment for chemicals stored and used at facility. Per CCMC 12.06.248
64. Garbage disposals not allowed in commercial facilities or institutions per CCMC 12.06.226.
65. Please note any facility with a wash pad or the potential to discharge petroleum products or excessive suspended solids shall install an approved sand and oil interceptor in accordance with the Uniform Plumbing Code. Per CCMC 12.06.246.

66. A private Home Owner's Association (HOA) will be formed to provide maintenance for all the following areas in perpetuity: roads, common area landscape and open space areas, buffer areas between the development and neighborhoods, common area path system, landscape medians, street corridors, non-public recreation facilities/amenities (i.e. club house/pool) in perpetuity. The HOA will also be responsible for snow removal on private streets and snow storage. The maintenance and funding shall be addressed in the development's CC&R's to the satisfaction of the Carson City District Attorney. Common area maintenance shall include at a minimum, but not limited to the following:
 - Debris, weed, and litter removal
 - Noxious weed management
 - Care and replacement of plant material
 - Plant material irrigation and irrigation system repair
67. The HOA will provide 100% funding and maintenance for all public park and recreation amenities (i.e. neighborhood park, linear park, multi-use path system, park and exercise equipment etc.). The maintenance and funding shall be addressed in the development's CC&R's as well as in the Handbook to the satisfaction of the Carson City District Attorney. A separate development agreement regarding maintenance of these facilities shall be entered into between the HOA and the City, and the development agreement shall be referenced in the Handbook. A recorded covenant or deed restriction is recommended on all properties within the proposed development to ensure maintenance of these amenities is funded in perpetuity. The restrictions will provide that should the HOA ever cease to exist, an assessment will then be implemented by the City to form a Landscape Maintenance District (LMD), per CCMC to provide for the maintenance and upkeep of the public parks and recreation amenities and linear park/multi-use path.
68. The multi-use path will be designed to conform to the standards and policies of the Carson City Unified Pathways Master Plan adopted April 6, 2006 (as revised March 15, 2007).
69. The neighborhood park will be designed to conform to the Parks and Recreation Master Plan as adopted by Carson City on April 6, 2006 (as revised March 15, 2007).
70. Paths and sidewalks shall conform to the standards as outlined in the Carson City Unified Pathways Master Plan.
71. Sidewalk connections to the neighborhood park and linear park/multi-use path will provide convenient and logical access to these facilities and the overall sidewalk network within the development.
72. As part of the Phase 1 improvement plan, the applicant will construct and dedicate to the City the neighborhood park and linear park/multi-use path, as well as implement the improvements at the Mountain Street trailhead. This shall be coordinated through and agreed upon by the Carson City Parks, Recreation & Open Space Department.
73. The developer shall be required to use best management practices during construction to prevent the spread of noxious weeds and will incorporate language in construction

documents to ensure contractors and subcontractors comply. The Parks, Recreation and Open Space Department will assist the applicant with this condition.

74. As phases of the Planned Unit Development are implemented, the plans shall be submitted for review by the City. The applicant shall be required to demonstrate connectivity between the neighborhood park, linear park/multi-use path, and sidewalks. This shall be done to the satisfaction of the Parks, Recreation & Open Space Department.
75. All drainage facilities (channels, ditches, and detention basins) within the development will be the responsibility of the HOA and shall be maintained to City Standards.
76. The developer, at their expense, will construct and dedicate the land and all agreed upon improvements for the neighborhood park and linear park/multi-use path to the City upon successful completion, and final project acceptance of said work by the City, through its Parks, Recreation & Open Space Department. As a result, the Residential Construction Tax (RCT) described in CCMC 15.60 - Residential Construction Tax et. seq. will not be collected by Carson City at the time building permits are issued for residential dwelling units in the project area. A development agreement, or similar instrument, between the applicant and the City regarding RCT, park and trail construction will be required for consideration of the Carson City Board of Supervisors and to the satisfaction of the Carson City District Attorney at the time of Final Map.
77. The applicant will design and construct a 1.2 acre neighborhood park.
78. The park design will be coordinated with the Parks, Recreation, and Open Space Department for review and approval, including construction inspections. The design will be consistent with the department's guidelines and development standards, including water conservation design elements.
79. The park design will incorporate universally accessible components and be compliant with the Americans with Disability Act.
80. The park will be designed to allow for City maintenance vehicles and emergency services to access the site.
81. The proposed project's perimeter fencing will be located on the outside of the park property to ensure public access. Gate(s) providing pedestrian/ADA access for Vintage at Kings Canyon residents to the park will be allowed at locations approved by the Parks, Recreation and Open Space Department.
82. Vineyards will not be incorporated into the design for the neighborhood park.
83. The park's design shall incorporate the existing Mountain Street Trailhead. The applicant shall design and construct, at their expense any design modifications to the trailhead, including but not limited to a restroom facility (including utility connection fees associated with a permanent flush toilet facility), parking lot infrastructure preservation/maintenance (crack sealing, slurry seal, restriping, curb cut for access etc.) and a 10' wide concrete path with an adjacent 3' wide decomposed granite path

connecting to the trailhead. It is expected that the park design shall be seamless with the existing trailhead and the identified trailhead improvements shall be constructed during Phase I and at the same time as the neighborhood park.

84. The applicant will design and construct a multi-use path (off street/paved/shared) at a 10' wide (minimum) AASHTO standard concrete path with an adjacent 3' wide decomposed granite path. It will be constructed from the City's Mountain Street Trailhead to the City's Long Ranch Estates Open Space trail system and have an at grade pedestrian crossing with flashing lights on North Ormsby Boulevard.
85. The applicant will design and construct a 1.82 acre (approximate size) linear park/multi-use path that will have various site amenities. They will include but are not limited to universally accessible outdoor exercise components/stations, interpretive signage related to the Anderson Ranch history, park benches/seating areas (per 1000 lineal feet of trail along the path), pet waste stations/trash cans, signage depicting direction and trail distance, and landscaping. The linear park should offer universally accessible outdoor exercise equipment that incorporates a well-rounded fitness program (aerobic, muscle, core, balance, strength and flexibility) for the benefit of Vintage at Kings Canyon residents and the general public.
86. The linear park/multi-use path shall be located outside the proposed project's perimeter fence for ease of access by the general public. Gate(s) providing pedestrian/ADA access for Vintage at Kings Canyon residents to the path will be allowed at locations approved by the Parks, Recreation and Open Space Department.
87. The linear park/multi-use path will include landscaping with a variety of trees (either evergreen or deciduous) that will be planted at a rate of 1 tree per 50 lineal feet (tree groupings are acceptable) with a minimum of 6 shrubs per tree. Also, there will be no vineyards incorporated into the landscape design concept for the linear park/multi-use path.
88. The applicant shall design and construct a 10 foot (minimum) wide AASHTO standard concrete multi-use path with an adjacent 3 foot wide decomposed granite path along Kings Canyon Road from the pedestrian facilities at the corner of North Ormsby Boulevard to the Long Ranch Estates Subdivision's pedestrian facilities. This path connection will improve bicycle and pedestrian safety along Kings Canyon Road. While this path is not located within the proposed development area it is located on property identified within the applicant's project application. To allow for safe pedestrian and bicycle use along Kings Canyon Road, the applicant shall install a sidewalk and bike lane improvements consistent with the standard collector street section, or an alternative design subject to review and approval by the Public Works Director. Design of this improvement is to be submitted to the Public Works Director prior to the issuance of any improvement or construction permits. Improvement and construction permits shall only be issued upon the Public Works Director finding that the proposed transportation improvements are consistent with the collector street standard or, if an alternative design is proposed, consistent with the intent of providing for safe pedestrian and bicycle use along Kings Canyon Road. The design approved by the Public Works Director must be installed as part of the Phase 1 improvements. If the area of the transportation improvements is intended to be separated from the remainder of the parcel via a parcel

map, the owners' certificate on the parcel map shall be modified to include language obligating the owner to the terms of this condition.

89. The Vintage at Kings Canyon's Conceptual Planned Unit Development plan is located on property currently owned by Andersen Ranch LLC. This property is identified in the Open Space Plan as a high priority area for protection due to its irrigated agricultural lands. The current owners have not initiated discussions with the City regarding acquisition. Therefore, additional acquisition outside of the neighborhood park and linear park/multi-use path will not be required at this time.
90. Revise the Master Plan Amendment and the Tentative Planned Unit Development documents to state that all open space references refer to the private common areas required by the City's development standards and not the City's Open Space Program.
91. The Unified Pathways Master Plan (UPMP) identifies bicycle lanes along the street frontage of the proposed project on North Ormsby Boulevard (Exhibit B). This UPMP requirement on North Ormsby Boulevard needs to be coordinated with City Engineering's requirements for the development's half street improvements.

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1. Introduction

1.1 Location

Vintage at Kings Canyon includes 78.21± acres (APN #'s 007-573-06, 07, 08 and a portion of 009-01-202). This includes 48.21± acres located west of Mountain Street and east of Ormsby Boulevard along with 30± acres west of Ormsby Road at the current terminus of West Washington Street. Figure 1 (below) depicts the project location.

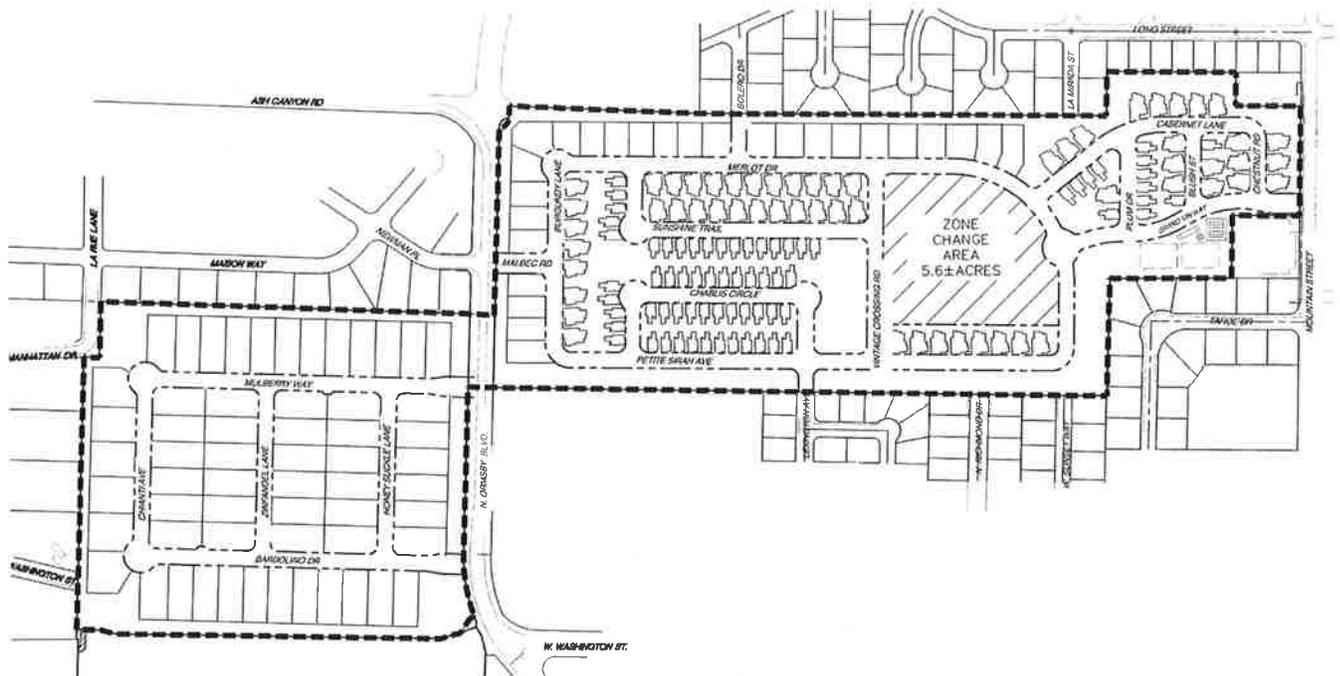


Figure 1 – Vintage at Kings Canyon Planned Unit Development Area

1.2 Purpose

This Development Handbook is a regulatory device intended to complement the zoning ordinance. Any modification to this document requires the review of the Carson City Planning Commission and the review and approval of the Carson City Board of Supervisors.

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The purpose of this Development Handbook is to provide for the orderly development of the Vintage at Kings Canyon Planned Unit Development (PUD) project, while also assuring that quality architecture, design, engineering, and community standards are achieved. Since implementation of public and private improvements will occur in multiple phases, over several years, the standards and guidelines contained herein establish a common framework to guide individual improvement plans. The development of the property is controlled and restricted by these development requirements as well as by all applicable government codes and regulations. This Development Handbook is not intended to limit creativity or prevent variation necessary to respond to unique site conditions, but rather to generate consistency and quality throughout the PUD.

1.3 Vision

The Vintage at Kings Canyon PUD is intended to provide for a sustainable community that includes a range of residential land uses that complement not only each other but those that currently exist outside of the PUD boundaries. The vision is to create an attractive community that promotes a variety of housing types while also integrating into the surrounding area. A consistent design theme will be included throughout the project area ensuring quality architecture, landscape treatments, and project entry areas.

Complementing the new residential uses will be park space and linear open space along the property borders that provides non-vehicular connectivity to the various internal and regional components of the area.

1.3.1 Land Use Pattern

The residential mix within Vintage at Kings Canyon provides for varying levels of compatible densities, allowing a mix of housing types and amenities. This mix allows for active adult living, transitioning to smaller lots that require less maintenance, etc. The plan also provides for assisted and independent living options that will allow residents greater care without the need to leave their neighborhood and friends. This design will evoke a sense of community and supports walkability to project amenities and nearby destinations. The project includes larger lots at the perimeter of the project, in order to more closely match existing development, while smaller lots are centered within the project. More dense uses such as assisted and independent living units are clustered internal to the site to ensure proper relationships to existing neighborhoods that adjoin Vintage at Kings Canyon.

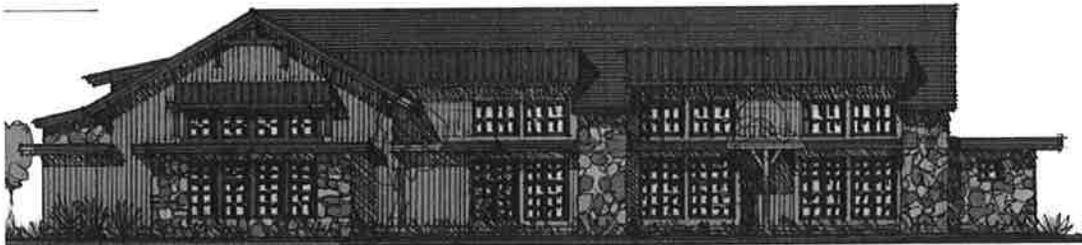
1.3.2 Sense of Place and Community

Creating a sense of place is one of the key components in creating a vibrant and balanced community. A sense of place is fostered within Vintage at Kings Canyon by creating human-scale environments in which the individual can feel both comfortable and safe. This includes provisions for open space and walking paths, a community recreation center with swimming pool, common design themes, and residential densities that complement each other. Furthermore, the Vintage at Kings Canyon PUD promotes and provides for connectivity between various neighborhoods and uses that are integrated through the standards included within this handbook.



1.3.3 Diverse Housing Mix

The Vintage at Kings Canyon PUD provides for neighborhood diversity by allowing for a mix of residential densities and product types to support a wide range of resident interests and needs. This diversity in densities and housing types serves to break up the monotony of traditional residential development by reinforcing the dynamics of character and identity within the neighborhood. The housing mix provides for a comprehensive active adult community and includes large, medium, and small lot single family residential; assisted living facility; and an extended care facility.



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1.3.4 Implementation

This handbook will be used by the Carson City Community Development Department as a guide for reviewing specific developments within the boundaries of the Vintage at Kings Canyon PUD.

1.4 Allowed Uses

Allowed uses within the Vintage at Kings Canyon PUD shall be determined based on the underlying zoning categories (per Carson City Municipal Code Title 18). However, additional restrictions are applied to ensure compatibility with the surrounding area. Zoning within Vintage at Kings Canyon is primarily residential, with one small area of Neighborhood Business (NB) zone to accommodate the assisted and independent living facilities.

Allowed uses shall be strictly limited by the terms of this handbook. Important overall zoning elements of the project include:

- for residentially zoned areas, allowed uses and density are based on the underlying plan included with this handbook. Ancillary uses and structures (i.e. home based businesses, garden sheds, etc.) shall be subject to Title 18 standards.
- for the 5.6± acre Neighborhood Business (NB) zone, allowed uses are highly limited and more restrictive than what is included in the Carson City Municipal Code. Allowed uses and restrictions are included in Table 1.4.1 on the following page.
- uses in the NB zone shall serve only residents (and their invited guests) of Vintage at Kings Canyon only. Members of the public shall not be allowed to access these services.

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1.4.1 Use Table

Allowed Uses within Vintage at Kings Canyon

Zone	Permitted Uses	Notes
SF12		
	Single Family Residential ¹	Refer to zoning code for allowed ancillary uses in single family zones
SF-6		
	Single Family Residential ¹	Refer to zoning code for allowed ancillary uses in single family zones
	Sales Center	Hours of operation shall be between 9:00 am and 6:00 pm
NB		
	Congregate Care	All buildings shall not exceed one-story. Subject to review and approval of a Special Use Permit.
	Assisted Living Center	All buildings shall not exceed one-story. Subject to review and approval of a Special Use Permit.
	Independent Living Center	All buildings shall not exceed one-story. Subject to review and approval of a Special Use Permit.
	Personal Service including art galleries, libraries, café's, resident food service, salons, barber shops, dry cleaners, lounges, and similar	Limited to use by residents and guests only. Commercial uses open to general public are prohibited.
	Gym/Fitness Center	Limited to use by residents and guests only. Commercial uses open to general public are prohibited.
	Medical Office	Ancillary to assisted/independent living and congregate care only.
	General Office	Limited to Vintage at Kings Canyon Administrative Offices

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Zone	Permitted Uses	Notes
		only
	Sales Center	Hours of operation shall be between 9:00 am and 6:00 pm

1 – Housing shall be restricted to ages 55 and over.

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1.4.1 General Standards

- a) The Vintage at Kings Canyon PUD is envisioned to include a mix of residential uses on lots ranging between roughly 1,600 square feet and 14,000 square feet.
- b) Assisted and independent living facilities are allowed within Vintage at Kings Canyon, as depicted on the site plan included in this handbook and subject to the intensity and building mass described herein.
- c) Personal services and retail-type operations shall be for the exclusive use of Vintage residents and their guests. Public access to these services shall not be provided.
- d) Uses within Vintage at Kings Canyon shall conform to the underlying zoning district(s) assigned to the individual parcels as outlined in Title 18 of the Carson City Municipal Code.
- e) Residents within this PUD must be 55 years or older. This requirement is enforced by the CC&Rs.
- f) The maximum number of permanent residents is limited to two. This requirement is enforced by the CC&Rs.
- g) This Planned Unit Development shall not grant any special privileges or waivers in terms of public review or entitlements otherwise required under the Carson City Municipal code in terms of allowed uses or supplemental review.

1.4.2 Project Layout

As noted, vintage at Kings Canyon contains a mix of housing types. In order to provide maximum definition to the eventual development, this mix of types shall be required to conform to the following layout guidelines and regulations:

- a) Single family residential lots shall be as described on the included site plan. This applies to total lot count and general street layout.
- b) Land uses for the NB-zoned area shall be determined by Section 1.4.1 of this document. The NB zone shall be the only area of this project in which commercial type development is allowed.

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c) Assisted living, independent living, congregate care and memory care facilities shall be the primary development within the NB zone. Personal services and boutique retail, related to the medical facilities, are allowed in this area, subject to the limitations contained in Section 1.4.1 above.

d) Personal services and retail uses shall be restricted to more than 25% of total building area.

Figure 2 (below) serves as the site plan that forms the basis of the standards detailed in this chapter and contained herein.

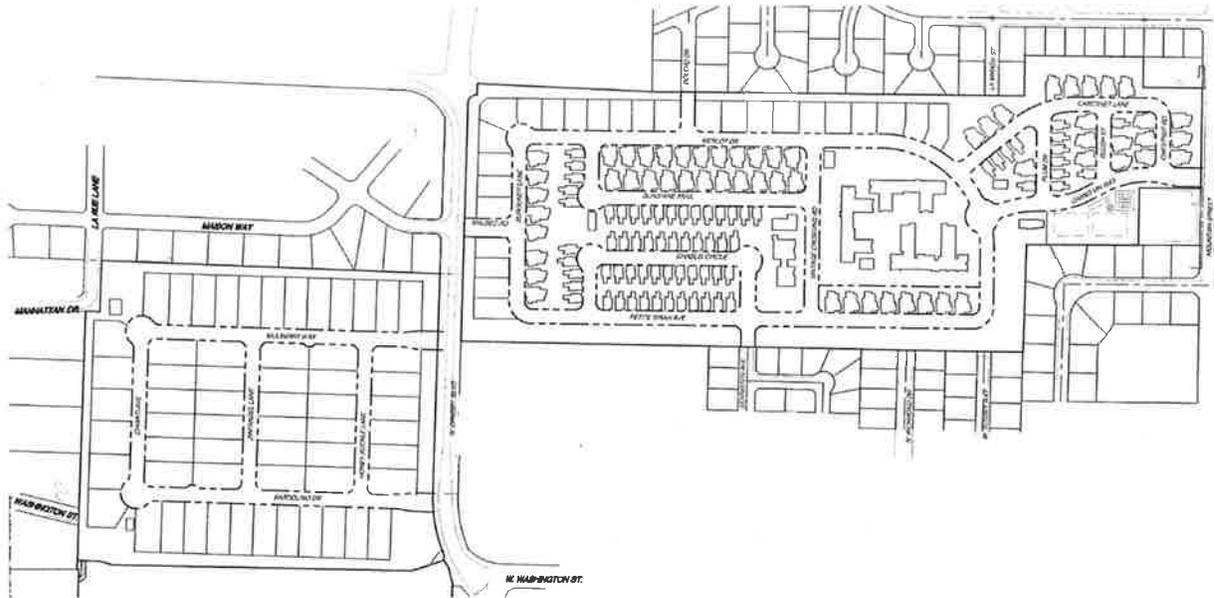


Figure 2 – Site Plan

1.5 Plan Maintenance and Interpretation

1.5.1 Standards Not Addressed

In the instance that a specific development standard is not specifically called out or modified within the context of this handbook, the provisions of the Carson City Municipal Code Title 18 for the underlying zoning district shall be applied.

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1.5.2 Minor Deviations

The Carson City Community Development Director shall have the authority to grant minor deviations to the standards contained herein. Any deviation in excess of 10% shall require either a Variance or amendment to the PUD, including the applicable full public review process.

1.5.3 Subsequent Actions

This PUD shall not prevent Carson City, in subsequent actions applicable to the property, from adopting new ordinances, resolutions, or regulations that conflict with those in effect at the time of adoption of this PUD, except that any subsequent action by Carson City shall not prevent the development of the property and uses as set forth in this PUD.

1.5.4 State and Federal Restrictions

In the event that State or Federal laws or regulations enacted after the adoption of the PUD prevent or preclude compliance with one or more of the provisions of the Plan, such provisions shall be modified or suspended as necessary to comply with State and Federal law. Any such action shall be taken by the Carson City Board of Supervisors at a legally noticed public hearing.

1.5.5 Plan Amendments

It may be necessary to amend this PUD from time to time. This includes the need for clarification of specific standards or uses, and the incorporation of new environmentally sound technologies.

Amendment of this Plan shall be made by means of a zoning map amendment process, subject to review and approval by the Carson City Planning Commission and Board of Supervisors.

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1.5.6 Financing

Project financing shall be the responsibility of owner/developer. All necessary infrastructure to serve the site shall be constructed at the expense of owner/developer and dedicated to Carson City as appropriate.

Any agreement between owner/developer or a future tenant/user and Carson City for alternative financing of infrastructure shall be allowed if agreeable to all parties, which agreement shall not be unreasonably withheld.

The owner/developer is required to pay all applicable development impact fees as mandated by Carson City and Nevada Revised Statutes.

1.5.7 Concurrency

Infrastructure upgrades are intended to occur in conjunction with land development. The master developer is therefore prepared to address Carson City's requirements for infrastructure upgrades as part of the application and building process. Due to the inherently complicated timelines, and frequently unpredictable nature of land planning and construction, it should be recognized that flexibility in establishing completion dates for infrastructure upgrades is warranted and should be addressed on a case-by-case basis as property is developed.

1.5.8 Phasing

Phasing of the Vintage at Kings Canyon shall be per the following phasing map. A larger phasing map is included in the appendix.

1.5.9 Hours of Construction

The hours of construction for the development shall be from 7am-7pm Monday through Friday and 9am – 5pm on Saturday. No construction will be allowed on Sundays.

2 Design Standards and Guidelines

The site planning standards and guidelines address general provisions of site development which include building orientation, grading and drainage, parking areas, landscape, lighting, signs, walls and fences, and service areas. Site planning controls the proper placement of buildings and internal roads that service and access the various land uses in the community. It addresses the linkages and land use relationships at a human-scale, in order to create a stimulating and visually pleasant community. The goal is to promote pedestrian activity and safety, create visual compatibility with surrounding neighborhoods and minimize negative impacts on the natural environment.

2.1 Assisted/Independent Living Development

2.1.1 Assisted/Independent Living Area Planning Standards

- a) Building placement and orientation shall be designed to create visual interest along street frontages and within publicly visible areas. Multiple buildings in a single project shall demonstrate a positive functional relationship to one another.
- b) Plazas, courtyards and pedestrian areas shall also be an important element in the design of assisted living buildings. A visual link should be established between buildings through the use of architectural features, landscaping, etc.
- c) Buildings shall be oriented so that public access or windows face adjoining streets.
- d) Plazas or common areas shall be located near building entrances or areas of high pedestrian traffic to ensure their use.
- e) To the extent possible, areas between buildings shall be utilized for plazas, outdoor seating, or landscape features in order to eliminate “dead zones” of underutilized space.

2.1.2 Assisted/Independent Living Area Grading and Drainage

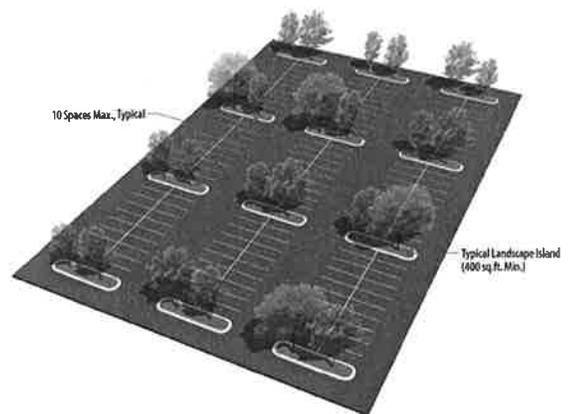
- a) Design of the assisted living facilities shall be sensitive to the natural terrain, and structures should be located to minimize necessary grading and preserve natural site features such as drainageways, etc. Grading should blend with the natural topography of the site.

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- b) Grading shall be designed to complement the architectural and landscape design character of the surrounding area. Grading techniques can be used to screen parking and service areas, reduce the perception of height and mass on larger buildings, and provide reasonable transitions between uses.
- c) Graded slopes should properly transition to existing natural terrain at project borders.
- d) Man-made slopes shall not exceed an average of 3:1 slope and turf areas shall not exceed an average 4:1 slope.
- e) Areas disturbed by grading activities shall be revegetated prior to the issuance of a certificate of occupancy. If climatic conditions or other circumstances prevent planting at the time of occupancy, a bond shall be provided for landscaping during the subsequent growing season. Drought tolerant plant species shall be utilized to help minimize erosion.
- f) New development must include a final hydrology report to be reviewed and approved by the Carson City Engineering Department prior to the issuance of a building permit.
- g) An erosion control plan shall be included with each grading permit.

2.1.3 Assisted/Independent Living Area Parking Lots

- a) A minimum of 10 feet of landscaping shall be provided between parking lots and public streets.
- b) A minimum 400 square foot interior planter shall be provided at the end of parking aisles (refer to example to the right). Planters shall include a minimum of one deciduous tree (min. 1" caliper) – see example to right.



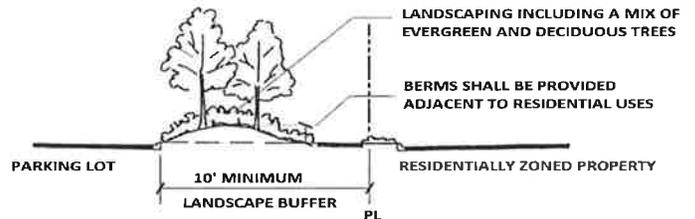
- c) Landscape islands (minimum of 400 square feet) shall be provided for every 10 spaces in large parking fields and shall include a minimum of one tree (1 inch caliper minimum). See example to right.
- d) Pedestrian connections between parking lots and buildings shall be provided along with connections to sidewalks along adjoining public streets.

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- e) Parking areas shall be screened from adjoining residential areas through the use of landscaping and berming. This buffer shall be a minimum of 10 feet in width (see example to right).
- f) A maintenance schedule shall be maintained for parking lots that includes regular sweeping and a snow removal/storage plan for winter weather events.
- g) Parking lot sweeping shall be limited to the hours between 8:00 am and 9:00 pm.
- h) Parking lot design, including space dimensions, aisle widths, etc. shall comply with the provisions of the Carson City Municipal Code.

2.1.4 Assisted/Independent Living Area Landscaping

- a) Landscaping, including plant materials and themes shall be consistent throughout the PUD.
- b) Landscaping standards contained in the Carson City Municipal Code shall apply within the PUD. Where a conflict exists between these design standards and the Municipal Code, the stricter of the standards shall apply.
- c) Areas not utilized for parking, buildings, plazas, or access/circulation shall be landscaped to the back of curb.
- d) Drought tolerant plantings shall be used in conjunction with low water demand principles and techniques.



- e) All landscaped areas shall be irrigated with permanent automatic irrigation systems. All irrigation systems shall be placed underground.
- f) Landscape maintenance shall be the responsibility of the Vintage at Kings Canyon Homeowners Association or an established landscape maintenance association.

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2.1.5 Assisted Living Area Lighting

- a) Adequate lighting shall be provided to ensure a safe pedestrian environment.
- b) Parking lot lighting adjacent to residential areas shall be limited to 12 feet in height and shall incorporate shielded fixtures that prevent spill-over to adjoining parcels.
- c) The use of bollard lighting is encouraged in pedestrian areas. See example to right.
- d) Exterior lighting shall be used for purposes of illumination and safety only, and shall not be designed for, or used as, an advertising display.



2.1.6 Assisted/Independent Living Area Signs

A limited use of signs may be included as part of the assisted/independent living facilities. Signs are intended to be utilized only where necessary, and in an understated manner, emphasizing an image of permanence and quality. Careful use of forms, styles, materials, and colors will establish continuity throughout the community.

- a) Signs shall be included on facades or entry canopies of buildings and illuminated or backlit with indirect lighting. All signs shall be integrated into the architectural design of the building entry. Signs shall be proportional to the building architecture.
- b) Flashing or animated signs are prohibited.
- c) Building signs that project more than 4 inches beyond the wall façade are prohibited, unless incorporated as an architectural element.
- d) No signs, other than project monument signs shall face residential areas located outside of the Vintage at Kings Canyon PUD area.

2.1.7 Assisted/Independent Living Area Fencing

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- A. Solid fences and walls shall be utilized as necessary to enhance privacy and provide security between uses.
- B. Walls shall be constructed from materials that complement and integrate with the adjacent building materials. Materials such as concrete block, precast concrete panels or similar may be utilized. Walls height shall be limited to 6' maximum.
- C. Solid fencing may be constructed between assisted living areas and adjacent residential areas. Solid fencing may consist of wood, vinyl, or composite fencing products. Fencing may be painted or stained if wood. Solid fence height shall be limited to 6' maximum.
- D. Chain link and wire mesh fencing shall be prohibited, unless associated with sport areas.
- E. Gates are permitted in fences as necessary, and shall maintain the color and texture of the adjacent fencing.
- F. Trellis/entry gate elements shall be permitted above the 6' height limit.

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2.1.8 Assisted/Independent Living Area Trash and Utility Areas

- a) Service, maintenance and storage areas shall be screened from adjacent public right-of-ways, pedestrian plazas or adjacent residential uses with landscaped berms, walls or plantings.
- b) All refuse bins and containers shall be housed in permanent enclosures, located away from commonly inhabited public areas. These enclosures shall meet the requirements of the Carson City Community Development Department as well as waste collection company.
- c) Refuse enclosures shall incorporate building materials, colors, etc. that complement the overall project architecture. Solid, durable materials shall be used at the rear and sides of the enclosures, and a minimum 80% solid gates shall be provided at the front. Wood and chain link are prohibited.



- d) Refuse enclosures must include provisions for concrete pads or appropriately designed asphalt sections in front of the enclosure. The area in front of the trash enclosure shall be a minimum of six (6) feet to reduce pavement damage from disposal trucks.

2.1.9 Assisted/Independent Living Setbacks

Setbacks for assisted/independent living uses shall conform to the requirements outlined in the Carson

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City Municipal Code within the NB zoning district.

2.2 Single Family Residential Areas

2.2.1 Neighborhood Diversity

Single family areas within the Vintage at Kings Canyon PUD will include varied densities and housing types in order to create separate neighborhoods within the project. This can be accomplished through the use of varied housing types, distinct architectural styles and elements, etc.

- a) Densities within single family areas shall be as generally depicted on the site plan.
- b) Neighborhood density shall properly relate to adjoining developed areas and provide for transition between neighborhood types. Proper transitions can include feathering of density/lot size, landscape buffers, or walls/fences that serve to identify community boundaries.
- d) Varied densities are included throughout the PUD boundary to allow varied product types.
- e) It is the intent of the PUD to provide a number of distinctly different neighborhood types rather than a single "large neighborhood" with a single product type.

2.2.2 Single Family Neighborhood Design

Neighborhoods within the PUD will promote quality development that is complementary to the existing built environment, while establishing its own sense of identity through uniform and innovative design standards. A variety of single family detached are anticipated within the PUD boundary.

- a) To the extent possible, "forward" architecture shall be used in the design of homes. This is accomplished by placing entries, windows, front porches, and living areas towards the street on most plan variations.
- b) When possible, plans should be reversed and plotted so that garages and entries are adjacent to each other. This creates an undulating sense of setback. Occasionally this pattern should be broken so that it will not become overly repetitious or reflected by the massing across the street.
- c) The garage shall not be the dominant feature of the building facade facing the street and should be offset through architectural detailing for garage forward elevations.

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d) So as not to contribute to a repetitious and monotonous appearance along the street, the use of varying building setbacks from the street right-of-way is encouraged.

e) Neighborhoods shall provide connections into the community trail system.

f) Zero lot line side setbacks shall be allowed as identified on the site plan.

g) In order to avoid a “walled-in” feel, homes backing to parks, open space, or drainage corridors shall include open rear fencing. This includes the use of split rail or iron fencing.

h) Except for zero lot line areas, minimum setbacks for single family residential areas shall comply with the following:

Front Yard	20 feet
Side Yard	5 feet
Rear Yard	20 feet

In order to provide for visual interest within the streetscape, front setbacks may be reduced up to 5 feet in order to achieve a non-monotonous/repetitive streetscape pattern.

i) 30% of the gross area must be maintained as common open space. See attached open space exhibit showing for reference. Although minor deviations can occur, this minimum must be maintained for the project as a whole.

2.2.3 Single Family Grading

a) The design of residential neighborhoods shall be sensitive to the natural terrain, and structures shall be located in such a manner so as to minimize necessary grading and preserve natural site features and drainage ways. Any grading of the site terrain shall blend with the natural topography of the site.

c) Graded slopes shall be rounded resulting in smooth, harmonious transitions between the man-made terrain and the natural terrain.

d) All graded slopes shall be revegetated prior to building occupancy. If climatic conditions or other circumstances prevent planting at the time of occupancy a bond shall be provided for landscaping during the subsequent growing season or other arrangements made for revegetation, subject to the approval of the administrator. Drought tolerant plant species shall be utilized to help minimize erosion.

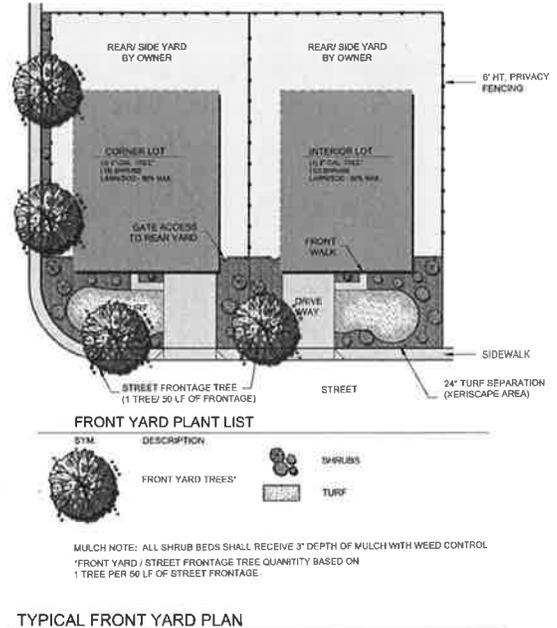
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2.2.4 Single Family Landscaping

a) Front yard landscaping shall be installed by the builder prior to the occupancy of the individual home. See example to right.

b) Front yard landscape packages shall provide for a minimum of 1 tree per 50 lineal feet of street frontage as well as a minimum of 12 shrubs. Trees shall be a minimum of 1 inch caliper for deciduous and 6 feet for evergreens. Shrubs shall be a minimum of 2 gallon.

c) Xeriscape options for front yards shall be permitted. Xeriscape packages must include the required trees and shrubs outlined under the previous standard.



c) Front yard landscaping is required for all homes and will be reviewed and approved with the tentative map establishing installation timing.

d) Front yard landscape packages shall include automatic irrigation systems.

2.2.5 Single Family Lighting

a) Lighting shall be designed to differentiate land use areas, emphasize community amenities, provide continuity along street corridors and ensure the safety of residents and users.

b) Exterior lighting shall be shielded from projection offsite and designed to be compatible with the architectural and landscape design of the home.

2.2.6 Single Family Walls and Fencing

a) Walls may be used where necessary to provide privacy and security.

b) Walls within the community shall not become the dominant visual element and walls where needed shall blend into the overall landscape.

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- c) Walls shall not exceed 6 feet in height. Acceptable materials include stone, stone veneer, split face/precision block, slump stone, and stuccoed CMU.
- d) Open fencing shall be used where the rear of individual lots are adjacent to open space. See examples below.
- e) Open fences at rear yards may include landscaping with trees and shrubs to screen views of private yards from adjacent properties, common areas, and/or roadways.
- f) Acceptable open fencing materials include wood or vinyl split-rail or wrought iron. See examples below.



- g) Single family residential lots may include solid privacy fences. Acceptable materials include wood and vinyl. Privacy fencing shall not exceed 6 feet in height.
- h) Chain link fencing is prohibited within residential areas.

2.3 Community Buffer Areas

In order to ensure compatibility with existing adjoining neighborhoods, the following standards are included with the PUD:

- a) A minimum thirty (30) foot landscape buffer shall be included around the entire perimeter of the Vintage at Kings Canyon.
- b)

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b) Buffer areas shall provide a minimum six (6) foot concrete walking path providing pedestrian connections within the community as shown on the site plan.

c) Bollard lighting, no more than 4 feet in height, may be provided within buffer areas in order to light pedestrian pathways. Bollard Lighting is not permitted within the public trail system along the project's southern boundary or along Ormsby.

e) All buffer area landscaping and improvements shall comply with the preliminary landscape plan and site plan adopted with the Vintage at Kings Canyon PUD.

2.4 ARCHITECTURE STANDARDS AND GUIDELINES

2.4.1 Architectural Theme

The Vintage at Kings Canyon community is designed to naturally integrate a relaxed livable design that integrates indoor and outdoor living. The architectural feel of the community combines an informal and country feel of farmhouse inspiration with timeless architecture set in a beautiful landscape of west Carson City and the Sierra backdrop. Community buildings have functional porches that provide a transitional space for people to gather. Expanded dormers and symmetry throughout the building with a relaxed covered entrance dictate the building elevations.

2.4.2 Assisted/Independent Living Architecture

Assisted/independent living areas within the Vintage at Kings Canyon PUD are envisioned to complement residential uses in function and form. These areas and buildings shall incorporate the same architectural principles as the residential areas and include elements such as rock, stone, brick, etc.

2.4.3 Assisted Living Building Mass and Form

a) Individual buildings, forms, and components shall be designed as a whole to ensure unity to the overall design of the center.

b) Facades shall include articulation to ensure that large scale buildings are softened and appropriate for the area at a human scale.

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- c) Visual interest shall be created in building facades through the incorporation of wall plane projections or recesses that are a minimum of two (2) feet in depth.
- d) Wall plane projection or recess may be substituted with a combination of vertical or horizontal elements such as trellises, awnings, shed roofs, or columns. Any such element must have a minimum of 2 feet change in vertical or horizontal projection or recess. The proposed alternative design solution shall meet the intent of this standard.
- e) In assisted living areas adjoining residential uses, building heights shall relate to the adjacent development to enhance view corridors and ensure compatibility.
- f) Texture change, material change, or relief change shall be incorporated into buildings to avoid large expanses of blank walls and box-like structures.
- g) Buildings in excess of 10,000 square feet should vary building and roof forms to give the appearance of smaller forms to maintain a human scale..
- h) All assisted living buildings shall incorporate a consistent architectural theme.
- i) Assisted/independent living units shall be limited to one-story. Architectural elements such as dormers and upper windows may be used to add visual interest but shall not include inhabitable space.

2.4.4 Assisted/Independent Living Roof Form

- a) Rooflines shall include variations to add visual interest and reduce the scale of large buildings. Refer to example below.



- b) Roof profile elements visible at ground level shall incorporate horizontal and vertical offsets as depicted in the example above.
- c) All rooftop equipment shall be screened from public view at street level and the parking lot.

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2.4.5 Assisted/Independent Living Materials and Colors

- a) The colors and materials of buildings shall be compatible with those of adjoining buildings/uses.
- b) Exterior building materials shall be of high quality. These may include, but are not limited to:
- brick
 - stained, painted, or weathered wood/cementitious products such as heavy timbers or stock lumber
 - stone veneer/cultured stone
 - integral color split face block or rough cut wood.
 - metal such as corrugated, battened or standing panelized systems; perforated painted or stained metal shapes
 - fabric or metal awnings
 - dimensioned asphalt or simulated wood shingles
- c) Accent colors may be used to emphasize special façade elements in order to attract attention at focal points.
- d) Facades shall include the use of earth tone palette colors in broad expanses. The use of high intensity colors are discouraged unless they are used to accentuate architectural forms or features.
- e) Building trim and accent may feature a brighter palette of colors used to direct focus toward visually interesting building elements.
- f) The following exterior building materials are not allowed as predominant features on building facades:
- integral color smooth-faced or painted concrete masonry
 - tilt-up concrete panels without textures or finishes
 - pre-fabricated steel panels
 - unprotected wood
 - dimensional asphalt shingles (architectural grade asphalt shingles may be used on roofs)

2.4.6 Residential Architectural Elements

- a) New structures within the PUD shall, at a minimum, incorporate a minimum of two of the following elements:
- Gable roofs with deep overhangs.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

- Exposed rafters, brackets, columns, etc.
 - Decorative doors and windows
 - A mixture of 2 (at a minimum) exterior elements including stucco, wood siding or shingles, brick, or stone
 - Exterior porches or courtyards
- b) Acceptable roofing materials include concrete tile, slate, or architectural grade (30+ year) composition asphalt shingles. Metal roofing may be used as an architectural element in conjunction with the previously listed materials.
- c) Flat roofs are prohibited in residential areas.
- d) Metal buildings are prohibited.
- e) Modular homes are not permitted within the Vintage at Kings Canyon PUD.
- f) Building articulation shall include a minimum of 4 separate roof planes incorporated on front/primary elevations. Front/primary elevations shall contain a minimum of 2 wall planes offset by a minimum of 3 feet.
- g) Building colors shall utilize an earth tone pallet such as browns, tans, whites, greens, deep reds and oranges, pale yellows, etc. The use of bright or vibrant colors is prohibited with the exception of highlighting architectural elements.

2.4.7 Single Family Residential Architecture

Architectural standards for residential areas promote an upscale development concept that reflects a western and ranching heritage while providing for modern amenities and features. Although neighborhoods may include distinctive architectural designs, common elements serve to create a cohesive community that creates a sense of place.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

2.4.8 Single Family Building Mass and Form

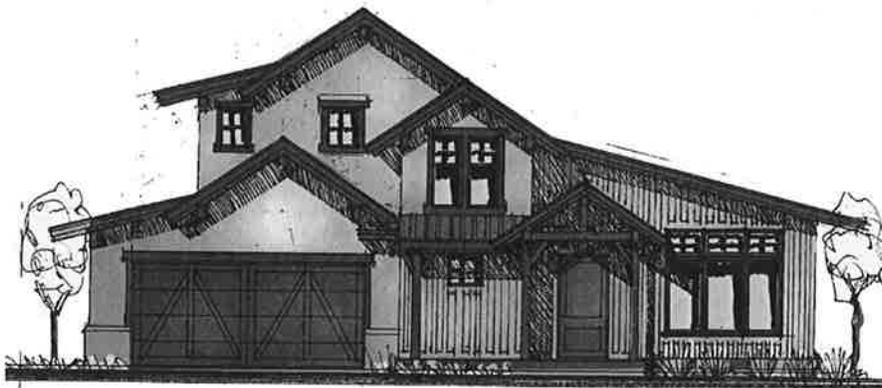
- a) Home facades shall incorporate the architectural style and materials outlined in section 2.3.1.
- b) A minimum of 2 distinctive floor plans shall be used within each project phase.
- c) Architectural details and stylings used on the front of the home shall be carried over to all elevations.
- d) A minimum of 2 distinctive front elevations shall be included for each model within each phase.
- e) Varied setbacks, floorplans, and elevation packages shall be used within subdivisions to create a visually interesting streetscape.

2.4.9 Single Family Roof Form

- a) Roof planes are required to vary through the use of architectural features such as dormers, gables, hipped roofs and variations in pitch appropriate to the homes chosen architectural style. See example images below.

2.4.10 Single Family Materials and Colors

- a) As mandated within other provisions of this handbook, single family homes shall incorporate an earth tone color palette. The use of bright and vibrant colors is prohibited with the exception of enhancing key architectural elements and features.



- b) Conflicting architectural styles within a single subdivision shall be prohibited.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

c) Building materials and elements shall be consistent with those outlined under previous standards.

2.4.11 Single Family Garages

a) Garages shall include a minimum of 5 feet offset from inhabitable areas. Front elevations should provide focus on living areas and not garages. See example image below.



b) Garage forward plans shall be permitted when offsets (5 feet minimum) exist for the garage in order to provide visual distinction between the garage and residence.

2.5.1 Community Entries

In order to create a distinct community entry and establish a sense of place, distinct community entries shall be located at the primary project entries, subject to the following standards:

a) Entry monuments shall be located adjacent to Mountain Street and Ormsby Boulevard. At a minimum, entries shall be located at the Mountain Street entry and Ormsby Boulevard entry (east side of Ormsby). Entry monuments on the west side of Ormsby are optional.

b) Entry monuments shall include materials that complement those detailed in the architectural standards of this handbook, including the use of stucco, stone, and wood accents. See example below.



c) Entries may include signage as illustrated above. Any signage shall include indirect or back-lighting. Can signs and internal illumination are prohibited.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

d) Gates at entries shall be opened from 7am to 7pm.

3 Public Services and Infrastructure

3.1 Parks, Open Space, and Trails

The Vintage at Kings Canyon PUD envisions a community that is linked, internally and to the surrounding neighborhood, through a system of trails, open space, and a community park. The intent of these standards is to implement the provisions of the Unified Pathways Master Plan, Parks and Recreation Master Plan, and Open Space Master Plan adopted by Carson City.

3.1.1 General Standards

a) A Home Owner's Association (HOA) shall be formed by the Master Developer to provide for the maintenance and upkeep of all common open space roads, sidewalk, landscaping, trails, and park/recreation facilities and amenities. The HOA shall be in place prior to the issuance of the first certificate of occupancy. The HOA at a minimum will be responsible for the following:

- Debris, weed and litter control
- Noxious weed management
- Care and replacement of plant material
- Plant material irrigation and system repair

b) Pathways and trails, other than those described in Section 3.2 (following) shall conform to the standards and policies of the Unified Pathways Master Plan adopted by Carson City on April 6, 2016 (as revised March 15, 2007).

c) The new park facility within the Vintage at Kings Canyon PUD shall conform to the Parks and Recreation Master Plan as adopted by Carson City on April 6, 2006.

3.1.2 Trails and Pathways

a) Trails, pathways, and sidewalks not specifically called out within this section shall conform to the standards outlined in Section 6 of the Carson City Unified Pathways Master Plan (Pathway Types).

b) A meandering path (consistent with Unified Pathways Master Plan standards) shall be constructed along an east/west route, connecting the existing Mountain Street trailhead and passive park area to Ormsby Blvd. This pathway may follow drainage channels where feasible and shall meet the guidelines for an "off-street/multi-use trail."

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

- c) The meandering path that connects the existing trailhead at Mountain Street to the existing Longview trails shall be concrete, a minimum of ten (10) feet in width with an additional three (3) feet of decomposed granite.
- d) Pathways located elsewhere within common areas (excluding residential sidewalks) shall be concrete and a minimum of six (6) feet in width.
- e) Trail/pathway locations shall be in substantial conformance with those included on the Vintage at Kings Canyon PUD site plan.
- f) A meandering path (consistent with Unified Pathways Master Plan standards) shall be constructed connecting Ormsby Blvd to open space to the west of the project site. This pathway may follow drainage channels where feasible and shall meet the guidelines for an “off-street/multi-use trail.”
- g) The east/west trails being constructed shall, at a minimum, include landscaping and pedestrian amenities. Trees (either evergreen or deciduous) shall be planted at a rate of 1 tree per 50 lineal feet with a minimum of 4 shrubs per tree. Park benches shall be located along the trails at a rate of 1 bench per 500 lineal feet of trail.
- h) A fitness course may be substituted for park benches. See examples below:



- i) Internal trails shall be constructed where appropriate, in order to connect different project roadways or land use elements.
- j) The applicant/developer shall be required to demonstrate that trail connectivity between parks, trails, and the overall open space network is being provided. This shall be to the satisfaction of the

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

Community Development and Parks and Recreation Departments.

3.1.3 Common Open Space

- a) Drainage channels shall be incorporated into open space areas and include trails/paths as described in section 3.1.2
- b) Open space areas shall be maintained through a private homeowners association(s).
- c) Landscape medians, parkways, corridors, etc. included within common or open space areas shall be maintained by an individual homeowners association(s)

3.1.4 Parks – General Standards

- a) Parks within the Vintage at Kings Canyon PUD shall be maintained through implementation of a Home Owner's Association
- b) Opportunities for joint use of park and open space facilities (i.e. stormwater detention basins) shall be a priority within the Vintage at Kings Canyon PUD.
- c) All park facilities and open space areas shall have access to the overall trail and pathway network within the PUD area.
- d) The park facility within Vintage at Kings Canyon will be coordinated with the Carson City Parks and Recreation Department for review and approval.
- e) Park design shall be consistent with Carson City Parks and Recreation Department guidelines and standards, including water conservation design elements.
- f) The operation and maintenance of the Park will be as outlined by separate agreement between the HOA and Carson City Parks and Recreation Department. The park will be maintained by the HOA per the City's standards at a minimum.

3.2 Sanitary Sewer

- a) All new development within the Vintage at Kings Canyon PUD shall be required to connect to municipal sanitary sewer service.
- b) A final sewer report demonstrating capacity to serve the development shall be submitted with each individual project within the PUD boundary.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

c) The site has no known constraints which would impact the ability to be served by a gravity fed extension of the public sewer.

3.3 Water Service

a) All new development within the Vintage at Kings Canyon PUD shall be required to connect to municipal water service.

b) All new development shall be required to pay applicable water connection fees and demonstrate that adequate water supply is available to serve the project and dedicated for use.

c) Separate irrigation meters will be employed in accordance with the guidelines present at the time of connection.

3.4 Storm Water Management

a) The primary stormwater channels shall be designed to contain the existing off-site watershed discharges as well as the existing discharges from the PUD area.

b) Onsite retention and detention facilities are required within the development per Carson City standards.

c) Existing overall drainage patterns shall be maintained to the extent possible. Any deviation shall require review and approval by the Carson City Engineering and Public Works Departments.

d) A comprehensive drainage impact analysis for the overall Vintage at Kings Canyon PUD shall be reviewed and approved with the first permit request. The analysis shall provide estimates of project impacts at buildout along with required upgrades, improvements, etc. as well as with triggers for when these improvements are required.

3.5 Utility Service

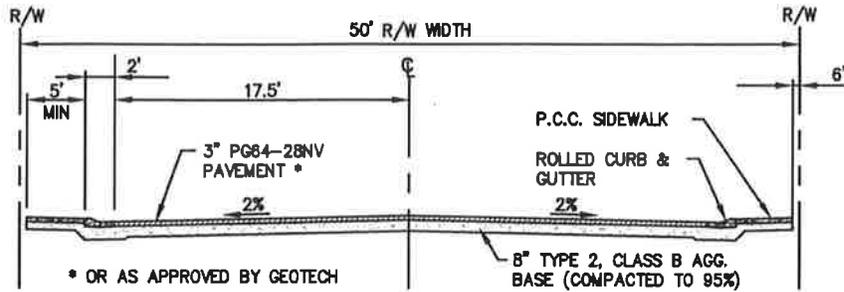
a) All utility services within the Vintage at Kings Canyon PUD shall be undergrounded. Overhead power lines shall be prohibited.

b) Plans for electrical, natural gas, telephone, and cable service shall be reviewed and approved by the applicable purveyor (i.e. NV Energy, Southwest Gas, ATT, etc) prior to the issuance of a building permit.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

3.6 Roadways

a) All roadways within the Vintage at Kings Canyon PUD shall comply with the standards and requirements included within the Carson City Municipal Code. The specifications contained in the roadway section detail, below, shall be applied to roads internal to the project.

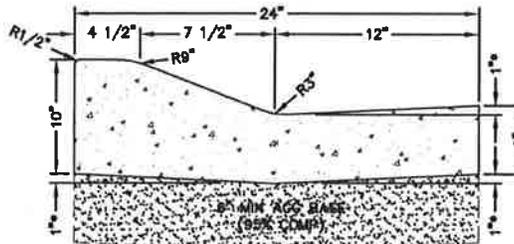


NOTES:

ALL A.C. SURFACES SHALL BE COMPACTED TO 98% (MINIMUM) MARSHALL MAXIMUM DENSITY AND RECEIVE A FOG SEAL.

BITUMINOUS PAVING MACHINES SHALL BE SELF CONTAINED, POWER-PROPELLED UNITS, WITH AN ACTIVATED SCREED OR STRIKE-OFF ASSEMBLY, HEATED IF NECESSARY, MINIMUM HOPPER CAPACITY OF 10 TONS AND CAPABLE OF SPREADING AND FINISHING COURSES OF BITUMINOUS MIXTURE IN LANE AND SHOULDER WIDTHS APPLICABLE TO THE SPECIFIED TYPICAL SECTION AND THICKNESS SHOWN ON PLANS.

ROADWAY SECTION



*REVERSE PAN ON UPHILL SIDE OF ROAD
SLOPE TO DRAIN

**ROLLED
CURB & GUTTER**

SCALE: N.T.S.

3.7 Traffic Impacts

a) A comprehensive traffic impact analysis for the overall Vintage at Kings Canyon PUD has been included. With each phase a sealed memo will be required showing no changes that effect traffic counts or patterns have been made.

3.8 Fire Protection

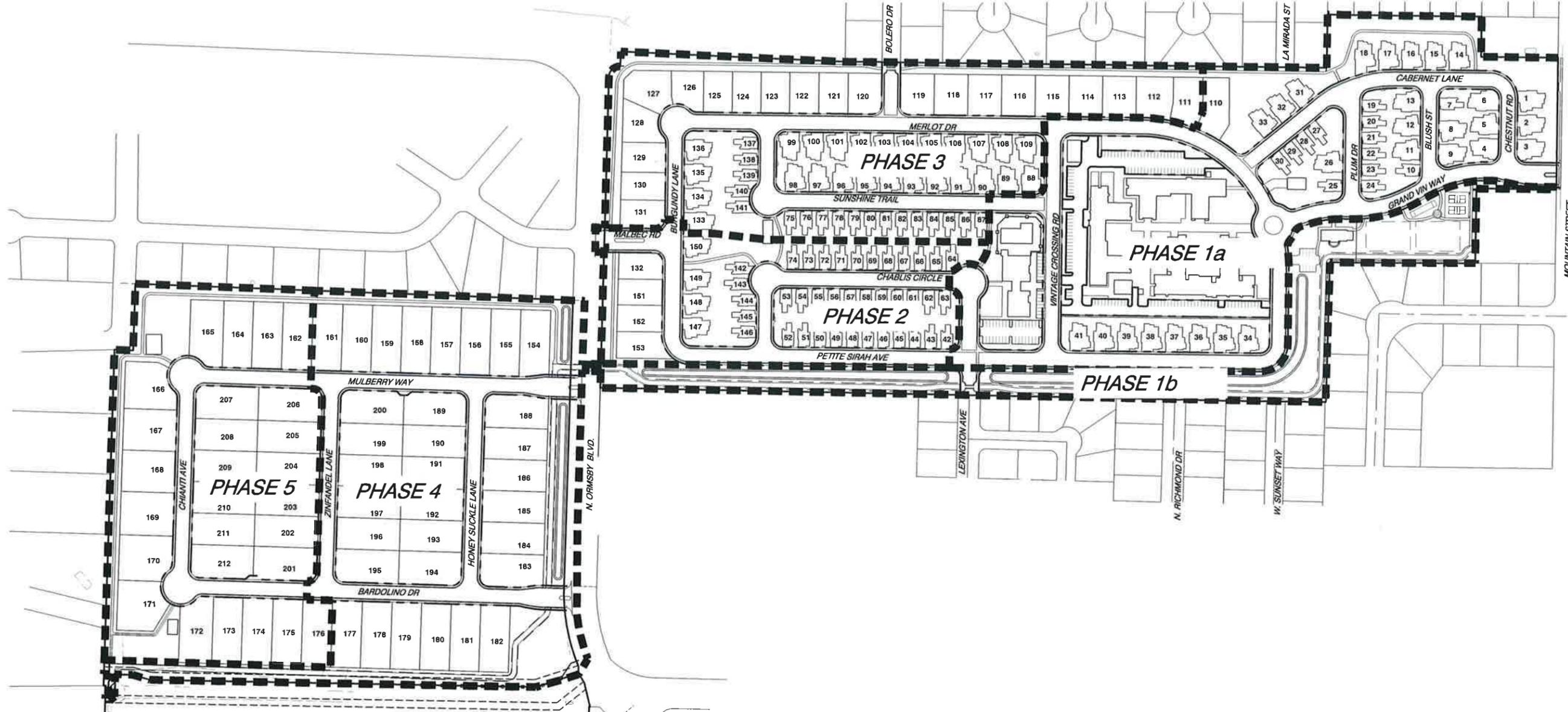
The Carson City Fire Department currently services the project area. Due to the infill location of this project, the Fire Department is not required to expand their service area.

3.9 Police Protection

The Carson City Sheriff's Department currently operates patrols in the area.

3.10 Schools

As an age-restricted community, Vintage at Kings Canyon will have no impact on schools. T



- Phase 1a:**
- Roads:**
- Connection to Mountain Street
 - Mountain Street Sidewalk along project frontage and Bus Stop location
 - Construction of Grand Vin Way Entirely
 - Vintage Crossing Road Entirely
 - Merlot Drive from Vintage Crossing east to Petite Sirah
 - Petite Sirah from Merlot to Lexington
 - Chestnut Road Entirely
 - Blush Street Entirely
 - Cabernet Lane Entirely
 - Plum Drive Entirely
 - Chablis Circle from Lexington to east knuckle
- Amenities:**
- Clubhouse with Pool
 - Parking area for Clubhouse
 - Landscaping and Internal Trails in common areas and between units
- Lots:**
- 1-41 (Cottages plans C and D)
 - 110 (Standard Lot)
 - Assisted/Independent Living Entirely

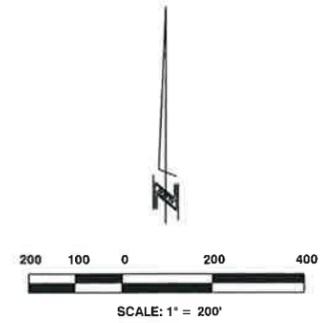
- Phase 1b:**
- Roads:**
- Connection to Lexington
- Amenities:**
- Park including all proposed amenities and as approved by Carson City Parks and Rec Department
 - Restroom addition to existing Trailhead
 - Sales Office with Parking Lot
 - Trail from Trailhead with Par Course to Ormsby (does not cross Ormsby until Phase 4)
 - Detention/Retention areas along the trail
 - Landscaping along Trail
- Lots:**
- No additional lots

- Phase 2:**
- Roads:**
- Completion of Petite Sirah
 - Malbec Road Entirely
 - Completion of Chablis Circle
 - Connection of Malbec to North Ormsby
- Amenities:**
- Landscaping and Internal Trails in common areas and between units
- Lots:**
- 42-74, 142-150 (Cottages plans C and D)
 - 132, 151-153 (Standard Lots)

- Phase 3:**
- Roads:**
- Sunshine Trail Entirely
 - Completion of Merlot Drive
 - Completion of Burgundy Lane
 - Connection at Bolero
- Amenities:**
- Landscaping and Internal Trails in common areas and between units
- Lots:**
- 75-109, 133-141 (Cottages plans C and D)
 - 111-131 (Standard Lots)

- Phase 4:**
- Roads:**
- Mulberry Way from Ormsby to Zinfandel Lane
 - Bardolino Drive from Ormsby to Zinfandel Lane
 - Zinfandel Lane Entirely
 - Honey Suckle Lane Entirely
- Amenities:**
- Landscaping and Internal Trails in common areas and between units
 - Public Trail along Ormsby to Longview Trail
 - Pedestrian Crossing on Ormsby to include flashing lights or similar as approved by Carson City Engineering
 - Trail connection to existing trails in Longview Estates Subdivision
- Lots:**
- 154-161, 177-200 (Standard Lots)

- Phase 5:**
- Roads:**
- Completion of Mulberry Way
 - Completion of Bardolino Drive
 - Chianti Avenue Entirely
- Amenities:**
- Landscaping and Internal Trails in common areas and between units
- Lots:**
- 162-176, 201-212 (Standard Lots)



THE VINTAGE AT KINGS CANYON, LLP
THE VINTAGE AT KINGS CANYON
TENTATIVE MAP
PHASING PLAN

REV	DATE	DESCRIPTION

EXHIBIT

DATE: SEPTEMBER 2016
DRAWN BY: KLN/JH
DESIGNED BY: RB
CHECKED BY: TR
JOB NO.: 8947.000

NEVADA
WASHOE COUNTY

I:\Projects\8947_000 - The Vintage at Kings Canyon\PHASING\Drawings\PHASING\TENTATIVE MAP\PHASING.dwg
 10/11/2016 11:30 am rhovine

Vintage at Kings Canyon

PUD Tentative Map and Entitlement Report



T PUD - 16 - 092



Prepared by:



Dale Cox
Architects
Architecture • Planning • Construction Management



August 18, 2016

Vintage at Kings Canyon

PUD Tentative Map and Entitlement Report

Prepared for:

Vintage at Kings Canyon, LP

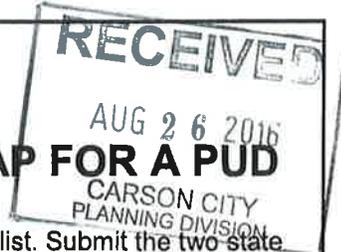
Prepared by:

Rubicon Design Group, LLC
100 California Avenue, Suite 202
Reno, Nevada 89509
(775) 425-4800

August 18, 2016

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

FOR OFFICE USE ONLY:



FILE # TPUD – 16 -

TENTATIVE MAP FOR A PUD

APPLICANT PHONE #
Vintage at Kings Canyon, LLP 775-240-0241

STATE FEES: See checklist. Submit the two state checks at the time of initial application submittal.

MAILING ADDRESS, CITY, STATE, ZIP
9130 Double Diamond Pkwy. Reno, NV 89521

FEE: \$3,450.00 + noticing fee + CD containing application digital data (all to be submitted once the application is deemed complete by staff)

ENGINEER PHONE #
Lumos & Associates, Inc. 775-883-7077

SUBMITTAL PACKET

See checklist (fill out checklist and return to staff with the application packet)

MAILING ADDRESS, CITY, STATE, ZIP
800 E. College Pkwy. Carson City, NV 89706

EMAIL ADDRESS
rbernier@lumosinc.com

Application Reviewed and Received By:

PROPERTY ADDRESS, CITY, STATE, ZIP
1450 Mountain Street Carson City, NV 89703

PRESENT ZONING **APN(S)**
SF-6 , SF-12, SF-1A 007-573-06, 07, 08 & 009-012-02

REQUEST: In accordance with the provisions of Title 17 of the Carson City Municipal Code, application is hereby made for a Planned Unit Development on property situated at:

The required modifications to Carson City's Land Use Regulations are as follows:

Please see following sheet

ACKNOWLEDGMENT OF APPLICANT: (a) I certify that the foregoing statement are true and correct to the best of my knowledge and belief; (b) I agree to fulfill all conditions established by the Board of Supervisors.

[Signature] Applicant's Signature Date 8/17/2016

PROPERTY OWNER'S AFFIDAVIT

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

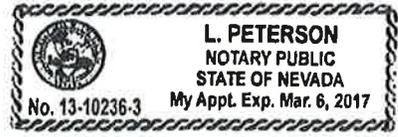
[Signature] Signature 720 Crown Address 8/17/16 Date

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

STATE OF NEVADA)
COUNTY Carson city)

On August 17th, 2016, personally appeared before me, a notary public, Meagan Kelley, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

[Signature]
Notary Public



NOTE: In order to avoid unnecessary time delays in processing your develop project, it is important that it be as complete as possible when submitted. A checklist is available to assist you and your engineer. If you have further questions regarding your application, please call the Planning Division at 775-887-2180.

To be included on the Tentative Map for a PUD application page:

The required modifications to Carson City's land use regulations are as follows –

Side setbacks on small lots – Carson City Municipal Section 18.04.190

For small lots in Vintage at Kings Canyon, the allowed side setback is 0'. This is a reduction from the SF6 standard of a minimum of 5'.

Parking for Non-residential uses – Carson City Municipal Code Division 2 Section 2.2

Code requires parking at a rate of 1 space per 100 square feet of gross building area for personal service-type uses (i.e. nail salons, barber, etc.) While there is significant parking at the site, it has not been specifically assigned to the personal service uses. This is because these uses are not open to the public and do not serve people from outside the development. Therefore, dedicated parking is not required for these uses.

Street Design/Street Section - Carson City Municipal Code Division 12 Section 12.12.6

Code requires local streets to include standard ("L" curbs). Proposed streets in vintage at Kings Canyon may include a rolled curb where appropriate and parking on one side of the street.

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

FOR OFFICE USE ONLY:

ZONING MAP AMENDMENT

FILE # ZMA – 16 -

FEE: \$2,450.00 + noticing fee

APPLICANT Vintage at Kings Canyon, LLP
PHONE # 775-240-0241

SUBMITTAL PACKET

MAILING ADDRESS, CITY, STATE, ZIP
 9130 Double Diamond Pkwy. Reno, NV 89521

EMAIL ADDRESS
 vince@scottdevelopment.net

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

PROPERTY OWNER Andersen Family Assoc.
PHONE # 775-721-3712

MAILING ADDRESS, CITY, STATE, ZIP
 PO Box 1746 Carson City, NV 89702

EMAIL ADDRESS
 megkalley@pacbell.net

Application Reviewed and Received By:

APPLICANT AGENT/REPRESENTATIVE Rebecca Bernier/Lumos & Assoc. Inc.
PHONE # 775-883-7077

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

MAILING ADDRESS, CITY, STATE, ZIP
 800 E. College Pkwy. Carson City, NV 89706

EMAIL ADDRESS
 rbernier@lumosinc.com

<u>Project's Assessor Parcel Number(s)</u> 007-573-06 & 08	<u>Street Address</u> 1450 Mountain Street Carson City, NV 89703	<u>ZIP Code</u>
---	---	-----------------

<u>Project's Master Plan Designation</u> Medium Density Residential	<u>Project's Current Zoning</u> SF-6 and SF-12	<u>Nearest Major Cross Street(s)</u> Mountain St. @ W. Long St./Ormsby Blvd. @ W. Washington St.
--	---	---

Briefly describe the components of the proposed project: in accordance with Carson City Municipal Code (CCMC), Section 18.02.075. In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal. **This is a zone change request to amend a 5.6 acre site from a mix of SF-6 and SF-12 to NB in order to establish assisted and independent living uses within the Vintage at Kings Canyon PUD. Refer to attached report for highly detailed specifics and analysis.**

PROPERTY OWNER'S AFFIDAVIT

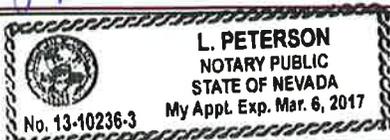
I, Meagen Kalley, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature: [Signature] Address: 720 Crown Date: 8/17/16

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

On August 17th, 2016, Meagen Kalley, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

[Signature] Notary Public
 State of Nevada
 Carson City



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

FOR OFFICE USE ONLY:

CCMC 18.02

SPECIAL USE PERMIT

FEE: \$2,450.00 MAJOR
\$2,200.00 MINOR (Residential zoning districts)

+ noticing fee

SUBMITTAL PACKET

- 8 Completed Application Packets (1 Original + 7 Copies) including:
- Application Form
- Written Project Description
- Site Plan
- Building Elevation Drawings and Floor Plans
- Proposal Questionnaire With Both Questions and Answers Given
- Applicant's Acknowledgment Statement
- Documentation of Taxes Paid-to-Date (1 copy)
- Project Impact Reports (Engineering) (4 copies)
- CD containing application digital data (to be submitted once the application is deemed complete by staff)

Application Reviewed and Received By:

Submittal Deadline: See attached PC application submittal schedule.

Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional information may be required.

FILE # SUP - 16 -

APPLICANT **PHONE #**
 Vintage at Kings Canyon, LLP 775-240-0241

MAILING ADDRESS, CITY, STATE, ZIP
 9130 Double Diamond Pkwy. Reno, NV 89521

EMAIL ADDRESS
 vince@scottdevelopment.net

PROPERTY OWNER **PHONE #**
 Andersen Family Assoc. 775-721-3712

MAILING ADDRESS, CITY, STATE, ZIP
 PO Box 1746 Carson City, NV 89702

EMAIL ADDRESS
 megkalley@pacbell.net

APPLICANT AGENT/REPRESENTATIVE **PHONE #**
 Rebecca Bernier/Lumos & Assoc. 775-883-7077

MAILING ADDRESS, CITY STATE, ZIP
 800 E. College Pkwy. Carson City, NV 89706

EMAIL ADDRESS
 rbernier@lumosinc.com

Project's Assessor Parcel Number(s): **Street Address** **ZIP Code**
 007-573-06 & 08 1450 Mountain Street Carson City, NV 89703

Project's Master Plan Designation **Project's Current Zoning** **Nearest Major Cross Street(s)**
 Mixed Use Commercial (proposed) SF-6 and SF-12 (NB proposed) Mountain St. @ W. Long St./Ormsby Blvd. @ W. Washington St.

Briefly describe your proposed project: (Use additional sheets or attachments if necessary). In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal. In accordance with Carson City Municipal Code (CCMC) Section: _____, or Development Standards, Division _____, Section _____, a request to allow as a conditional use is as follows:

This is a SUP request to establish assisted and independent living uses within a proposed 5.6 acre NB zone to be included in the Vintage at Kings Canyon PUD.

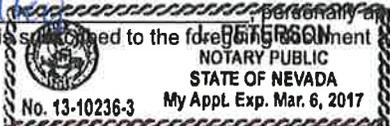
PROPERTY OWNER'S AFFIDAVIT

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

Signature Megalen Kalley Address 720 Green Date 8/17/16

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

STATE OF NEVADA)
 COUNTY Carson City)
 On August 17th, 2016, Megalen Kalley personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.
J. Peterson
 Notary Public



NOTE: If your project is located within the historic district, airport area, or downtown area, it may need to be scheduled before the Historic Resources Commission, the Airport Authority, and/or the Redevelopment Authority Citizens Committee prior to being scheduled for review by the Planning Commission. Planning personnel can help you make the above determination.



CARSON CITY

Capital of Nevada

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Secured Tax Inquiry Detail for Parcel # 009-012-02

Property Location: 1800 KINGS CANYON RD
Billed to: ANDERSEN FAMILY ASSOCIATES
P O BOX 1746
CARSON CITY, NV 89702-0000

Tax Year: 2016-17
Roll #: 000408
District: 2.4
Tax Service:
Land Use Code: 692

[Code Table](#)

Includes Personal Property

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
------------	-----	------------------	-------	-------------	-----------

No Prior Year Taxes

Current Year

08/15/16	602.10		602.10	602.10	.00
10/03/16	599.00		599.00	.00	599.00
01/02/17	599.00		599.00	.00	1,198.00
03/06/17	599.00		599.00	.00	1,797.00
Totals:	2,399.10	.00	2,399.10	602.10	

[Payment Cart](#)

[History](#)

Additional Information

	2016-17	2015-16	2014-15	2013-14	2012-13
Tax Rate	3.5200	3.5200	3.5400	3.5600	3.5600
Tax Cap Percent	.2	3.1	3.0	3.5	4.5
Abatement Amount	947.16	1,062.52	359.72	412.54	417.00



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Secured Tax Inquiry Detail for Parcel # 007-573-06

Property Location: N ORMSBY BLVD
Billed to: ANDERSEN FAMILY ASSOCIATES
P O BOX 1746
CARSON CITY, NV 89702-0000

Tax Year: 2016-17
Roll #: 000405
District: 2.4
Tax Service:
Land Use Code: 600

[Code Table](#)

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
------------	-----	------------------	-------	-------------	-----------

No Prior Year Taxes

Current Year

08/15/16	88.87		88.87	.00	88.87
10/03/16	9.00		9.00	.00	97.87
01/02/17	9.00		9.00	.00	106.87
03/06/17	9.00		9.00	.00	115.87
Totals:	115.87	.00	115.87	.00	

[Payment Cart](#)

[History](#)

Additional Information

	2016-17	2015-16	2014-15	2013-14	2012-13
Tax Rate	3.5200	3.5200	3.5400	3.5600	3.5600
Tax Cap Percent	.2	3.2	3.0	4.2	6.4
Abatement Amount	15.90	28.24	22.82	15.92	2.89



CARSON CITY

Capital of Nevada

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Secured Tax Inquiry Detail for Parcel # 007-573-07

Property Location: N ORMSBY BLVD
 Billed to: ANDERSEN FAMILY ASSOCIATES
 P O BOX 1746
 CARSON CITY, NV 89702-0000

Tax Year: 2016-17
 Roll #: 000406
 District: 2.4
 Tax Service:
 Land Use Code: 600

[Code Table](#)

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
------------	-----	------------------	-------	-------------	-----------

No Prior Year Taxes

Current Year

08/15/16	26.67		26.67	.00	26.67
10/03/16					
01/02/17					
03/06/17					

[Payment Cart](#)

[History](#)

Additional Information

	2016-17	2015-16	2014-15	2013-14	2012-13
Tax Rate	3.5200	3.5200	3.5400	3.5600	3.5600
Tax Cap Percent	.2	3.2	3.0	4.2	6.4
Abatement Amount	.02	18.92	15.28	10.68	1.94



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Secured Tax Inquiry Detail for Parcel # 007-573-08

Property Location: 1450 MOUNTAIN ST
 Billed to: ANDERSEN FAMILY ASSOCIATES
 P O BOX 1746
 CARSON CITY, NV 89702-0000

Tax Year: 2016-17
 Roll #: 000407
 District: 1.0
 Tax Service:
 Land Use Code: 695

[Code Table](#)

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
------------	-----	------------------	-------	-------------	-----------

No Prior Year Taxes

Current Year

08/15/16	13.59		13.59	.00	13.59
10/03/16					
01/02/17					
03/06/17					

[Payment Cart](#)

[History](#)

Additional Information

	2016-17	2015-16	2014-15	2013-14	2012-13
Tax Rate	3.5200	3.5200	3.5400	3.5600	3.5600
Tax Cap Percent	.2	3.2	3.0	4.2	6.4
Abatement Amount	89.37	44.24	43.16	5.22	.97

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VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Attachments:

Carson City Application Forms and Affidavits
Applicant Acknowledgement Form
Property Tax Certificate
Electronic Files
Vintage at Kings Canyon PUD Handbook
Drainage Report
Traffic Report
Preliminary Civil Plans
Preliminary Landscape Plans
Preliminary Floor Plans and Elevations

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Introduction

This application includes the following requests:

- A **Planned Unit Development (PUD) Tentative Map Application** to allow for the creation of 212 single family units.
- A **Zoning Map Amendment** to redesignate 5.6± acres from a mix of SF-6 and SF-12 to Neighborhood Business (NB).
- A **Special Use Permit** to allow the development of an assisted living/congregate care facility in the Neighborhood Business (NB) zone.

Project Location

Vintage at Kings Canyon includes 78.2± acres (APN #'s 007-573-06, 07, 08 and a portion of 009-01-202). This includes 48.21± acres located west of Mountain Street and east of Ormsby Boulevard along with 30± acres west of Ormsby Road at the current terminus of West Washington Street. Figure 1 (below) depicts the project location.



Figure 1 – Vicinity Map

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Existing Conditions

Currently, the site is vacant and includes a mix of SF-6, SF-12 and SF-1A zoning. The parcels located east of Ormsby Boulevard are designated SF-16 and SF-12 while the 30± acres west of Ormsby is designated SF-1A. Surrounding uses are primarily single family homes. However, there are non-residential uses near the eastern property boundary, including a medical center, limited supporting retail, and medical office space.

The site is well served by the area road network. It is 1,675± feet (straight line distance) west of North Carson Street and can be accessed on its east side via Bath Street, Long Street, Fleischman Way, and Washington Street, which all connect to Mountain Street. The western edge of the property can be accessed via Winnie Lane and Ormsby Boulevard.

This site can be developed without altering major traffic patterns in the surrounding neighborhoods. Primary access is located on Mountain Street and Ormsby Boulevard. Traffic will therefore be directed to the existing collector streets (e.g. Mountain, Ormsby, Winnie, Long, Washington) and not into the surrounding neighborhoods.

There are existing buildings on parcel 009-012-02 including one house, a barn, and ancillary farm/agricultural buildings. This application only includes the northern portion of this parcel; generally north of the terminus of West Washington Street. As part of this application, parcel 009-012-02 will be split. The northern 30± acres will be included in the Vintage at Kings Canyon PUD and the remaining 50.6± acres will remain as-is with the existing improvements.

The parcels that make up Vintage at Kings Canyon have remained vacant or in agricultural use over the last several decades. However, the existing zoning and Master Plan designations have been in place for 10+ years and match those of the surrounding neighborhoods.

Figure 2 (following page) depicts the existing onsite conditions at the Vintage at Kings Canyon site.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

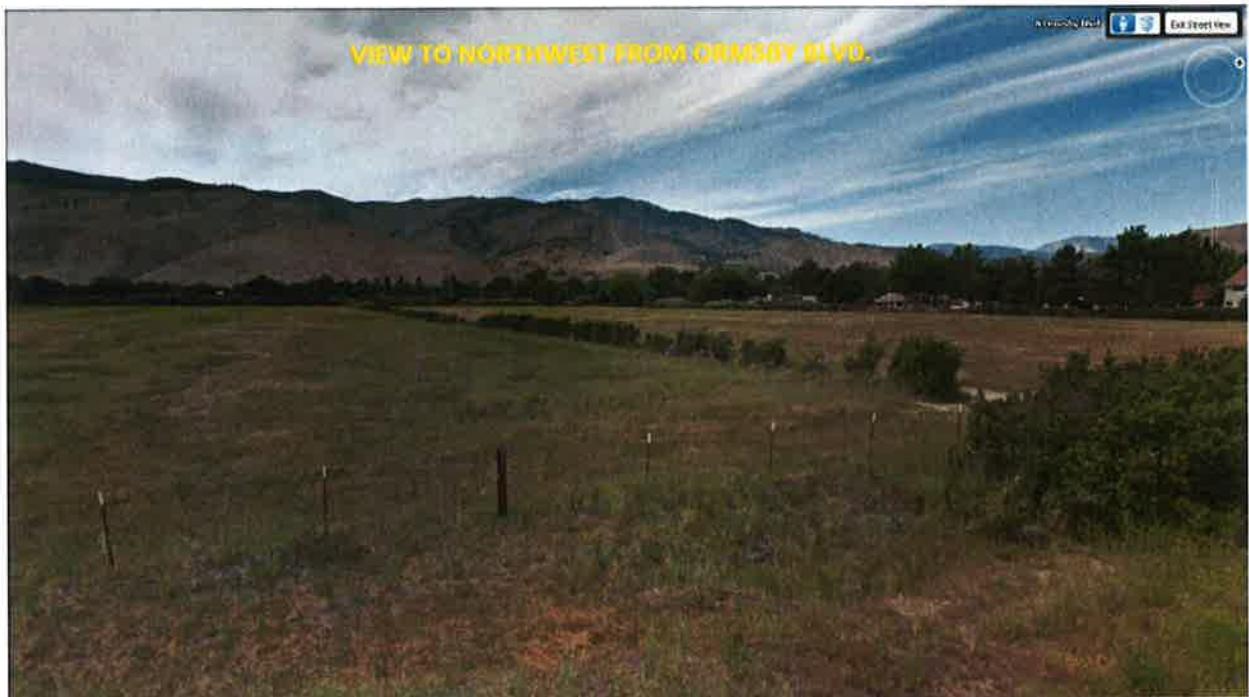
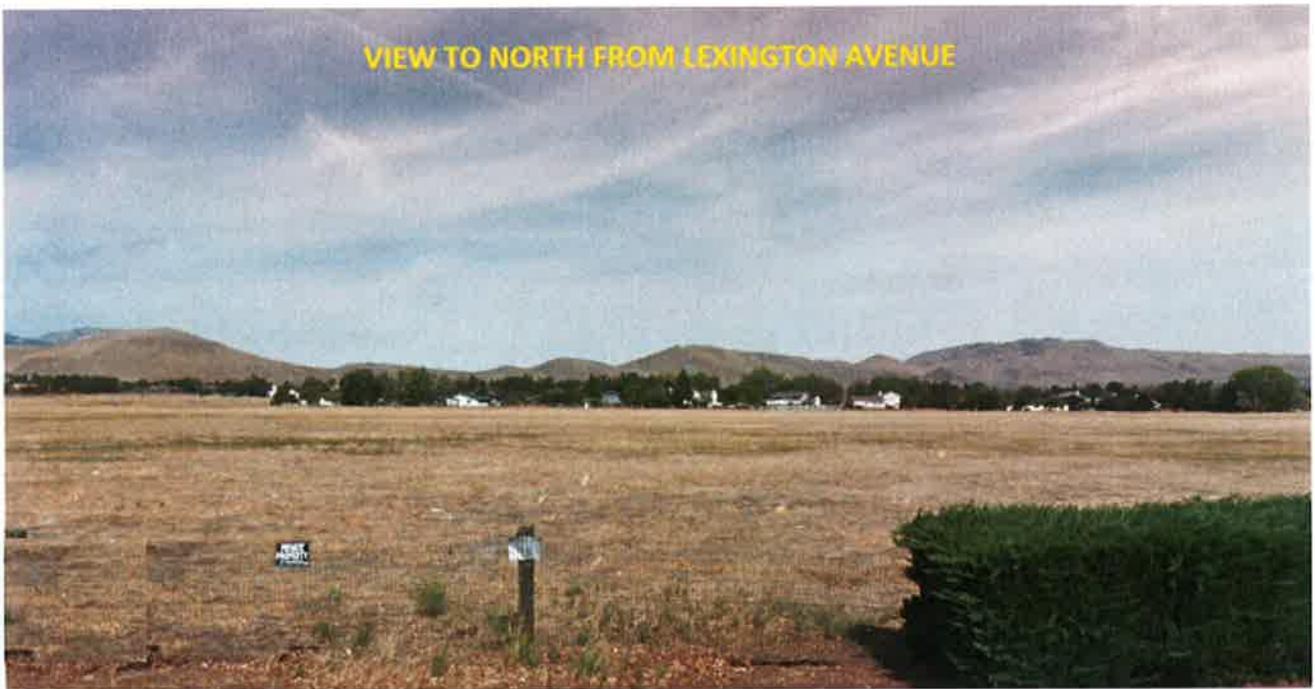


Figure 2 – Existing Conditions

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Project Overview

Vintage at Kings Canyon is envisioned to be an upscale/luxurious active adult community. In order to carry forth the community vision, a Planned Unit Development (PUD) approach will be implemented. The PUD allows for a mix of housing types, preservation of open space, enhanced buffering, unique community amenities, clustering of units, strict architectural and landscaping standards, and methods for developing a comprehensive theme and design that ensures the project properly relates to the existing built environment.

The community will be unified through a common design theme and amenities. This includes consistent upscale architecture, community paths, open space, vineyards/gradens, park, etc. along with exclusive amenities such as a clubhouse/recreation center, pool, and dining and personal service options within the assisted and independent living facilities (for exclusive use by residents and their guests).

In order to develop a community that allows for a full range of housing options that appeal to seniors, the Vintage at Kings Canyon has been designed to include a mix of residential densities and housing types. This includes five distinct single family products along with assisted and independent living facilities. Single family offerings will range from larger estate lots to small zero lot line dwellings which allow seniors to maintain their independence while eliminating the need for maintenance responsibilities, etc.

Larger lots (14,400 square feet minimum) are located on the western portion of the project site, west of Ormsby Boulevard. These home sites will include larger single family residences and include lot sizes up to 17,140± square feet. A total of 59 single family units are proposed on the western 30± acres of the Vintage at Kings Canyon. This, coupled with a large perimeter buffer ensure a proper transition between new homes within Vintage at Kings Canyon and those that exist to the north and west.

The “central” portion of the Vintage at Kings Canyon includes the 48.21± acres located between Mountain Street and Ormsby Boulevard. Single family offerings in this area can be broken down into four distinct products. A total of 11 lots at a minimum of 10,000 square feet will be located along the northern project perimeter. The western edge of the central site (east side of Ormsby Boulevard) is envisioned for 15 single family home sites at a minimum of 8,500 square feet. More internal to the site will be smaller single family home sites including two distinct zero-lot-line products. This includes a total of 58 units on 3,365± square foot lots and 69 units on 1,690± square foot lots. These homes will provide single family detached housing options for seniors that allow them to maintain their independence while eliminating the burden of yard maintenance, etc. In fact, all exterior home and landscape maintenance will be provided by the Vintage at Kings Canyon Homeowners Association (HOA) or an approved Landscape Maintenance Association (LMA).

The final residential component will be assisted and independent living units. Based on public input, these units are clustered central to the overall project site and will include three single story buildings and a total of 96 units. This includes two 24,000± square foot assisted living buildings and one 21,000± square foot independent living building. The assisted and independent living components will provide individual apartment type units and suites that include additional amenities such as onsite medical staff, dining options, recreational amenities, theater room, library, and personal services such as a salon, barber shop, workout classes, etc. These amenities will be for the exclusive use of Vintage at Kings Canyon residents and their guests and will not be open to the public.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Figure 3 (below) depicts the site plan developed for the Vintage at Kings Canyon.

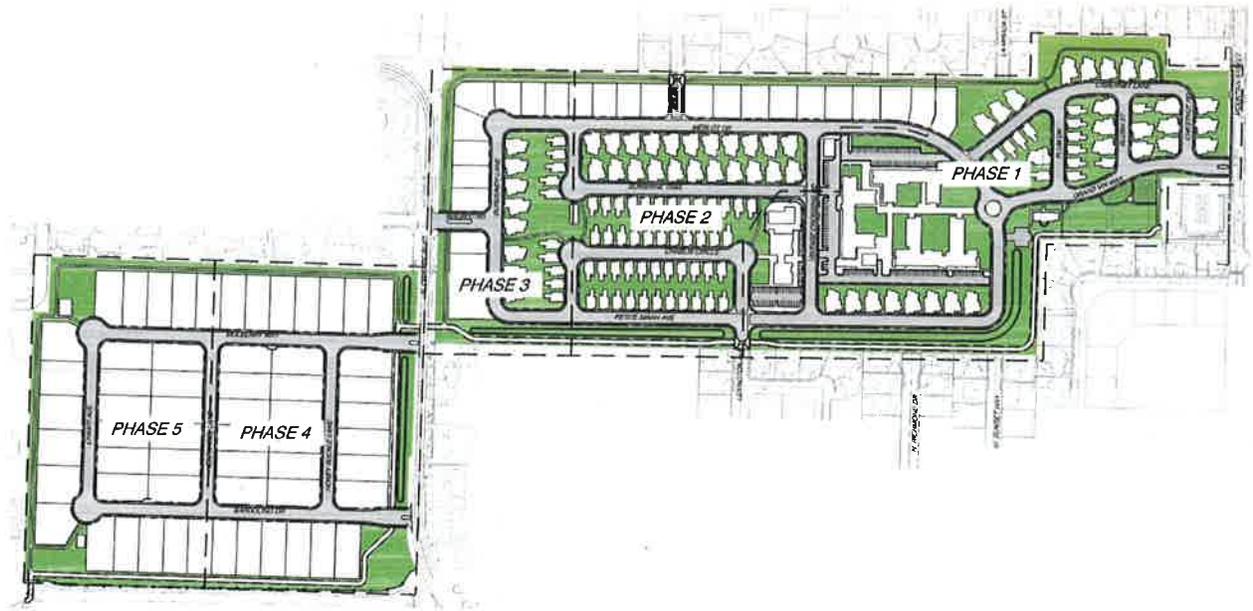


Figure 3 – Site Plan

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

As noted previously, the community will be unified through a common architectural theme, landscape improvements, and amenities. Planned amenities include a 10,000± square foot clubhouse/recreation center with community swimming pool, a neighborhood park and walking trails (also open to the general public), a 1,500± greenhouse, community gardens and vineyards. In order to support these amenities, ancillary maintenance buildings will be constructed to house equipment and supplies. It is also planned to construct a 4,000± square foot community office and sales center at the eastern portion of the site. This will serve to house Vintage at Kings Canyon offices and sales operations. Once the community is built out/complete, the office will remain for support staff and services. There are no plans for general office uses (other than those in support of the project) included in the project plan.

The Vintage at Kings Canyon community will also include extensive landscaping and buffering and design measures to ensure a proper relationship with the existing built environment. After significant public input, a key change was made to relocate the assisted and independent living units to the central portion of the site, away from existing homes. Also, the existing trail head along Mountain Street which currently connects to nothing will now connect to a new trail system that provides access along the southern boundary of the project connecting to points west. Increased buffering and landscaping is now proposed along the project perimeters as are larger lots west of Ormsby Boulevard. The northern perimeter now includes larger home sites and there is a significant open space buffer on the southern side of the project.

The assisted living and extended care operations will have some impact on the area but are far more “self-contained” than a single family residential development. This is primarily true for impacts such as traffic generation, landscape water use, etc. These impacts are greatly reduced or non-existent for this element of the project.

It is envisioned that the project will be developed in 5 phases. Phasing will occur from east to west. The assisted/independent living component of the project along with single family homes will be included in the first phase. The remaining phases will be entirely single family. It is proposed to construct the passive park and trail along the southern boundary (east of Ormsby) with the first phase. The trail along the existing Ash Canyon Creek will be completed in phase 4 while interior trails will be constructed phase by phase.

As an age-restricted community, overall impacts are much less than a comparable “standard” subdivision. For example, Vintage at Kings Canyon will generate no impacts to schools. Additionally, smaller lot sizes result in the need for less water consumption. Age-restricted communities also tend to generate less noise than standard subdivisions as there are typically no children at play, less nighttime activity, etc.

In terms of traffic impacts, age-restricted communities generate 40-60% less traffic on average than typical subdivisions. This is largely in part to the fact that many of the residents will utilize onsite shuttle services or do not drive. It is also important to note that standard subdivisions often include more than 2 drivers per household (i.e. teen drivers and multiple residents per unit). Vintage at Kings Canyon will include covenants, conditions, and restrictions (CC&R's) which limit permanent occupancy to 2 people per dwelling. For those that do drive, residents typically generate far less peak hour trips as a significant portion of the residents are retired and will not be travelling during typical commute hours.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

As noted previously, primary access to the site is from Mountain and Ormsby Streets. This ensures that traffic patterns within the existing neighborhoods will be far less impacted. Secondary access is provided via connections with Bolero Drive and Lexington Avenue. However, it is anticipated that these roadways will get little use as they do not provide direct connections to the arterial street system and are less convenient in terms of reaching everyday services and common destinations. A full traffic impact analysis is attached along with the tentative map and PUD applications.

Attached to this report is a comprehensive development standards handbook that will be adopted as part of the PUD. This handbook solidifies the project plan and sets strict guidelines for architecture, landscaping, buffering, lighting, fencing, etc. Once adopted, this handbook essentially becomes the zoning for the project site. This ensures that no significant deviation from the commitments made during the public review process can occur. Furthermore, it also ensures that the allowed uses and densities presented in this plan cannot deviate. This directly addresses concerns raised by neighbors that commercial uses not listed in the PUD may occur. This could not happen and would require a full amendment to the PUD, including a lengthy public review process.

Development Summary and Calculations

Vintage at Kings Canyon will be a diverse senior community unlike anything that currently exists in Carson City. The project will serve to fill a long-standing and growing need for quality senior housing that allows seniors flexibility in terms of housing options and required levels of care. This serves to promote a much higher quality of life for our aging population(s).

The following table provides an overall development summary for the Vintage at Kings Canyon:

Vintage at Kings Canyon Development Summary		
Unit Type ¹	Description	Total Units
A	Single Family – 10,000± sq.ft. lot size	11 units
B	Single Family – 8,500± sq.ft. lot size	15 units
C	Single Family – 3,365± sq. ft. lot size (zero lot line)	58 units
D	Single Family – 1,690± sq.ft. lot size (zero lot line)	69 units
E	Single Family Estates – 14,440± sq.ft. min. lot size	59 units
Assisted Living	Assisted Living Single Story Building	64 units
Independent Living	Independent Living Single Story Building	29 units
TOTAL		305 units

1 – Refer to Figure 3 that indicates unit types.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

A total of 212 single family units are proposed within Vintage at Kings Canyon. This total density is permitted under the existing SF-6, SF-12 and SF-1A zoning that exists across the site. The proposed PUD will allow for the clustering of the units which allows for the preservation of open space and amenities. Also, clustering will provide for lot sizes that are more manageable for elderly residents. Yard maintenance will be provided by the community's homeowners association (HOA). It is important to note that the existing density associated with the 5.6± acres proposed for rezoning has been excluded.

The following table provides a summary of how the density for the project is calculated.

Vintage at Kings Canyon Density Summary				
Parcel Number	Area	Zoning	Max. DU/AC	Unit Yield
007-573-06	7.83± acres	SF6	7.26	56
007-573-07	18.73± acres ¹	SF12	3.63	67
007-573-08	16± acres	SF12	3.63	58
009-012-02	30± acres ²	SF1A	1.1	33
Project Total	72.56± acres			213

1 – Excludes 5.6± acres to be rezoned.

2 – Reflects adjusted parcel area.

As the table above demonstrates, density to support 213 units exists under the existing conditions. In addition to the 212 single family units, 64 assisted living units are proposed along with 32 independent living units for a total of 308 units. The assisted/independent living units are considered a non-residential use under the Carson City Municipal Code and are therefore not counted in terms of the allowed density calculations.

Lastly, the following table provides an overall summary of the various components included with the Vintage at Kings Canyon PUD:

Project Component	Area
Single Family Lot Area	32.74± acres
Right-of-Way Area	15.94± acres
Building Area (non-single family homes)	2.0± acres
Parking Area	1.75± acres
Park and Open Space Area	25.8± acres
Project Total	78.2± acres

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Planned Unit Development

As previously noted, it is planned to develop Vintage at Kings Canyon as a Planned Unit Development (PUD). Therefore, concurrent with the Master Plan Amendment, Zone Change, and Tentative Map applications, a comprehensive design standards handbook is attached. This handbook provides specific standards related to allowed uses, maximum density, maximum building heights, lighting, landscaping, architecture, open space, project amenities, operating requirements (i.e. delivery times for assisted living), buffering, maintenance of common areas/amenities, etc.

By incorporating the PUD approach, the City and surrounding neighbors are given assurances as to what will be developed at the site. Unlike a standard zoning approach, the handbook will limit uses. Thus, if the project ever were to be sold or undeveloped, commercial uses (other than assisted/independent living) would be prohibited within the project area. Additionally, the PUD is recorded against the property and “runs with the land.” Thus, any change in ownership would result in zero change as to what can be developed. Any change in use would require a full public approval process.

Project Theme

The project is inspired by an upscale farmhouse wine-country theme. As such, the project incorporates vineyard areas, community gardens, barns, etc. Also, architecture and entry monumentation will be reflective of this theme as well. The attached PUD handbook provides specific details and standards to ensure that the project theme is adopted and maintained, providing a consistent look to the final project.

Figures 4 through 7 (following pages) provide architectural concepts that will be incorporated into the PUD.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report



ASSISTED LIVING FRONT ELEVATION



ASSISTED LIVING SIDE ELEVATION



CLUBHOUSE/ POOL

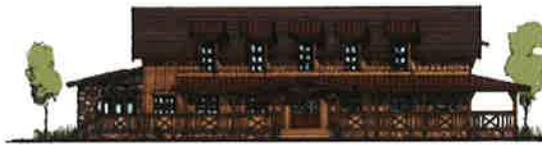
VINTAGE AT KING'S CANYON

Dale Cox
Architects
Architecture Planning Construction Management
6/3/16

Refer to attached PUD handbook for additional details and standards.

Figure 4 – Conceptual Architecture

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report



FARMHOUSE/ OFFICE FRONT ELEVATION



FARMHOUSE/ OFFICE SIDE ELEVATION

VINTAGE AT KING'S CANYON

Dale Cox
Architects
Architecture Planning Construction Management
6/2/16

Refer to attached PUD handbook for additional details and standards.

Figure 5 – Conceptual Architecture

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Dale Cox

Architects

Architecture - Planning - Construction Management

6/2/16



LOT A ELEVATION

VINTAGE AT KINGS CANYON

SCALE 1/4" = 1'-0"

Refer to attached PUD handbook for additional details and standards.

Figure 6 – Conceptual Architecture

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Dale Cox
Architects

Architecture - Planning - Construction Management

6/2/16



LOT D ELEVATION

VINTAGE AT KINGS CANYON

SCALE 1/4" = 1'-0"

Refer to attached PUD handbook for additional details and standards.

Figure 7 – Conceptual Architecture

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Stormwater Management and Drainage

The site includes a mix of FEMA Flood Zone classifications, making the site suitable for development provided that proper stormwater management is included in the design. The eastern three parcels of the site are primarily classified as Zone X – Shaded, which is out of the flood zone. A portion of this area is classified as zone AO. The western-most parcel is primarily classified as zone AE, with a small amount of both AO and Zone X - Shaded. The AO and AE zones will require proper design and grading modifications to manage any stormwater impacts. Fortunately, the developed areas surrounding the site exhibit stormwater management design that effectively handles runoff. This is evidenced by the GIS and FEMA data showing that surrounding development is primarily classified as Zone X – Shaded, suggesting that effective stormwater management is feasible in the area.

Ash Canyon Creek runs from the west to the east across 009-012-02 that will remain in place. This creek remains outside of the PUD boundary.

Currently flood waters run across Ormsby and collect on the southern edge of the project boundary and then dissipate onto the neighboring streets according to the existing FEMA mapping. Although the site will be improved in this area, overall flow patterns will be maintained in conformance with City code.

In general, drainage from the site moves from west to east. However, different sections of the site can be designed to perform somewhat independently. For example, the western-most parcel has ample room to detain runoff, which can then move in a controlled fashion to the east, as needed. There is a large-capacity drainage pipe already installed on Mountain Street and this will serve to ultimately remove runoff from the site. Attached to this submittal is a conceptual level drainage study. A technical drainage study will be required/provided at the improvement plan stage of the project.

Neighborhood Input

As eluded to previously, the Vintage at Kings Canyon project has had extensive scrutiny by community residents. After listening to resident concerns, significant changes have been incorporated into the project plan. These changes will be further detailed in the forthcoming entitlement requests. However, the bullet points below highlight some of the key amendments to the plan submitted previously for conceptual review:

- Commercial is limited to assisted/independent living only. Any ancillary commercial use (i.e. salon, barber, etc. will be located internal to the buildings for exclusive resident use only.
- Open space areas have been increased.
- Significant buffering has been included on the south side of the project with additional buffering throughout the site.
- The office component of the project (excluding a sales/information office) has been removed.
- Perimeter lot sizes have increased.
- Assisted/independent living units have been relocated central to the site so that they do not adjoin any existing residences.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

It is also noteworthy that the Vintage project is anticipated to increase overall property values in the area. The project will be developed utilizing high end finishes, innovative green technologies and materials, and will offer unprecedented amenities within the marketplace. As a result, on a per-square foot basis, Vintage at Kings Canyon will likely be one of the highest priced projects in Carson City. This will have a positive spill-over effect to surrounding neighborhoods.

Requested Entitlements

In order to implement the Vintage at Kings Canyon as envisioned, the following entitlements must be granted by Carson City:

- Master Plan Amendment
- Zoning Map Amendment
- Planned Unit Development Tentative Map
- Special Use Permit

Each of these entitlement requests are detailed within this section.

- **Master Plan Amendment**

Assisted living and independent living facilities are classified as a congregate care use within the Carson City Municipal Code. Therefore, these uses, although residential in nature, are classified as a commercial use type. Thus, the existing Medium Density Residential (MDR) Master Plan designation does not permit an underlying zoning district that allows for “commercial” use. As such, a Master Plan Amendment effecting the 5.6± acres proposed for assisted/independent living is proposed with the Vintage at Kings Canyon.

The Master Plan Amendment component of the project requests that the 5.6± acres of the existing MDR area be redesignated to Mixed Use Residential (MUR). This will establish the underlying designation needed for Neighborhood Business (NB) zoning which allows for the proposed assisted/independent living components.

At the request of Carson City staff, the Master Plan Amendment request has been isolated from the remaining entitlements and included as a separate application submittal. It is included as an attachment to this report, as is the PUD development standards handbook. The attached Master Plan Amendment document provides highly specific details on the Master Plan Amendment component of the project including rationale and analysis of applicable City policies and findings.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

• Zoning Map Amendment

In order to establish the assisted/independent living facilities, an underlying commercial zoning designation is required. Therefore, it is requested to rezone the 5.6± acres occupied by the assisted/independent living component to Neighborhood Business (NB). NB is a low intensity commercial designation and the commercial uses proposed consist solely of the assisted/independent living facilities which are residential in nature. These uses will include support personal services such as dining rooms, a salon, barbershop, workout facilities, etc. These uses are located within the buildings and are for the exclusive use of Vintage at Kings Canyon residents and their guests. No public commercial uses are proposed. This is further reinforced through use restrictions imposed in the PUD handbook (attached).

Figure 8 (below) depicts the existing and proposed zoning associated with the project.

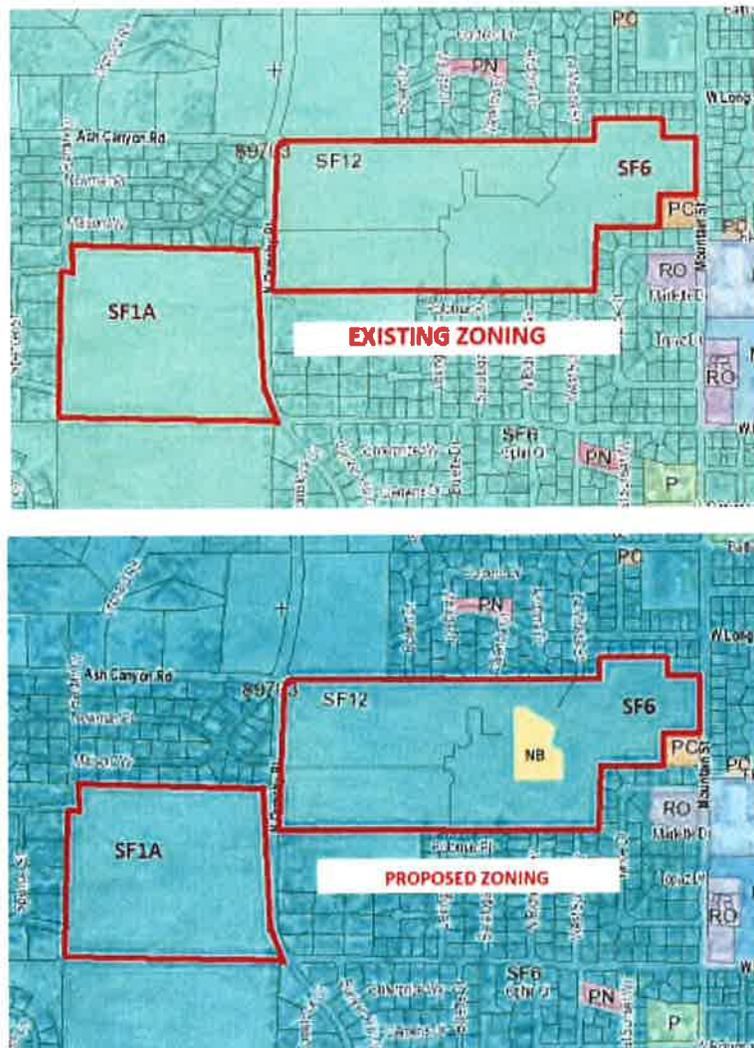


Figure 8 – Existing/Proposed Zoning

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

• **Planned Unit Development Tentative Map**

A tentative map request to allow for the creation of 212 single family lot (as previously described) is included with this overall request. Coupled with the tentative map is a Planned Unit Development (PUD) development standards handbook. The PUD handbook provides specific design guidelines, regulations, and requirements for the Vintage at Kings Canyon project. This handbook is included as a separate document and is an attachment to this report.

The PUD approach is ideal for the Vintage at Kings Canyon project. First, the PUD allows for the varied lot sizes and for minor deviations that reflect the unique needs of seniors. For example, reduced lot sizes mean less stress and maintenance for aging residents. Also, the PUD provides a mechanism for the provision and maintenance of community amenities such as the planned clubhouse, vineyards, walking paths, greenhouse, etc.

Just as important, the PUD provides for highly specific standards and regulations to address surrounding land use relationships. For example, the PUD strictly prohibits commercial uses other than the assisted and independent living uses. It goes a step further by requiring that personal service uses encompassed within those buildings (i.e. salon, barber shop, etc.) are for the exclusive use of community residents and that no public commercial uses are allowed. This was added based on concerns raised by the community. Additionally, the PUD provides the mechanism to achieve enhanced/increased buffering and architectural standards that ensure the privacy of existing homes are maintained and that the quality of the final project is of the highest standard.

The PUD will be recorded against the property and essentially becomes a custom zoning code for the project. Therefore, both neighbors as well as Carson City is given assurances as to how and what can develop at the site. Any change from the plan(s) presented with this application would require a full amendment of the PUD triggering public review. This includes public hearings before the Carson City Planning Commission and Board of Supervisors.

• **Special Use Permit**

With the proposed establishment of NB zoning, a Special Use Permit (SUP) is required to allow for the assisted/independent living component as a congregate care use. At the request of the community, these facilities have been located internal to the project site and will remain single story. This essentially shifts any impact created by these uses on to other uses within Vintage at Kings Canyon and not to surrounding parcels.

It is very important to note that in terms of impacts, assisted/independent living is an extremely low intensity use that has a low traffic generation, little to no noise impact, etc. This, coupled with the use restrictions outlined in the PUD development standards, ensures that the SUP for the requested use is appropriate. This low impact is further reinforced in the attached traffic study prepared by Traffic Works.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Planning Policy Analysis and Findings

This section addresses policies outlined in the Carson City Master Plan along with policies and requirements listed in the various application checklists published by Carson City. Applicable findings related to the requested entitlements are also addressed herein. Please note that policies and findings specific to the Master Plan Amendment request are included in the attached Master Plan Amendment application which was included as a separate cover at the request of Carson City staff.

Applicable checklists, questionnaires and findings are addressed in **bold face type**.

- **Zoning Map Amendment**

Consistent with Carson City Tentative Subdivision Map application requirements, this section is taken directly from Carson City documents and forms part of the **Master Plan Amendment and Zone Change** application process.

PURPOSE

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

Development Name: **Vintage at Kings Canyon**

Reviewed By:

Date of Review:

CHAPTER 3: A BALANCED LAND USE PATTERN

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

Is or does the proposed amendment:

✓ Discourage growth outside areas planned to be served by community water and wastewater facilities as identified in the Water and Wastewater Master Plans (1.1b)?

This application seeks to promote development on an infill site that is already served by infrastructure and so this application directly promotes this Master Plan policy.

Promote infill and redevelopment in an identified priority area (1.2a)?

The project promotes infill development. However, it is not located in a priority area.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

At adjacent county boundaries, minimize potential land use conflicts with adjacent properties (1.5a)?

Not applicable. The site is not adjacent to a county boundary so there is no potential for conflict.

Adjacent to State or Federal lands, ensure compatibility with planned adjacent uses and access (1.5b)

Not applicable.

✓ Located to be adequately served by city services including fire and sheriff services, and coordinated with the School District to ensure the adequate provision of schools (1.5d)?

The site is surrounded by existing development and is therefore already served by City services. Access to the site is safe, convenient, and logical given the fully functional street network and easy access to Mountain Street and Ormsby Boulevard. Although the neighborhood is served by existing schools, it is not a relevant consideration with this project as it will not generate any impact upon schools.

The site is 3 miles from Fire Station #2 and is served by City law enforcement.

✓ Promote a citywide range of mixed-use, residential, commercial and employment uses at a variety of scales and intensities (2.1a)?

This project seeks to promote an increased mix of housing choices for seniors by pursuing development of an infill site that is close to downtown.

In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1 b, 2.2b, 2.3b, Land Use Districts)?

The site is not within an identified mixed-use area, however, it does provide for an increased range of housing choices.

✓ Discourage rezoning of properties that create “friction zones” between adjacent land uses, particularly industrial and residential uses (2.1d)?

The proposed development that will follow this zoning map amendment is specifically designed to be compatible both internally to the project and with the surrounding area. The area subject to this zone change is only a small part of larger parcels. The amended area is therefore internal to the eventual project. Any potential impacts can therefore be managed through proper design and layout of project uses as outlined in the attached PUD.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

- ✓ Encourage development outside the primary floodplain and away from geologic hazard areas (3.3d, e)?

The site is located away from known geologic hazards. Based on Carson City GIS data, the site is outside the 100-year flood zone and is therefore not a high risk area.

- ✓ Provide for zoning consistent with the Land Use designation (Land Use table descriptions)?

A zoning map amendment and master plan amendment are being pursued for this site simultaneously. The proposed zone will be consistent with the requested Master Plan designation. The planned use of the site, an assisted living facility, is compatible with surrounding residential uses as it is low impact and provides quality, residential-scale architecture

- ✓ Meet the location criteria for the applicable Land Use designation (Land Use descriptions)?

The intended use meets the locational criteria.

If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The site is not within a Specific Plan Area.

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

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

- ✓ Provide opportunities to expand parks and recreation opportunities (4.2a)?

The actual Zoning Map Amendment area is very limited in size (5.6 acres) and will have no impact on parks and recreation facilities. However, the overall project will expand parks and recreation opportunities by including public park space and trail connections.

- ✓ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

This zone change is consistent with the Open Space Master Plan in that the overall project includes important trail connections between the neighborhood and open space areas to the west. The project was designed with input from the Carson City Parks, Recreation, and Open Space Department.

CHAPTER 5: ECONOMIC VITALITY

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

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Is or does the proposed amendment:

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

This zone change will allow for a diverse neighborhood, close to existing job centers. The proposed medical assistance component of the assisted/independent living facilities will require professional staff and will therefore add quality jobs close to the downtown core.

- ✓ Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)

This zone change directly addresses this policy by providing an enhanced mix of housing options.

Encourage the development of regional retail centers (5.2a)

The proposed project does not include regional retail space, only a small amount of personal service/boutique retail space to serve project residents only.

- ✓ Encourage reuse or redevelopment of underused retail spaces (5.2b)?

As an infill site, close to downtown, this project could have a positive impact on underused commercial space in the area. As downtown sites intensify, there is more need for retail and other services.

Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?

The project will add residents to an area that is a walkable distance to the State Capitol and so may have a favorable impact on activity in the area.

- ✓ Promote revitalization of the Downtown core (5.6a)?

The project is a short distance from North Carson Street and is therefore ideally suited to have a favorable impact on the downtown revitalization. The proposed amendment, and subsequent project, will bring new residents and a new mix of housing options close to downtown.

- ✓ Encourage the incorporation of additional housing in and around the Downtown (5.6c)?

This zone change, and the subsequent project, will allow for additional housing near downtown. Similar to the previous answer, the project is ideally positioned to have a favorable impact on downtown.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown. Is or does the proposed amendment:

✓ Promote compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?

The houses being proposed for the site are comparable to what is in the neighborhood now in terms of quality and pricing. The assisted living facility is an attempt to provide needed services, and housing options, to the area. The project area is adjacent to suburban development and so does not impact rural areas.

This zone change, intended to accommodate an assisted/independent living facility, is specifically designed to be compatible with the surrounding area by locating it internal to the project area. In other words, the zone change area is fully contained within the project site and is therefore separated from existing development.

If located in an identified Mixed-Use Activity Center or area, provide for the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?

The site is not in a Mixed-Use Activity Center however it does provide for a mix of housing types and residential medical care.

✓ Encourage an appropriate mix of housing models and densities based upon the location, size and surrounding neighborhood context (9.1a)?

As noted, the project includes a mix of housing types and lot sizes. Attention has been given to compatibility by locating larger lots at the project boundaries with smaller lots, and the assisted living facility, internal to the project.

The proposed assisted living facility would not be the only medical related use (assisted/independent living have onsite medical staff) in the neighborhood. Across Mountain Street to the southwest is a 7-acre medical complex with 157,000 square feet of building space.

✓ Discourage "spot" rezoning of parcels within established rural neighborhoods that have not been identified as higher density on the Land Use Map or that are not contiguous with lots zoned for a comparable density (9.4b)?

As an infill site, this project does not impact rural neighborhoods. Housing density of the proposed project conforms to existing zoning. This zone change is solely to accommodate an assisted living facility and incorporation of the uses into the PUD eliminates any spot zoning conditions.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed amendment:

✓ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?

The project site is on a JAC bus line. It is also close to North Carson Street. Development at this site is therefore strongly supportive of transit-oriented development.

✓ Promote enhanced roadway connections and networks consistent with the Transportation Master Plan (11.2c)?

Development of the project site will complete the road network in the immediate neighborhood. Project design has been developed using input from Carson City Engineering and Public Works staff.

✓ Provide for appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan and the proposed use and density (12.1a, c)?

Project design was developed using input from Carson City Parks, Recreation, and Open Space Department. The project includes park space and trail connections. There is a network of trails internal to the project as well as a connection between the new park space and open space to the west of the site.

The Carson City Municipal Code establishes that the following conditions and standards must be met when considering a zoning map amendment. Each is addressed in **bold face** type.

1. That the proposed amendment is in substantial compliance with and supports the goals and policies of the Master Plan.
 - A. In reviewing the attached Carson City Master Plan Policy Checklist, determine which Policies are applicable to the proposal. Explain what features of the proposed project support your selection of Goals and Policies concerning land use and related policies for the neighborhood where the subject project is located.

The proposed amendment supports multiple goals and policies including: compatibility with surrounding development; enhancing the mix of housing choices; encouraging infill development; locating development within the existing City service area; and locating development near existing transportation routes.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Both the Zoning Map Amendment Findings and the Master Plan Policy Checklist are included with this application.

2. That the proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.
 - A. Describe the land uses and zoning adjoining your property (for example: North: two houses, Single-Family One Acre zoning; East: restaurant, Retail Commercial zoning, etc.), and how your zoning will be compatible with those uses and not cause detrimental impacts.

By incorporating the NB uses into the planned PUD, restrictions and limitations will be implemented to ensure that the only commercial uses are the proposed assisted/independent living facilities. This will ensure that new commercial and office uses do not occur. The “commercial” uses being proposed under the NB zoning are residential in nature. Furthermore, the PUD provides for buffering, screening, and operational requirements that ensure consistency with adjoining properties as well as height limitations, etc.

As a senior age-restricted community, impacts associated with the project are far less than a conventional subdivision. This is true in terms of traffic, noise, building heights, etc.

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

A key consideration in addressing this finding is the fact that Carson City has an identified lack of quality senior housing. Vintage at Kings Canyon will serve to provide the only comprehensive active adult community in the City and will offer a variety of housing options depending on resident needs and limitations. Therefore, this project serves to address a demographic change in the area as the over 55 population is growing rapidly.

Also, it is important to note that the density proposed with Vintage at Kings Canyon is permitted under the current mix of zoning. The NB zoning serves to allow for assisted/independent living which is a residential use by nature, not commercial.

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

As an infill project, all necessary services and infrastructure needed to serve the project are in place. Also, as a senior community, traffic impacts are greatly reduced and school impacts are zero. Provision of smaller lot sizes not only benefit seniors in terms of reduced maintenance, but they also greatly reduce water usage. All impacts associated with the project will be properly mitigated. This includes solidifying mitigation measures (i.e. use restrictions, buffering, etc.) within the PUD handbook.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

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

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

Included with this submittal package are detailed engineering plans and reports that address grading, sewer, water, drainage, traffic, and geotechnical considerations. All of the reports identify mitigation measures (as needed) to ensure that the project does not generate negative impacts. In terms of emergency services, the project is in an infill development located in an area that is currently being served. As a senior community, impacts to schools will be zero.

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

All new development will be required to meet the provisions of the Carson City Municipal Code, including review of water supply and system design. Discussions with Carson City Utilities Department indicates there are no service delivery issues to the site and the parcel is capable of connection to existing installations.

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

There is adequate roadway capacity to accommodate Vintage at Kings Canyon. As an active adult community, traffic impacts are 40-60% less than a comparable "standard" subdivision. It is important to note that the same number of single family units could be developed under the existing designations without age restrictions. This would generate a significantly greater impact in terms of traffic. These traffic findings are further supported and documented in the attached traffic impact analysis prepared by Traffic Works.

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

As a senior community, school impacts will not occur.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

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

The project has safe and efficient access via Mountain Street and Ormsby Boulevard. Secondary access for emergency vehicles can also occur from Lexington Avenue and Bolero Drive. Emergency services exist in the area and are currently serving the adjoining neighborhoods. This project will therefore have a far less impact than a project located within an outlying area as no "sprawl" is proposed.

Zoning Map Amendment Findings

Per CCMC 18.02.075, the commission, in forwarding a recommendation to the board for approval of a zoning map amendment or zoning code amendment shall make the following findings of fact:

- (1) That the proposed amendment is in substantial compliance with and supports the goals and policies of the master plan.

A Master Plan Amendment is being submitted concurrently with this request. It is important to note that the commercial uses proposed are residential in nature and are further limited in the accompanying PUD handbook in order to further ensure that policies of the Carson City Master Plan are implemented. This request will allow for a key element of a fully balanced senior community, thus supporting goals of the Master Plan related to housing diversity, infill development, efficient use of infrastructure, etc.

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

The proposed zoning will allow for assisted/independent living facilities that are residential in nature. Furthermore, these uses are located central to the Vintage at Kings Canyon site to ensure that compatibility issues with established neighborhoods do not occur. Also, the planned PUD approach provides for requirements and restrictions above and beyond code minimums to ensure overall compatibility with the area.

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

This amendment is not detrimental to public health or safety. It will not result in any significant change to existing or planned public services. This amendment will allow for assisted/independent living facilities to be included within Vintage at Kings Canyon, providing a true comprehensive upscale senior community that provides 55 and over residents with housing options currently not offered in the area.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

- **Planned Unit Development Tentative Map**

Master Plan Policy Checklist: Tentative PUD Map

Consistent with Carson City Tentative Subdivision Map application requirements, this section is taken directly from Carson City documents and forms part of the **Tentative PUD Map** application process. Responses to the checklist questions are included in this section and are printed in **bold type**.

PURPOSE

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

Development Name:

Reviewed By:

Date of Review:

DEVELOPMENT CHECKLIST

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

CHAPTER 3: A BALANCED LAND USE PATTERN

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

Is or does the proposed amendment:

- ✓ Consistent with the Master Plan Land Use Map in location and density?

The Vintage at Kings Canyon project is consistent with the Master Plan Land Use map in that it does not exceed the residential density allowed under the current master plan and zoning designations. The proposed density conforms to other housing in the area and will not change the overall development style of the neighborhood. The master plan amendment and zone change described in this application are to allow the small amount of supporting personal service and professional space that serves the assisted living space. This area will be for the exclusive use of residents and guests only, not the general public.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

- ✓ Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?

This project meets the provisions of the Growth Management Ordinance by locating housing in an area that is adjacent to existing roadways and services. The project is an infill development and serves to better maximize the use of Carson City's infrastructure. Infill residential is encouraged within the Master Plan. The project has convenient access to all community services and is appealing to a wide range of potential residents.

- ✓ Encourage the use of sustainable building materials and construction techniques to promote water and energy conservation (1.1e and f)?

The project designers are currently exploring sustainable energy usage techniques and practices. This includes passive and active solar installations, geothermal energy collection, and electric vehicle charging stations. Buildings will utilize current building materials with high energy efficiency ratings. Landscaping will be designed to reduce water use. These details are further defined in the accompanying PUD handbook.

Located in a priority infill development area (1.2a)?

The project site is not in a priority infill area but it is an infill project.

- ✓ Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

The project will maintain the existing path that currently crosses the site east-west and connects to the end of Washington Street. This pathway will continue to serve as an amenity to the area. Furthermore, the existing trailhead at the western side of the project will now connect to a comprehensive network.

- ✓ Encourage cluster development techniques, particularly at the urban interface with surrounding public lands, as appropriate, and protect distinctive site features (1.4b and c, 3.2a)?

The project clusters development at the eastern end of the site and retains significant open space at the southwestern end. This open space then serves as an access point to trails and undeveloped areas to the west.

At adjacent county boundaries, coordinated with adjacent existing or planned development with regards to compatibility, access, and amenities (1.5a)?

The site is not located along a county boundary.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

✓ Located to be adequately served by City services including fire and sheriff services, and coordinated with the School District to ensure the adequate provision of schools (1.5d)?

As an infill parcel, the site is almost entirely surrounded by existing development and is within existing service boundaries. City and area services are already occurring within the area and can be provided to this site as well. The project will have no impact to schools.

In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?

The site is not within an identified mixed-use area. However, Mountain Street adjacent to the project includes medical/office space, limited retail space, and residential uses.

✓ Provide a variety of housing models and densities within the urbanized area appropriate to the development size, location and surrounding neighborhood context (2.2a, 9.1a)?

The project will provide additional housing choices, including medium and small lot single family residential, and assisted living/extended care units. This increased variety of housing will allow for aging residents to remain in their current neighborhood.

Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?

There are no environmentally sensitive areas on the site.

If at the urban interface, provide multiple access points, maintain defensible space (for fires) and are constructed of fire resistant materials 3.3b)?

The site is not within an urban/wildlife interface area.

Site outside the primary floodplain and away from geologic hazard areas or follow the required setbacks or other mitigation measures (3.3d, e)?

Carson City GIS data indicates portions of the site are classified as FEMA zones AO and AE. These areas will be engineered to function in a way that properly manages storm water. Surrounding development appears to be likewise engineered, suggesting the feasibility of such treatment for this site.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

- ✓ Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?

The project proposes to provide levels of service consistent with what is seen in the area now. As an infill site, it is possible to coordinate the project design with development that adjoins the site. Roads, sidewalks, and utilities will therefore be commensurate with what the neighborhood enjoys now. Trail connections and open space will be improved.

If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The site is not within a Specific Plan Area.

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

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

Is or does the proposed amendment:

- ✓ Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?

The project will provide substantial park/open space area that will benefit the neighborhood. This includes providing a long-needed connection to the already constructed trailhead at the west side of the property.

- ✓ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

This project advances the goals of the Open Space Master Plan through its use of an infill site and through the provision of park/open space area. The project does not extend development into wildland areas.

CHAPTER 5: ECONOMIC VITALITY

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

Is or does the proposed amendment:

- ✓ Incorporating public facilities and amenities that will improve residents' quality of life (5.5e)?

As detailed above, the project will provide public amenities in the form of park space and enhanced trails.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Promote revitalization of the Downtown core (5.6a)?

The site is outside the downtown core but is only 2,000' walking distance from N. Carson Street. The project will therefore provide housing opportunities within walking distance to downtown businesses.

Incorporate additional housing in and around the Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

The project will provide additional housing, located roughly ½ mile from the downtown core.

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

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

Is or does the proposed amendment:

✓ Provide variety and visual interest through the incorporation of varied lot sizes, building styles and colors, garage orientation and other features (6.1b)?

The project is intended to be appealing to discriminating buyers who have options in selecting their housing. The architecture will therefore be attractive, provide differentiation in streetscapes, and exhibit a range of materials and colors.

✓ Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?

Building styles will be varied and will present an appealing streetscape through the use of front porches and architectural detail. Pedestrian pathways and entrances will be obvious and well marked.

✓ Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?

The project will be complementary to surrounding development in terms of height, setbacks, and use and will therefore be directly compatible.

If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?

The project is not in a mixed-use activity center.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

If located Downtown:

- o Integrate an appropriate mix and density of uses (8.1a, e)?

Although the project is not within the identified “Downtown Core,” it is on the periphery and serves to expand housing options in the area. Proposed density is comparable to other uses in the area.

- o Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?

The project is not located downtown.

- o Incorporate appropriate public spaces, plazas and other amenities (8.1d)?

The project is not located downtown however it does include public spaces.

CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed amendment:

- ✓ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?

The project is located along existing streets and is close to North Carson Street. The site is therefore suitable for accessing public transit and for walking to downtown destinations.

- ✓ Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?

The project is accessed by the existing roadway network. It will also fill some existing gaps in the roadway network by providing additional connections.

- ✓ Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan and the proposed use and density (12.1a, c)?

The project will enhance the existing trail that crosses the site and provides access to open space to the west.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Tentative PUD Map Findings

Section 17.07.005 of the Carson City Municipal Code establishes findings that the Planning Commission and/or Board of Supervisors must make in approving a conceptual PUD map. These findings are listed below and are addressed in **bold face type**.

In considering parcel maps, planned unit developments and tentative subdivision maps the director shall consider the following:

1. 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.

The project is an infill site within an established neighborhood. All necessary infrastructure and municipal services necessary to serve the project are in place or can easily be extended (at the expense of the developer). The project will be served by municipal water and sewer, solid waste disposal, NV Energy, Southwest Gas, cable television, etc. in accordance with Carson City and State of Nevada standards.

2. The availability of water which meets applicable health standards and is sufficient in quantity for the reasonably foreseeable needs of the subdivision.

The project will be served by the existing municipal water system and it will be demonstrated by the project applicant that sufficient water rights have been dedicated/acquired to serve the project.

3. The availability and accessibility of utilities.

As an infill development, all necessary utilities are in place or can be easily extended to serve the project.

4. The availability and accessibility of public services such as schools, police protection, transportation, recreation and parks.

All City services and infrastructure already serve the area around the site. The project will be occupied by retirement-age people and will therefore generate no impacts on schools and reduced impacts to road networks and park facilities.

5. Access to public lands. Any proposed subdivision that is adjacent to public lands shall incorporate public access to those lands or provide an acceptable alternative.

The project will improve access to public land through a connection to the existing Mountain Street trailhead that currently connects to nothing.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

6. Conformity with the zoning ordinance and land use element of the city's master plan.

The project is in direct compliance with the existing Master Plan and zoning housing density limits. The project promotes the Master Plan policies of providing an enhanced housing mix and of locating new development and mixed uses close to existing development and the downtown core.

7. General conformity with the city's master plan for streets and highways.

The project uses existing streets for overall access. It also will generate reduced traffic impacts due to the retirement-age component of the project.

8. The effect of the proposed subdivision on existing public streets and the need for new streets or highways to serve the subdivision.

No new offsite streets or highways are needed to serve the project. Streets internal to the site will provide additional connections for the neighborhood. Traffic leaving the site can easily access collector streets without travelling through neighborhoods.

9. The physical characteristics of the land such as flood plains, earthquake faults, slope and soil.

The site has a moderate downward slope from west to east. There are no known faults or soil issues. The site is partially classified as FEMA zones AE and AO, requiring design and engineering to manage stormwater flow across the site. Developed property in the area exhibits similar conditions and appears to be manageable through proper design and grading. In the after condition, the project will result in an improvement to an existing drainage channel (flowing east, adjacent to the site).

10. The recommendations and comments of those entities reviewing the subdivision request pursuant to NRS 278.330 thru 278.348, inclusive.

Any applications related to the project will be sent to reviewing agencies per the requirements of the Carson City Municipal Code and Nevada Revised Statutes. Once comments are received, they can be incorporated into the final design of the project or included as conditions of approval.

11. 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.

Fire protection is in place around the site and similar measures will be included in the design of this site. All development will occur in conjunction with review by the Carson City Fire and Engineering Departments.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

12. Recreation and trail easements.

The project includes substantial open space. If necessary, a public access easement can be established where applicable.

Approval or Denial of Application

Carson City Municipal Code section 17.09.050 - *Approval or denial of application*, includes the following items that must be considered in approving a conceptual PUD map. Responses are provided in **bold** type.

1. In what respects the plan is or is not consistent with the statement of objectives of the planned unit development ordinance;

The plan is consistent with the PUD ordinance in that it provides coordinated development, conforms to the housing density standards of the existing Master Plan and zoning, and provides for public amenities such as open space and trails.

2. The extent to which the plan departs from zoning and planned unit development regulations otherwise applicable to the property, including but not limited to density, size and use, and the reasons such departures are or are not deemed to be in the public interest;

Deviations are appropriate in order to address increased buffering and to address the specific needs of seniors that will be living in the community (i.e. reduced yard area to maintain, etc.).

3. The purpose, location and amount of the open space in the planned unit development, the reliability of the proposals for maintenance and conservation of the open space and the adequacy or inadequacy of the amount and purpose of the open space as related to the proposed density and type of residential development;

As noted in the application, the project includes substantial open space. This space will be maintained by the project, either through a landscape maintenance agreement or through an HOA.

4. A physical design of the plan and in the manner in which such design does or does not make adequate provision for public services, provide adequate control over vehicular traffic, parking requirements, and further the amenities of light and air, recreation and visual enjoyment;

The plan is designed to replicate the look and density of the surrounding area by providing comparable lot sizes, significant buffering or both at the project perimeter. Street design and parking conform to City standards. Public services are already provided to the area and can easily be extended to the site.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

5. The relationship, beneficial or adverse, of the proposed planned unit development to the neighborhood in which it is proposed to be established;

The proposed project will integrate into the existing neighborhood without conflict. Residential design and overall density is comparable to what exists in the area now. The open space and trail connections provided by the project will serve as amenities for the area.

6. In the case of a plan which proposes a development over a period of years, the sufficiency of the terms and conditions intended to protect the interest of the public and the residents of the planned unit development in the integrity of the plan.

The project will post any required bonds with the City, for example, to ensure restoration of any disturbed areas that may be left undeveloped. In general, the project will perform the same as any housing development or PUD that is completed over time in that it will establish maintenance agreements and will adhere to state and local development regulations.

- **Special Use Permit**

Master Plan Policy Checklist - Special Use Permit Application

Consistent with Carson City Special Use Permit application requirements, this section is taken directly from Carson City documents and forms part of the application process. Responses to the checklist questions are included in this section and are printed in **bold type**.

PURPOSE

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

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. A check mark indicates that the proposed amendment meets the applicable Master Plan policy.

CHAPTER 3: A BALANCED LAND USE PATTERN

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

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

- ✓ Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?

This project meets the provisions of the Growth Management Ordinance by locating housing in an area that is adjacent to existing roadways and services. The project is an infill development and serves to better maximize the use of Carson City's infrastructure. Infill residential is encouraged within the Master Plan. The project has convenient access to all community services and major roadways.

- ✓ Encourage the use of sustainable building materials and construction techniques to promote water and energy conservation (1.1e and f)?

Final building design is still in process, however, one of the developer's goals is to include sustainable building materials and practices such as bamboo flooring, energy efficient fixtures, and walkable neighborhood design. These details will be defined in greater depth as further applications are submitted to Carson City.

Located in a priority infill development area (1.2a)?

The project site is not in a priority infill area but it is an infill project.

- ✓ Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

The project provides trail connections, both within the project and to external sites such as open space areas. The project includes a public park. Site design includes input from the Carson City Parks Dept.

- ✓ Protect existing site features including mature trees and other character-defining features (1.4c)?

The site maintains existing trail connections that cross the site and maintains open space areas that allow the public to access the site, enhancing the existing access to the area. There are few mature trees on the site so new landscaping will be a substantial addition to the area. The overall goal is to integrate into the existing neighborhood by seamlessly connecting to existing trails and streets and by matching the general intensity of existing development. In this sense, the character-defining features of the area are maintained.

At adjacent county boundaries, coordinated with adjacent existing or planned development with regards to compatibility, access, and amenities (1.5a)?

The site is not located along a county boundary.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?

The site is not within an identified mixed-use area. However, the project adds residents close to existing retail and professional development.

- ✓ Meet adopted standards for transitions between non-residential and residential zoning districts (2.1d)?

The project includes a zone change. The area of the zone change is limited and is internal to the project. The PUD process allows for the entire project to be designed as a cohesive whole, allowing for effective transitions between the zone-change area (assisted living area) and the surrounding residential area. Additionally, the project includes larger residential lots at perimeter areas, ensuring compatibility with the existing neighborhood.

- ✓ Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?

While there are no environmentally sensitive areas on the project site, the site has been designed to ensure proper stormwater drainage and erosion control. Open space areas have been included.

- ✓ Site outside the primary floodplain and away from geologic hazard areas or follow the required setbacks or other mitigation measures (3.3d, e)?

The area subject to this SUP request (the assisted living facility) is outside the primary floodplain. Carson City GIS data identifies the assisted living area as being in the 500-year flood area, well outside the primary floodplain. Please note that other areas of the site have higher flood risk and are subject to enhanced engineering requirements in order to properly manage floodwater. The site includes open space, drainage channels, and detention areas sufficient to comply with City engineering requirements.

- ✓ Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc.) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?

The site is already served by all utilities and city services. No decrease in service is to be expected.

If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The site is not within a Specific Plan Area.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

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

Is or does the proposed amendment:

✓ Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?

The project will upgrade and enhance the existing outdoor space and recreational amenities on the site. This includes trails as well as a public park. This plan was designed in coordination with Parks Department staff.

✓ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

As stated above, the project includes recreational and open space amenities. The site plan was designed in coordination with Parks Department staff.

CHAPTER 5: ECONOMIC VITALITY

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

Is or does the proposed amendment:

✓ Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)

This project directly promotes this policy by adding additional housing close to existing employment centers.

Encourage the development of regional retail centers (5.2a)

This project does not explicitly address regional retail issues, but it does support existing retail operations by locating potential customers close to businesses.

Encourage reuse or redevelopment of underused retail spaces (5.2b)?

By adding potential customers close to downtown, this project could be seen as encouraging local retail.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?

There is little ability for this application to either negatively or positively affect heritage tourism activities.

✓ Promote revitalization of the Downtown core (5.6a)?

This project seeks to add residents and employees close to Downtown. By adding potential customers close to downtown, this project directly promotes revitalization of downtown business sites.

✓ Incorporate additional housing in and around the Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

This project seeks to add additional housing close to downtown.

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

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

Is or does the proposed amendment:

✓ Use durable, long-lasting building materials (6.1a)?

The developer is committed to building an environmentally friendly project that uses sustainable, long-lasting materials. This includes low-impact materials such as bamboo, and energy efficient fixtures.

✓ Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features (6.1b)?

As seen in the included architectural renderings, proposed buildings include a variety of materials, contemporary colors, and generous articulation of facades.

✓ Promote variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?

The included elevation exhibits show that the proposed buildings are articulated and provide visual appeal. Pedestrian pathways and entrances will be obvious and well-marked. Overall site landscaping is designed to be appealing and also to provide separation between uses.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

✓ Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?

The project will be complementary to surrounding development in terms of height, setbacks, and use and will therefore be directly compatible. Please see the included architectural exhibits.

If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?

The project is not in a mixed-use activity center.

If located Downtown:

o Integrate an appropriate mix and density of uses (8.1a, e)?

The project is not within the identified Downtown Core.

o Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?

The project is not located downtown.

o Incorporate appropriate public spaces, plazas and other amenities (8.1d)?

The project is not located downtown however it does include public spaces.

✓ Incorporate a mix of housing models and densities appropriate for the project location and size (9.1a)?

Strictly speaking, this SUP does not apply to the housing portion of the project. However, the overall site design includes a mix of housing types, designed to complement the neighborhood. Lot sizes were designed specifically to provide consistency with bordering development.

CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Is or does the proposed amendment:

✓ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?

The site is on a JAC bus route. The project is located along existing streets and is close to major arterials.

✓ Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?

The project is accessed by the existing roadway network, improves connectivity within the neighborhood, and provides development close to major arterial roadways.

✓ Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan and the proposed use and density (12.1a, c)?

The project includes trails and pathways, both internal and external to the site. The project area is fully walkable and there are connections to nearby streets and open space areas.

Special Use Permit Application Questionnaire (Findings)

The following questions form a portion of the SUP application and are considered the legal findings for approving a Special Use Permit. These questions replicate, and in some cases expand on, the findings listed in Carson City Municipal Code Section 18.02.080 Special Use Permit Findings. Responses to these questions are addressed in **bold face type**:

Question 1. How will the proposed development further and be in keeping with, and not contrary to, the goals of the Master Plan Elements?

This project directly supports the Master Plan by providing additional housing options for the area, by adding housing close to existing commercial development and roadways, and by being an infill project.

Question 2. Will the effect of the proposed development be detrimental to the immediate vicinity? To the general neighborhood?

The project will not be a detriment to the area as it matches surrounding development in terms of residential density and in terms of overall impacts. The proposed assisted living use does not generate excessive traffic or noise. It is contained within a site and buildings that are residential in scale and design. The assisted living area is fully enclosed within the larger residential project that is specifically designed to integrate into the existing neighborhood.

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

A. Describe the general types of land uses and zoning designations adjoining your property: **zoning on all sides of the project area is residential, primarily SF6 and SF12. There are areas of Public Community (park) and Public Regional to the east.**

B. Explain why your project is similar to existing development in the neighborhood, and why it will not hurt property values or cause problems: **The proposed assisted living facility will be low impact. Traffic generation and noise will be below what would result from single family residential development. The project primarily functions as a residential-type use in that the residents live there full-time. The appearance of the site is therefore residential. Site intensity and building design are intentionally residential in character.**

C. Provide a statement explaining how your project will not be detrimental to the use, peaceful enjoyment or development of surrounding properties and the general neighborhood. **The assisted living facility is internal to the overall Vintage site. It is not adjacent to any existing development. It will therefore not have a noticeable impact on surrounding development. Adjacent housing lots are being designed in conjunction with the assisted living facility. When considering the project as a whole, residential density relies on existing zoning, lot sizes are designed to be compatible with the surrounding neighborhood, and outdoor amenities (including a public park) will enhance the area.**

D. Consider the pedestrian and vehicular traffic that currently exists on the road serving your project. What impact will your development have when it is successfully operating? Will vehicles be making left turns? Will additional walkways and traffic lights be needed? Will you be causing traffic to substantially increase in the area? What will be the emergency vehicle response time? State how you have arrived at your conclusions. What City department have you contacted in researching your proposal? Explain the effect of your project with the existing traffic in the area. **Street design for the overall project has been developed in coordination with Carson City staff, including Planning, Public Works, Transportation, and Engineering. Road connections are therefore based on the City's preferred build-out of the neighborhood. A traffic report has been completed as part of this review process. Any recommendations for proper traffic management that result from project review will be included in the final project design. The site is already served by City services, including emergency vehicles. It is therefore already part of planned response times. Emergency services provision does not present any unusual problems.**

E. Explain any short-range and long-range benefit to the people of Carson City that will occur if your project is approved. **The primary benefits from the project will be additional housing options for the area and an efficient use of infrastructure through infill development. By adding housing options, including the assisted living facility, existing residents will be able to remain in the area as they choose to downsize or as they require additional care.**

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

Question 3. Has sufficient consideration been exercised by the applicant in adapting the project to existing improvements in the vicinity?

In general, the project is entirely adapted to existing improvements in that it utilizes existing roadways and infrastructure. Service can be provided to the site without extending infrastructure into outlying areas. Building design is highly residential in character, both in scale, materials, and shape.

A. How will your project affect the school district? Will your project add to the student population or will it provide a service to the student population? How will your project affect the Sheriff's Office?

The project will generate a below-average impact on schools, due to the retirement-age demographic likely to occupy the site. Likewise, the project is not likely to generate significant impacts on the Sheriff's Dept.

B. If your project will result in the covering of land area with paving or a compacted surface, how will drainage be accommodated? **Project design has been developed through discussion with City Engineering staff. Drainage, and all other engineering issues, are being addressed by licensed civil engineers who are familiar with the specific needs of the area and site. The design includes drainage channels and detention areas for stormwater.**

C. Are the water supplies serving your project adequate to meet your needs without degrading supply and quality to others in the area? Is there adequate water pressure? Are the lines in need of replacement? Is your project served by a well? **The site is served by the public water system and there are no known service delivery problems in the area. The project team met with City staff, through the Conceptual PUD review process, and no service delivery problems were identified.**

D. Is there adequate capacity in the sewage disposal trunk line that you will connect to in order to serve your project, or is your site on a septic system? **The site will be connected to the area sewage system. Similar to water service, the project team met with City staff to discuss sewer needs. No obstacles to service were identified.**

E. What kind of road improvements are proposed or needed to accommodate your project? Have you spoken to Public Works or Regional Transportation regarding road improvements? **Required road improvements are addressed through the traffic report and through consultation with City staff. This project will complete the road network for the area and allow vehicle trips to disperse along existing collector streets. Access to arterials is good, including to North Carson Street. Any required road improvements will be included in the project final design.**

F. Indicate the source of the information that you are providing to support your conclusions and statements made in this packet. **The project team includes: licensed civil engineers; architects; traffic engineer; and land planners. Input has been provided by City staff including Planning, Public Works, Parks, and Engineering.**

VINTAGE at KINGS CANYON- PUD Tentative Map and Entitlement Report

G. If outdoor lighting is to be a part of the project, please indicate how it will be shielded from adjoining property and the type of lighting (wattage/height/placement) provided. **Lighting from the assisted living portion of the project is located internal to the Vintage project and will not be adjacent to existing houses. Overall, lighting will be the minimum required to provide site security. In no case will lights be allowed to shine directly onto adjoining property. Modern cut-off light fixtures will be utilized for all outdoor installations.**

H. Describe the proposed landscaping, including screening and arterial landscape areas (if required by the zoning code). Include a site plan with existing and proposed landscaping shown on the plan which complies with City ordinance requirements. **Decorative landscaping, outdoor recreation areas, and open space are all part of this project. Please refer to the site plan for a depiction of all landscape areas. Attractive outdoor spaces are an important element of overall site design and will help determine the success of the project.**

I. Provide a parking plan for your project. **Parking for the proposed uses will be contained on the site. Parking areas are detailed on the included site plan. For the residential lots, parking is designed consistent with residential standards for garages, driveways, and on-street parking.**

SINGLE FAMILY HOMES
ELEVATIONS AND FLOOR PLANS

PLANTATION
10,000+ SF LOTS

COUNTRYSIDE
8,400+ SF LOTS
(NO ELEVATION PROVIDED, SIMILAR TO PLANTATION)

MEADOWS
3,365 SF LOTS (ZERO LOT LINE)
(NO ELEVATION PROVIDED, SIMILAR TO GARDEN VILLA)

GARDEN VILLA
1,690 SF LOTS (ZERO LOT LINE)

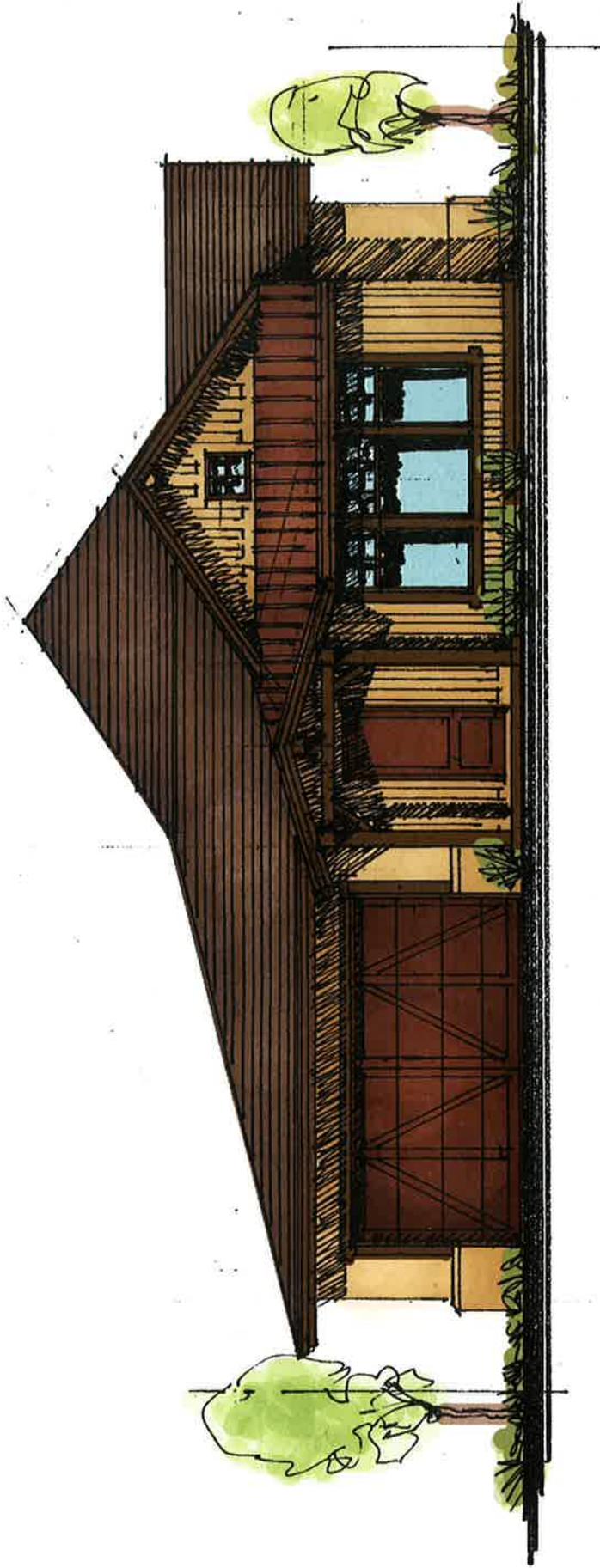
THE ESTATE
14,400+ SF LOTS
(OPTIONAL 2ND STORY SHOWN FOR INTERIOR LOTS 183-212 ONLY)

Dale Cox

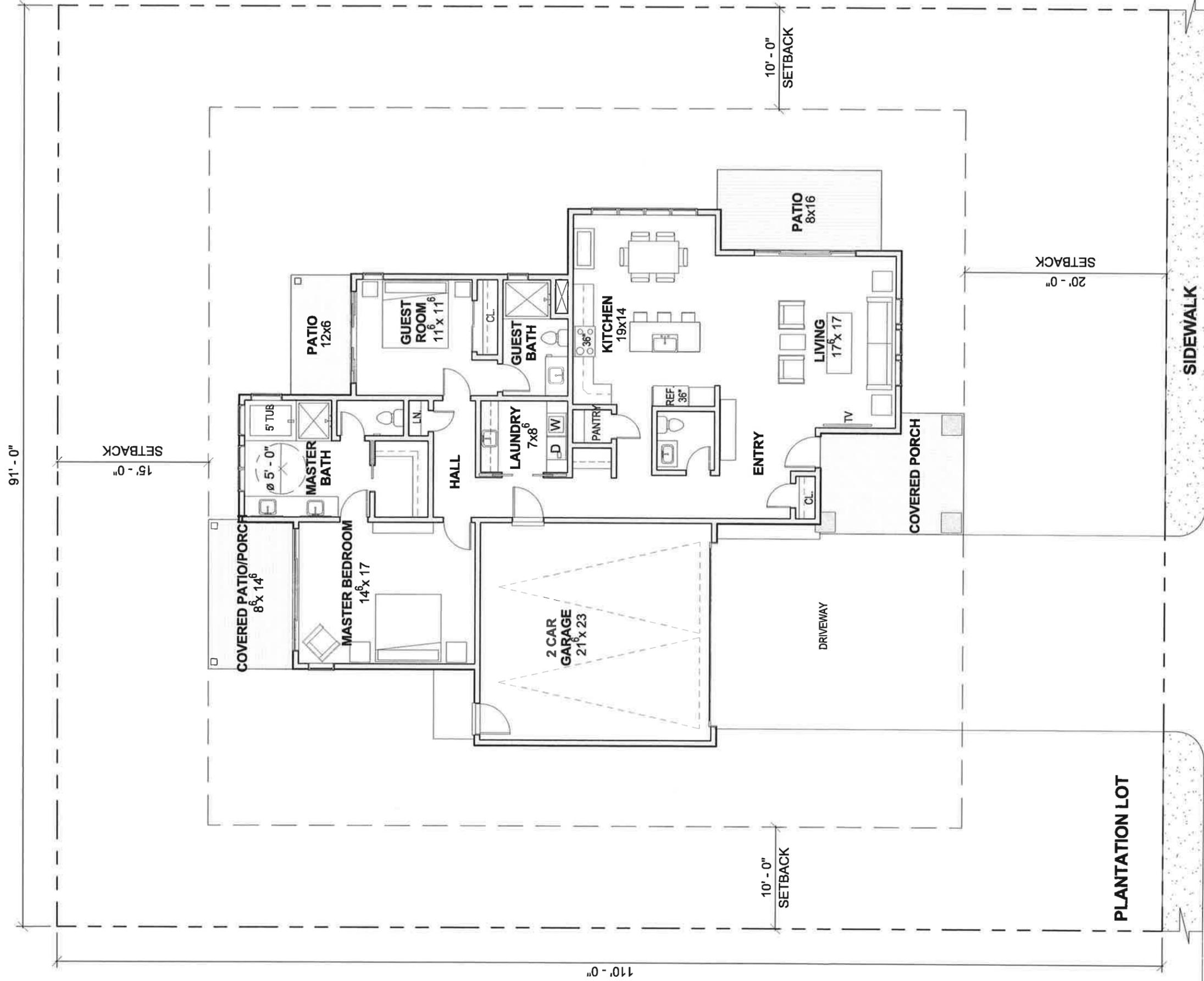
Architects

Architecture - Planning - Construction Management

8/18/16



PLANTATION ELEVATION



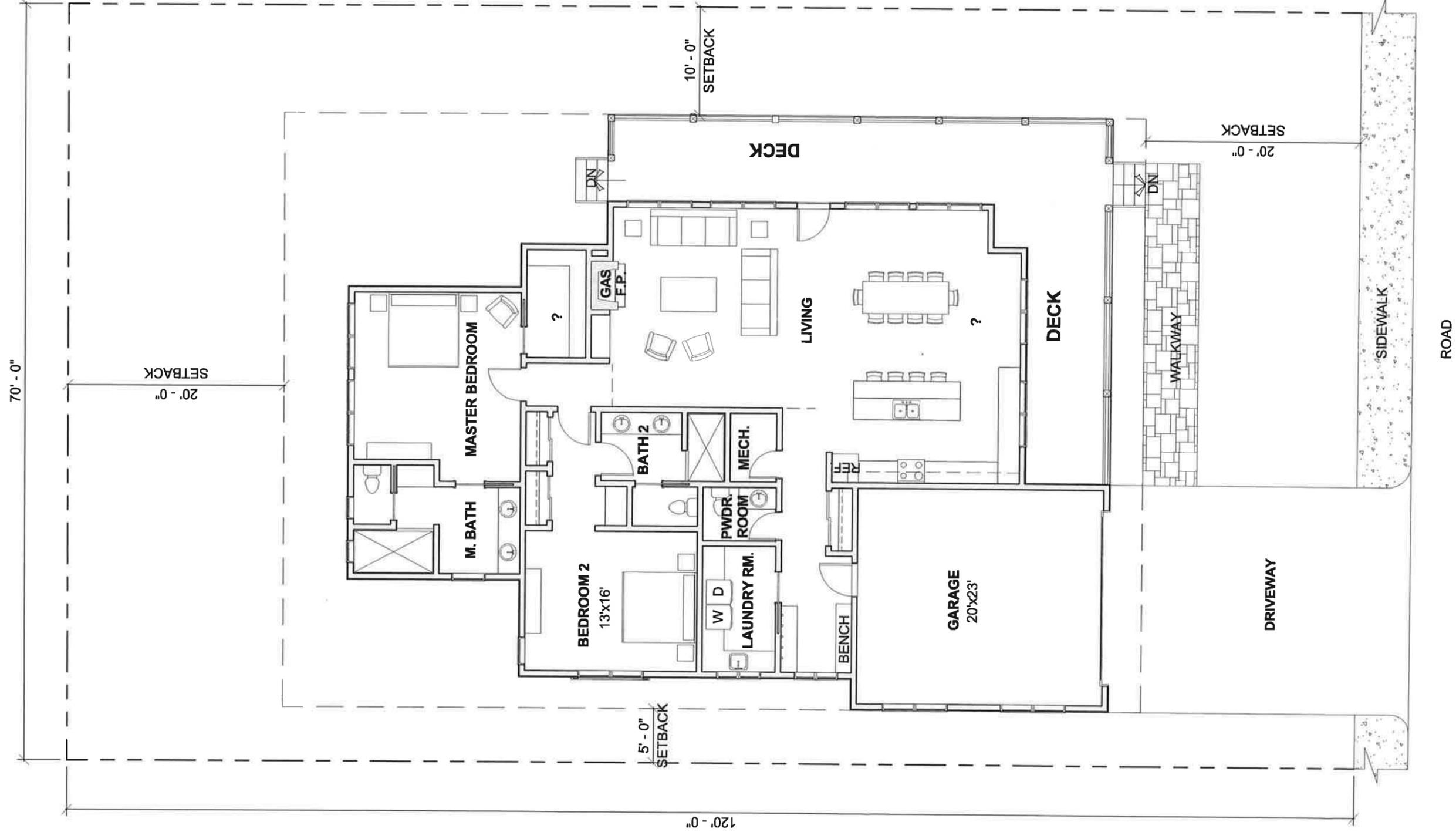
LOT SIZE:	10,010 S.F.	ROAD
RESIDENCE:	1,814 S.F.	
GARAGE:	521 S.F.	
OUTDOOR LIVING:	542 S.F.	
FRONT COVERED PORCH	165 S.F.	
REAR COVERED PATIO	175 S.F.	
SIDE PATIO	130 S.F.	
REAR PATIO	72 S.F.	

VINTAGE AT KINGS CANYON
PLANTATION FLOOR PLAN

SCALE 1" = 10'-0"
 PROJECT DATE 8/18/16

Dale Cox
 ARCHITECTS
 PO Box 459
 Truckee, CA 96160
 tel: (530) 550-9144
 fax: (530) 550-9455
 www.dalecoxarchitects.com

A1.1



LOT SIZE: 8,400 S.F.
 COVERAGE: 44.5%
 RESIDENCE: 2,687 S.F.
 GARAGE: 480 S.F.
 OUTDOOR LIVING: 600 S.F.

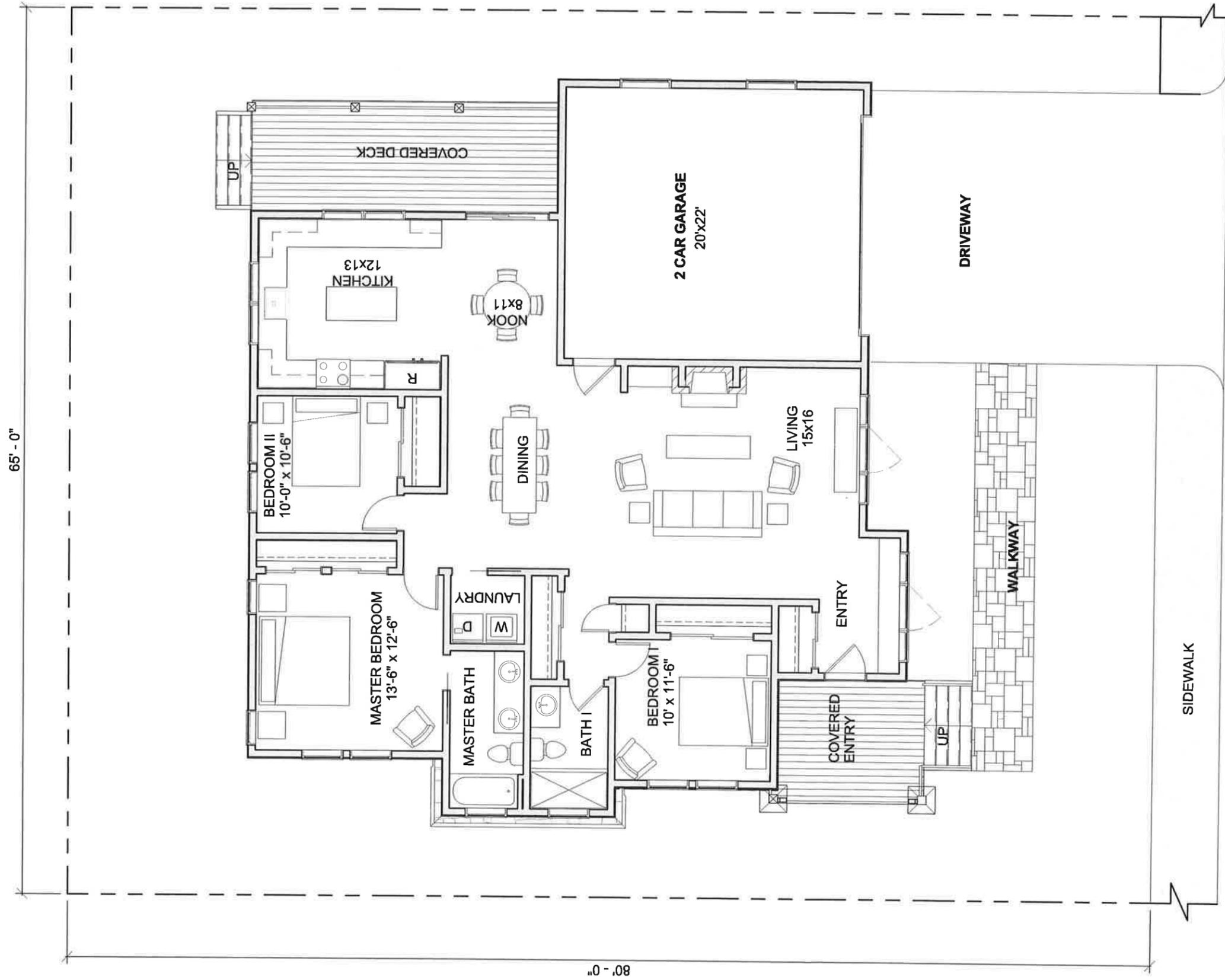
VINTAGE AT KINGS CANYON

COUNTRYSIDE

SCALE 1" = 10'-0"

PROJECT DATE 8/18/16

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 PO Box 459
 Truckee, CA 96160
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 www.dalecoxarchitects.com



65' - 0"

80' - 0"

LOT SIZE: 3,365 S.F. (zero lot line)
COVERAGE: 39.5%
RESIDENCE: 1,615 S.F.
GARAGE: 440 S.F.
OUTDOOR LIVING: 285 S.F.

VINTAGE AT KINGS CANYON
MEADOWS
 SCALE 1/8" = 1'-0"
 PROJECT DATE 8/18/16

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 Truckee, CA 96160
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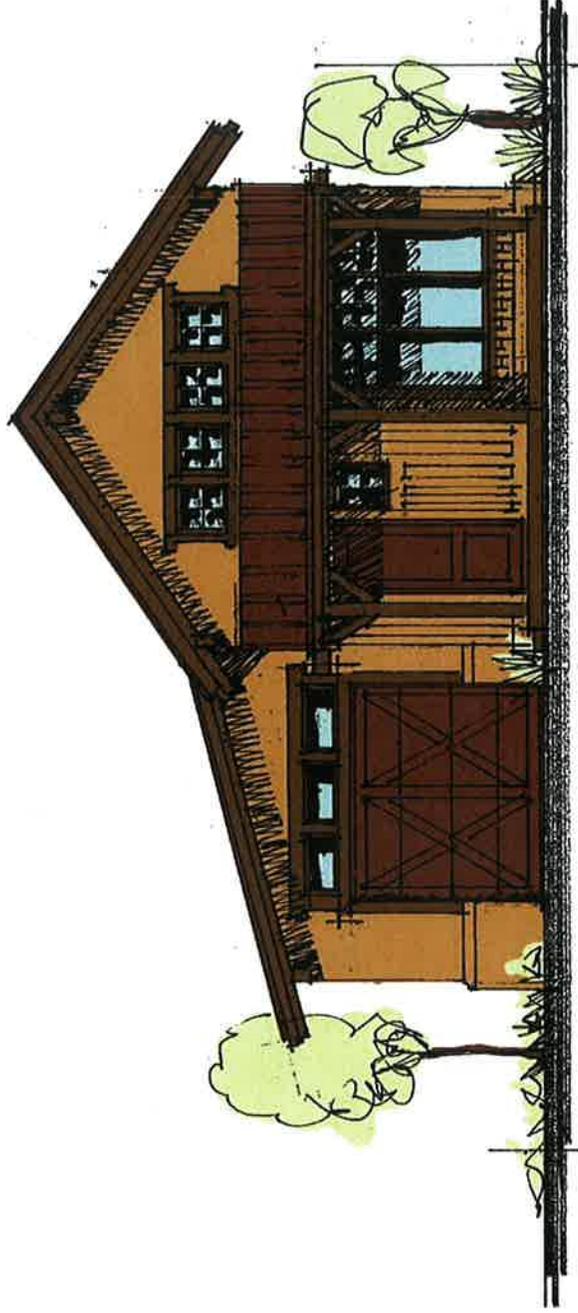
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Architecture - Planning - Construction Management

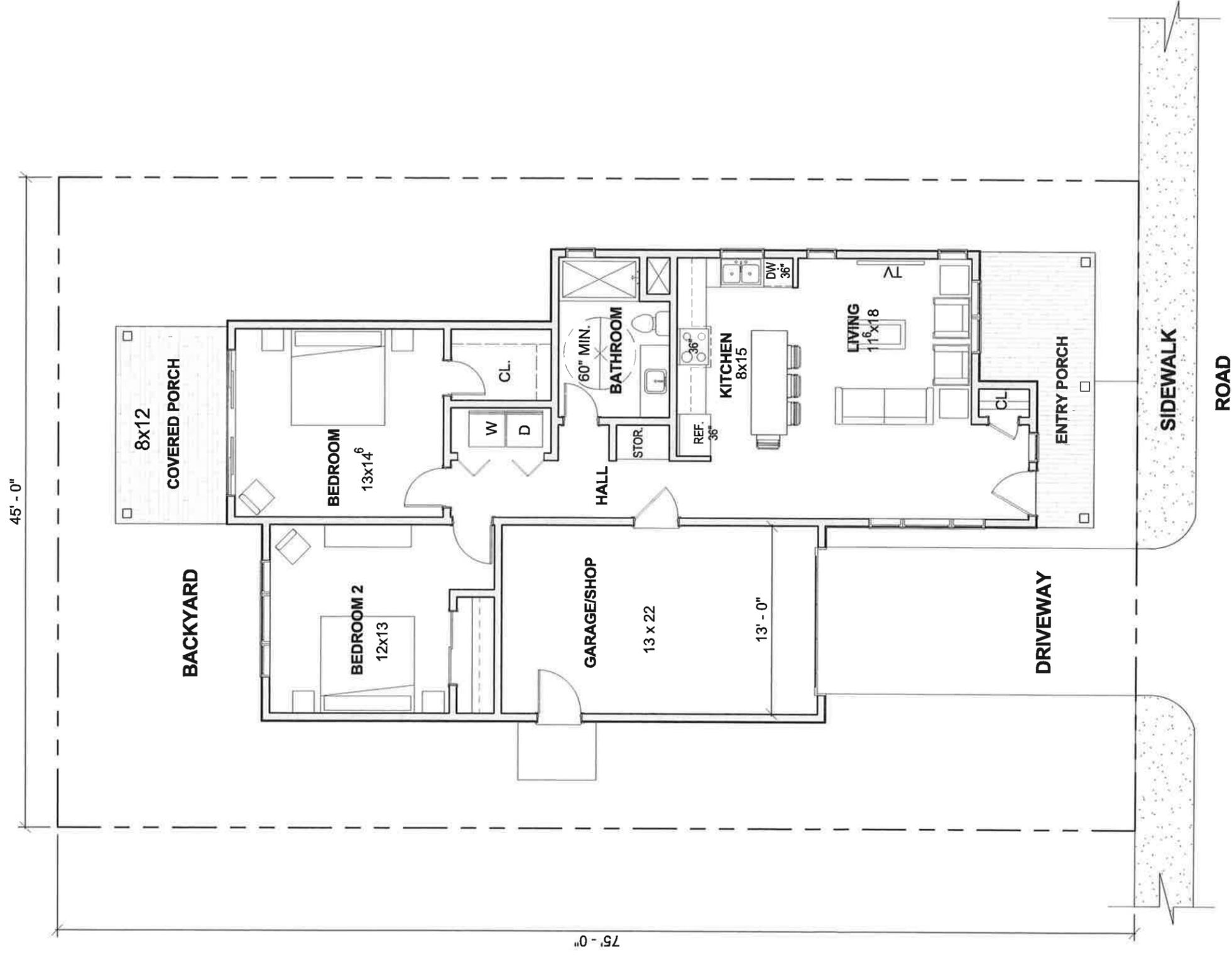
8/18/16



GARDEN VILLA ELEVATION

144 **VINTAGE AT KINGS CANYON**

SCALE 1/4" = 1'-0"



LOT SIZE: 1,690 S.F. (zero lot line)

RESIDENCE: 1,130 S.F.

GARAGE: 285 S.F.

OUTDOOR LIVING: 245 S.F.

ENTRY PORCH: 115 S.F.

REAR PATIO: 130 S.F.

VINTAGE AT KINGS CANYON

GARDEN VILLA

SCALE 1/8" = 1'-0"

PROJECT DATE 8/18/16

Dale Cox

ARCHITECTS

PO Box 459

Truckee, CA 96160

tel (530) 550-9144

fax (530) 550-9455

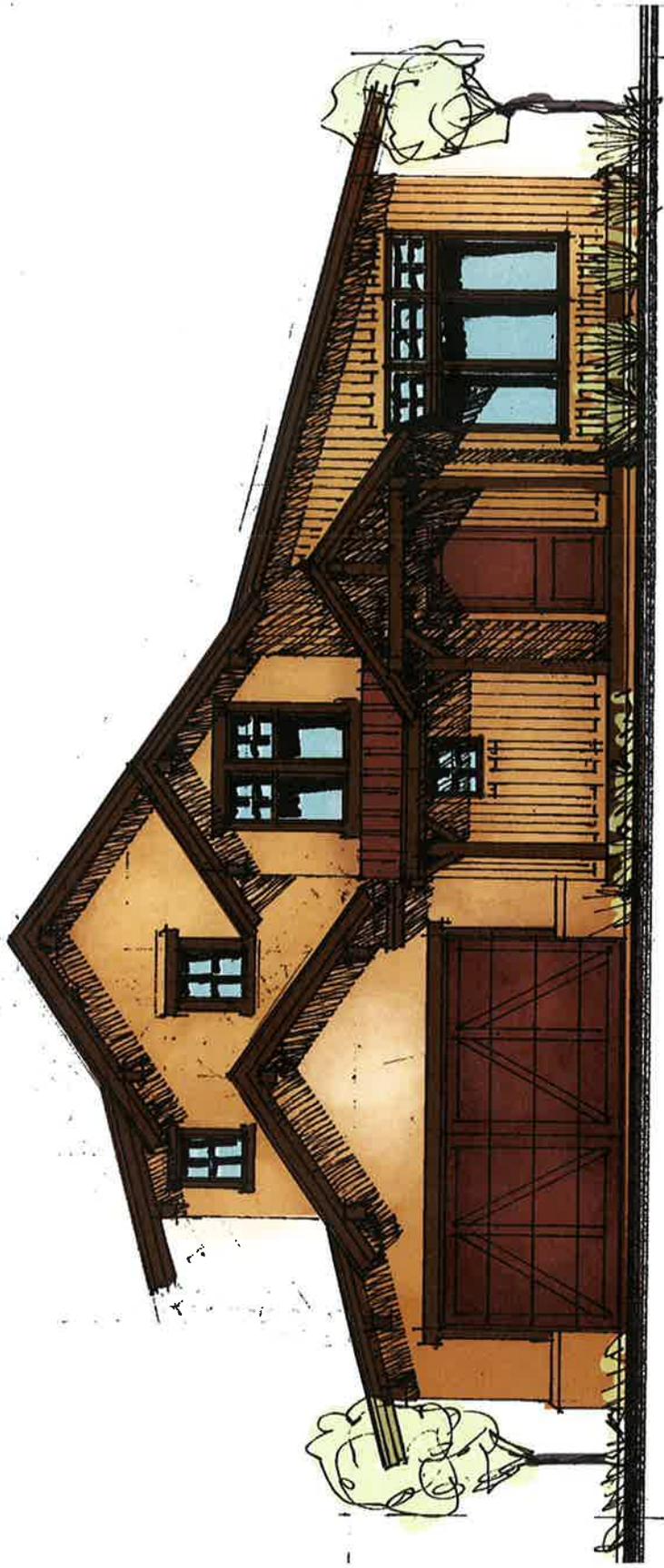
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Architects

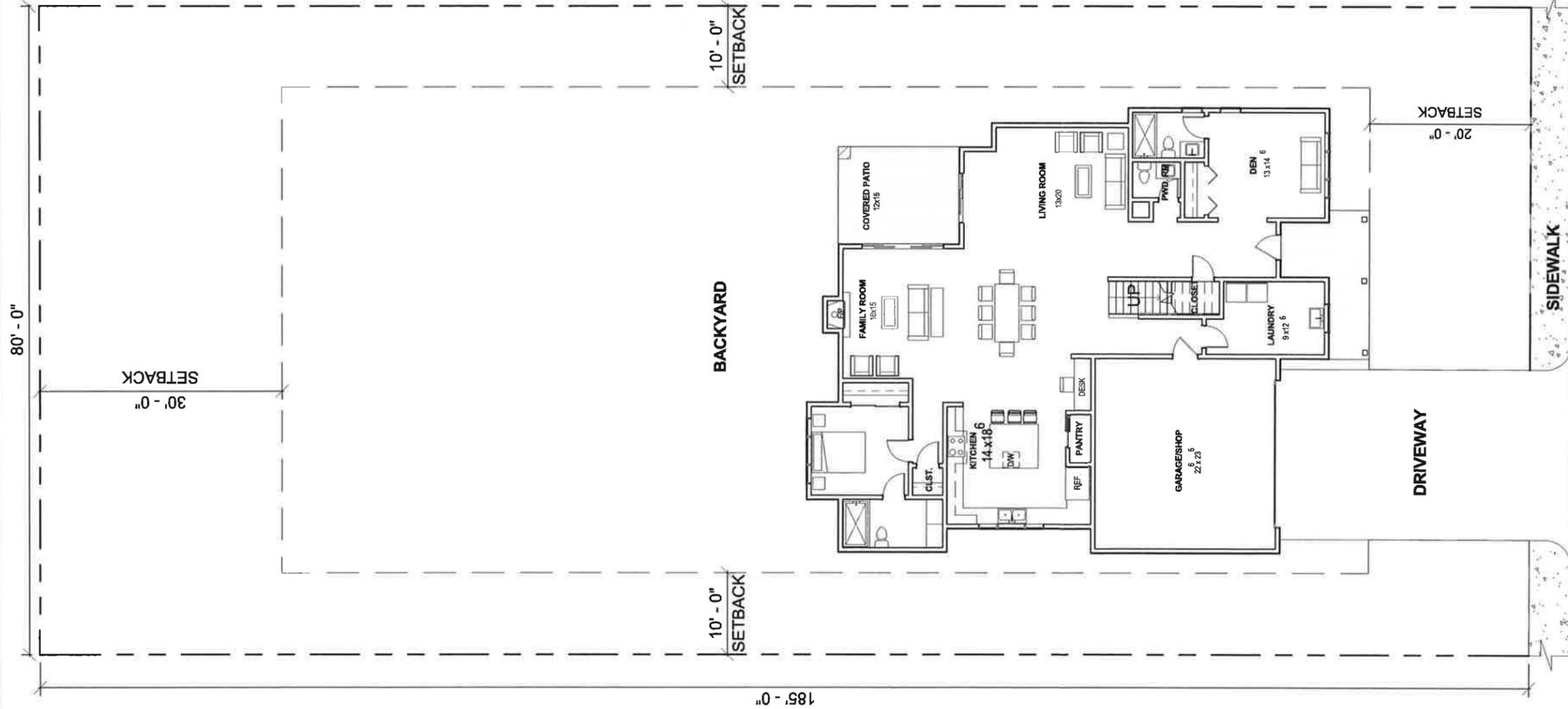
Architecture - Planning - Construction Management

8/18/16



ESTATE ELEVATION

*OPTION FOR INTERIOR LOTS ONLY (LOTS 183-212)

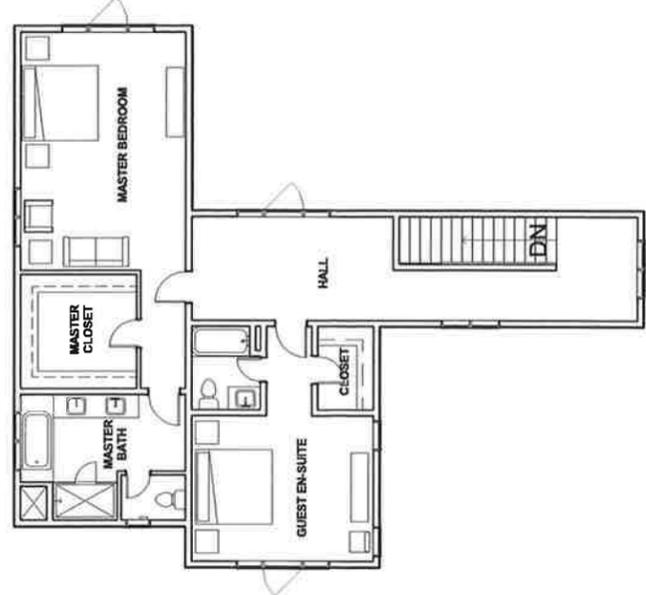


FIRST FLOOR

LOT SIZE: 14,400 S.F.
 COVERAGE: 42%
 RESIDENCE: 3,640 S.F.
 1ST FLOOR: 2,215 S.F.
 2ND FLOOR: 1,425 S.F.

GARAGE: 540 S.F.

OUTDOOR LIVING 310 S.F.
 FRONT PORCH 130 S.F.
 REAR PATIO 180 S.F.



SECOND FLOOR
 *OPTION FOR INTERIOR
 LOTS ONLY (183 - 212)

**VINTAGE AT KINGS CANYON
 THE ESTATE**

SCALE 1/16" = 1'-0"
 PROJECT DATE 8/18/16

Dale Cox
 ARCHITECTS
 PO Box 459
 Truckee, CA 96160
 tel (530) 550-9144
 fax (530) 550-9455
 www.dalecoxarchitects.com

A1.1

**ASSISTED LIVING/INDEPENDENT LIVING
ELEVATIONS AND FLOOR PLANS**



ASSITBO LIVING



ASSISTED LIVING FLOOR PLAN 18,085 S.F.
 3/32" = 1'-0"

FLOOR PLAN

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REVISIONS
PROGRESS SET
NOT FOR CONSTRUCTION
 07/18/16

VINTAGE ASSISTED LIVING

APN: 122-161-05
 DALE COX ARCHITECTS
 ARCHITECTURE - PLANNING - CONSTRUCTION MANAGEMENT
 Post Office Box 459 Truckee, CA 96160
 Phone: (530) 550-8144 Fax: (530) 550-8455

DRAWN BY: hmr
 DATE: 7/20/16
 SCALE: 3/32" = 1'-0"
 JOB # Project Number

SHEET
100.2



15 STUDIOS
 11 1 BEDROOMS
 6 2 BEDROOMS

INDEPENDENT LIVING FLOOR PLAN 21,020 S.F.
 3/32" = 1'-0"

FLOOR PLAN

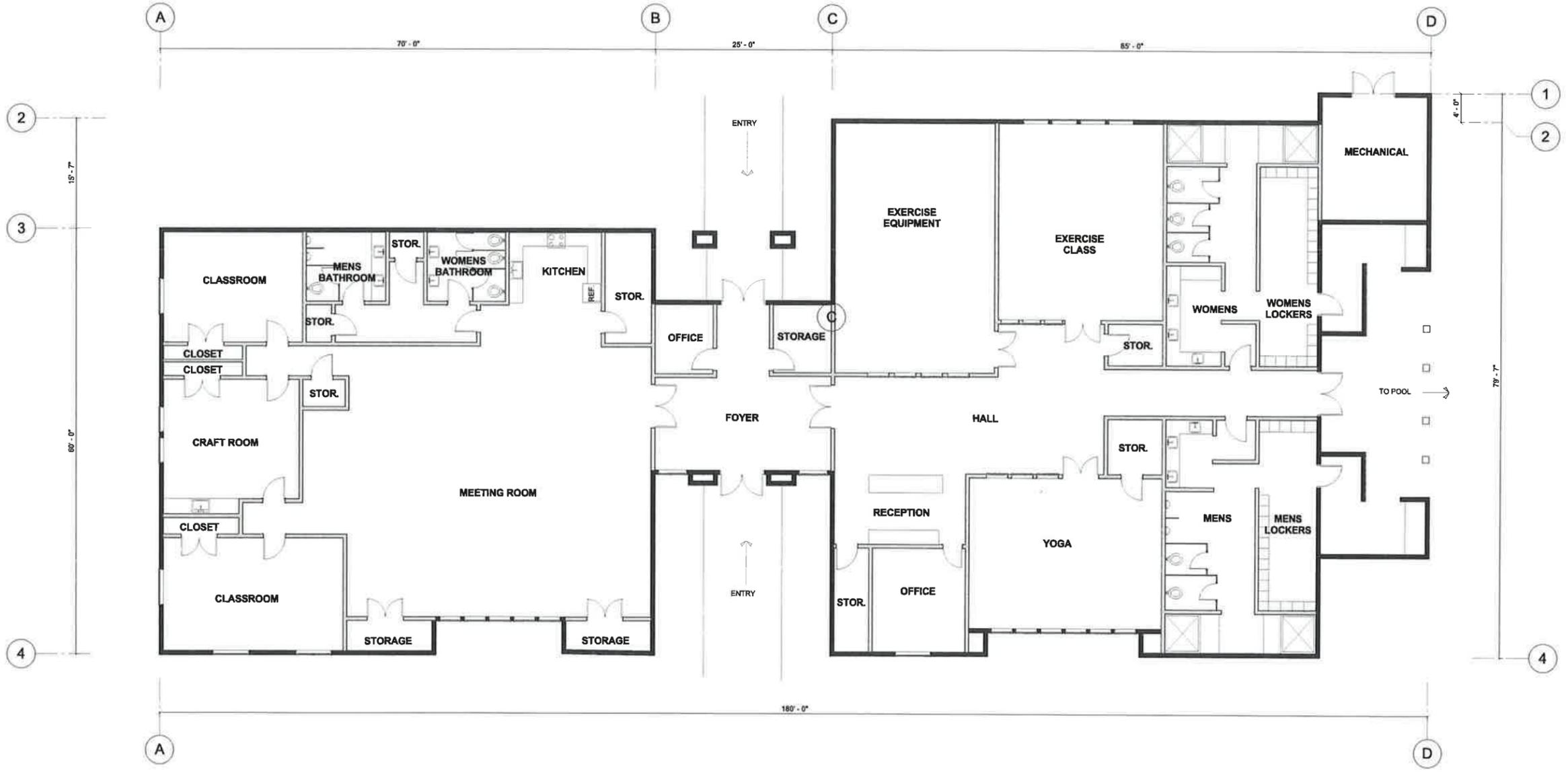
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 7/27/16

VINTAGE
 INDEPENDENT
 LIVING
 APN: 122-161-05
 DALE COX ARCHITECTS
 ARCHITECTURE - PLANNING - CONSTRUCTION MANAGEMENT
 Post Office Box 459 Tualuma, CA 95160
 Phone: (530) 550-8144 Fax: (530) 550-9455

DRAWN BY: hmr
 DATE: 7/27/16
 SCALE: 3/32" = 1'-0"
 JOB # Project Number
 SHEET
160.2

**CLUBHOUSE AND OFFICE
FLOORPLANS**



LOWER LEVEL
1/8" = 1'-0"

CLUBHOUSE

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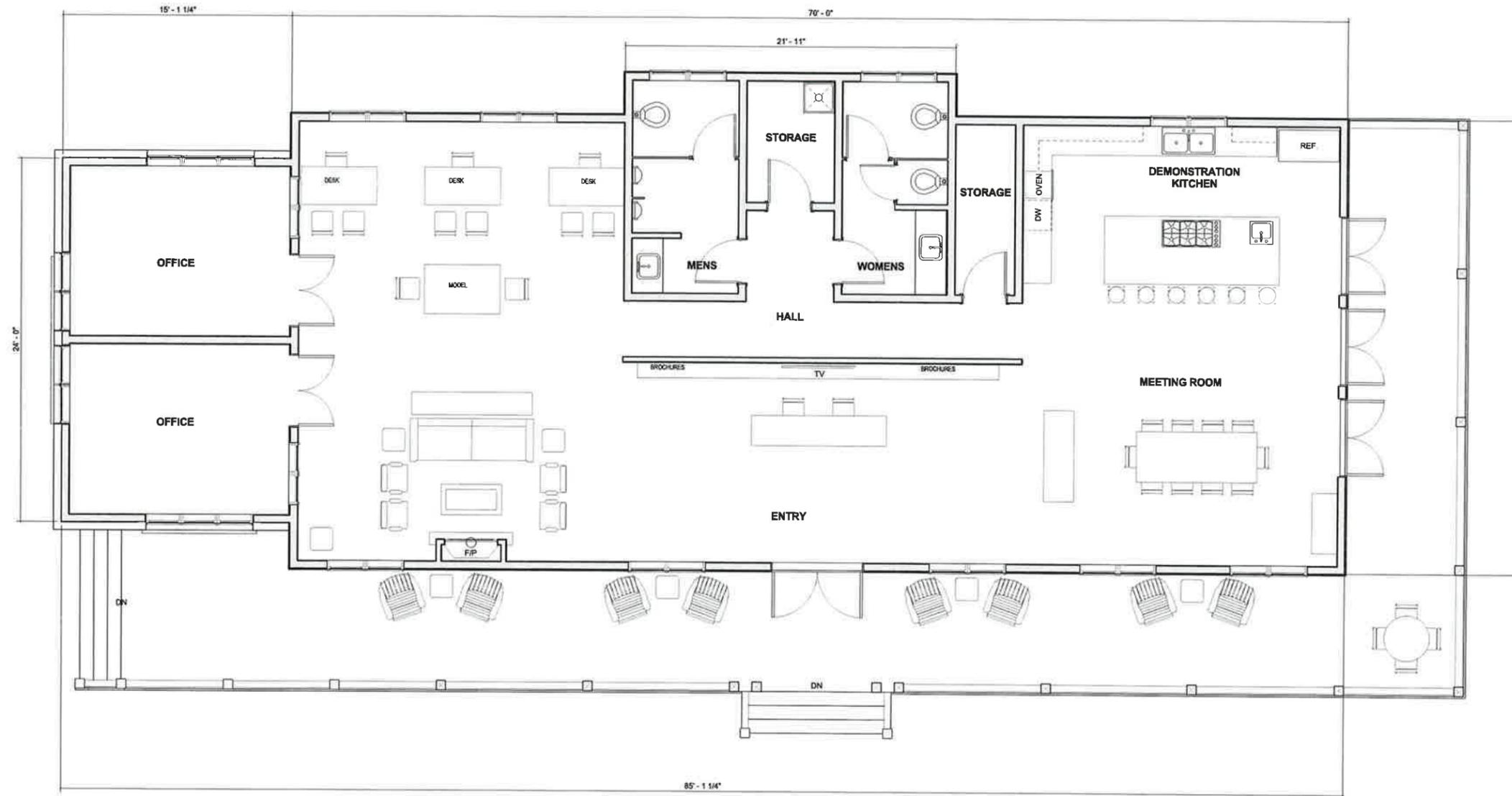
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07/20/16**

**VINTAGE AT KINGS
CANYON**

APN: 122-161-05

DALE COX ARCHITECTS
ARCHITECTURE - PLANNING - CONSTRUCTION MANAGEMENT
Post Office Box 459 Truckee, CA 96160
Phone: (530) 550-9144 Fax: (530) 550-9455

DRAWN BY:	HMR	1A0.2
DATE:	7/20/16	
SCALE:	1/8" = 1'-0"	
JOB #	Project Number	



FARMHOUSE/OFFICE FLOOR PLAN 2,433 S.F.

1/4" = 1'-0"

FLOOR PLAN

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**PROGRESS SET
NOT FOR CONSTRUCTION
07/21/16**

**VINTAGE
FARMHOUSE/OFFICE**

APN: 122-161-05

DALE COX ARCHITECTS
ARCHITECTURE - PLANNING - CONSTRUCTION MANAGEMENT
Post Office Box 450 Truckee, CA 96160
Phone: (530) 550-9144 Fax: (530) 550-9455

DRAWN BY: HMR
DATE: 7/21/16
SCALE: 1/4" = 1'-0"
JOB # Project Number

154 SHEET
1.0

Vintage at Kings Canyon

PUD Development Standards Handbook

Prepared for:

Vintage at Kings Canyon, LP

Prepared by:

Rubicon Design Group, LLC

100 California Avenue, Suite 202

Reno, Nevada 89509

(775) 425-4800

August 18, 2016

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1. Introduction

1.1 Location

Vintage at Kings Canyon includes 78.21± acres (APN #'s 007-573-06, 07, 08 and a portion of 009-01-202). This includes 48.21± acres located west of Mountain Street and east of Ormsby Boulevard along with 30± acres west of Ormsby Road at the current terminus of West Washington Street. Figure 1 (below) depicts the project location.



Figure 1 – Vintage at Kings Canyon Planned Unit Development Area

1.2 Purpose

The purpose of this Development Handbook is to provide for the orderly development of the Vintage at Kings Canyon Planned Unit Development (PUD) project, while also assuring that quality architecture, design, engineering, and community standards are achieved. Since implementation of public and private improvements will occur in multiple phases, over several years, the standards and guidelines contained herein establish a common framework to guide individual improvement plans. The development of the property is controlled and restricted by these development requirements as well as by all applicable government codes and regulations. This Development Handbook is not intended to limit creativity or prevent variation necessary to respond to unique site conditions, but rather to generate consistency and quality throughout the PUD.

1.3 Vision

The Vintage at Kings Canyon PUD is intended to provide for a sustainable community that includes a range of residential land uses that complement not only each other but those that currently exist outside of the PUD boundaries. The vision is to create an attractive community that promotes a variety of housing types while also integrating into the surrounding area. A consistent design theme will be included throughout the project area ensuring quality architecture, landscape treatments, and project entry areas.

Complementing the new residential uses will be park space and linear open space along the property borders that provides non-vehicular connectivity to the various internal and regional components of the area.

1.3.1 Land Use Pattern

The residential mix within Vintage at Kings Canyon provides for varying levels of compatible densities, allowing a mix of housing types and amenities. This mix allows for active adult living, transitioning to smaller lots that require less maintenance, etc. The plan also provides for assisted and independent living options that will allow residents greater care without the need to leave their neighborhood and friends. This design will evoke a sense of community and supports walkability to project amenities and nearby destinations. The project includes larger lots at the perimeter of the project, in order to more closely match existing development, while smaller lots are centered within the project. More dense uses such as assisted and independent living units are clustered internal to the site to ensure proper relationships to existing neighborhoods that adjoin Vintage at Kings Canyon.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

1.3.2 Sense of Place and Community

Creating a sense of place is one of the key components in creating a vibrant and balanced community. A sense of place is fostered within Vintage at Kings Canyon by creating human-scale environments in which the individual can feel both comfortable and safe. This includes provisions for open space and walking paths, a community recreation center with swimming pool, common design themes, and residential densities that complement each other. Furthermore, the Vintage at Kings Canyon PUD promotes and provides for connectivity between various neighborhoods and uses that are integrated through the standards included within this handbook.



1.3.3 Diverse Housing Mix

The Vintage at Kings Canyon PUD provides for neighborhood diversity by allowing for a mix of residential densities and product types to support a wide range of resident interests and needs. This diversity in densities and housing types serves to break up the monotony of traditional residential development by reinforcing the dynamics of character and identity within the neighborhood. The housing mix provides for a comprehensive active adult community and includes large, medium, and small lot single family residential; assisted living facility; and an extended care facility.



VINTAGE at KINGS CANYON- PUD Development Standards Handbook

1.3.4 Implementation

This handbook will be used by the Carson City Community Development Department as a guide for reviewing specific developments within the boundaries of the Vintage at Kings Canyon PUD.

1.4 Allowed Uses

Allowed uses within the Vintage at Kings Canyon PUD shall be determined based on the underlying zoning categories (per Carson City Municipal Code Title 18). However, additional restrictions are applied to ensure compatibility with the surrounding area. Zoning within Vintage at Kings Canyon is primarily residential, with one small area of Neighborhood Business (NB) zone to accommodate the assisted and independent living facilities.

Allowed uses shall be strictly limited by the terms of this handbook. Important overall zoning elements of the project include:

- for residentially zoned areas, allowed uses and density are based on the underlying plan included with this handbook. Ancillary uses and structures (i.e. home based businesses, garden sheds, etc.) shall be subject to Title 18 standards.
- for the 5.6± acre Neighborhood Business (NB) zone, allowed uses are highly limited and more restrictive than what is included in the Carson City Municipal Code. Allowed uses and restrictions are included in Table 1.4.1 on the following page.
- uses in the NB zone shall serve only residents (and their invited guests) of Vintage at Kings Canyon only. Members of the public shall not be allowed to access these services.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

1.4.1 Use Table

Allowed Uses within Vintage at Kings Canyon

Zone	Permitted Uses	Notes
SF12		
	Single Family Residential ¹	Refer to zoning code for allowed ancillary uses in single family zones
SF-6		
	Single Family Residential ¹	Refer to zoning code for allowed ancillary uses in single family zones
	Sales Center	Hours of operation shall be between 9:00 am and 6:00 pm
NB		
	Congregate Care	All buildings shall not exceed one-story. Subject to review and approval of a Special Use Permit.
	Assisted Living Center	All buildings shall not exceed one-story. Subject to review and approval of a Special Use Permit.
	Independent Living Center	All buildings shall not exceed one-story. Subject to review and approval of a Special Use Permit.
	Personal Service including art galleries, libraries, café's, resident food service, salons, barber shops, dry cleaners, lounges, and similar	Limited to use by residents and guests only. Commercial uses open to general public are prohibited.
	Gym/Fitness Center	Limited to use by residents and guests only. Commercial uses open to general public are prohibited.
	Medical Office	Ancillary to assisted/independent living and congregate care only.
	General Office	Limited to Vintage at Kings Canyon Administrative Offices only
	Sales Center	Hours of operation shall be between 9:00 am and 6:00 pm

¹ – Housing shall be restricted to ages 55 and over.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

1.4.1 General Standards

- a) The Vintage at Kings Canyon PUD is envisioned to include a mix of residential uses on lots ranging between roughly 1,600 square feet and 14,000 square feet.
- b) Assisted and independent living facilities are allowed within Vintage at Kings Canyon, as depicted on the site plan included in this handbook and subject to the intensity and building mass described herein.
- c) Personal services and retail-type operations shall be for the exclusive use of Vintage residents and their guests. Public access to these services shall not be provided.
- d) Uses within Vintage at Kings Canyon shall conform to the underlying zoning district(s) assigned to the individual parcels as outlined in Title 18 of the Carson City Municipal Code.
- e) Supplemental review required for specific uses within zoning categories such as Special Use Permits shall remain in effect per the Carson City Municipal Code. Specifically, the assisted and independent living facility is subject to SUP review and approval.
- f) This Specific Plan shall not grant any special privileges or waivers in terms of public review or entitlements otherwise required under the Carson City Municipal code in terms of allowed uses or supplemental review.

1.4.2 Project Layout

As noted, vintage at Kings Canyon contains a mix of housing types. In order to provide maximum definition to the eventual development, this mix of types shall be required to conform to the following layout guidelines and regulations:

- a) Single family residential lots shall be as described on the included site plan. This applies to total lot count, average lot size, and general street layout.
- b) Land uses for the NB-zoned area shall be determined by Section 1.4.1 of this document. The NB zone shall be the only area of this project in which commercial type development is allowed.
- c) Assisted living, independent living, congregate care and memory care facilities shall be the primary development within the NB zone. Personal services and boutique retail, related to the medical facilities, are allowed in this area, subject to the limitations contained in Section 1.4.1 above.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

d) Personal services and retail uses shall be restricted to more than 25% of total building area.

Figure 2 (below) serves as the site plan that forms the basis of the standards detailed in this chapter and contained herein.

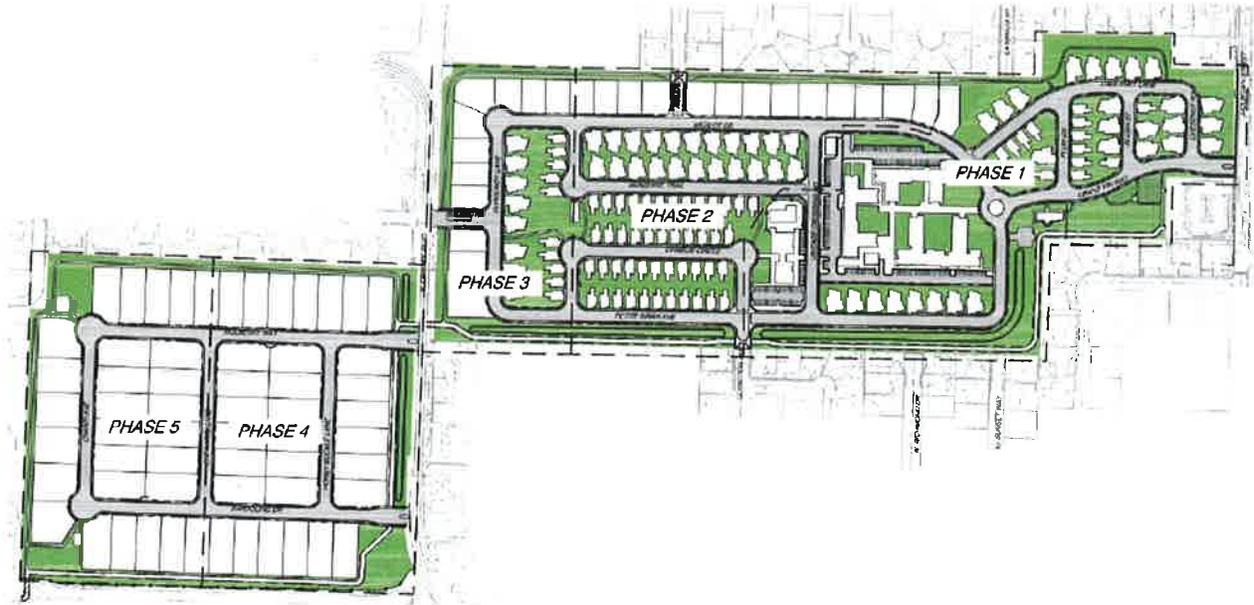


Figure 2 – Site Plan

1.5 Plan Maintenance and Interpretation

1.5.1 Standards Not Addressed

In the instance that a specific development standard is not specifically called out or modified within the context of this handbook, the provisions of the Carson City Municipal Code Title 18 for the underlying zoning district shall be applied.

1.5.2 Minor Deviations

The Carson City Community Development Director shall have the authority to grant minor deviations to the standards contained herein. Any deviation in excess of 10% shall require either a Variance or amendment to the PUD, including the applicable full public review process.

1.5.3 Subsequent Actions

This PUD shall not prevent Carson City, in subsequent actions applicable to the property, from adopting new ordinances, resolutions, or regulations that conflict with those in effect at the time of adoption of this PUD, except that any subsequent action by Carson City shall not prevent the development of the property and uses as set forth in this PUD.

1.5.4 State and Federal Restrictions

In the event that State or Federal laws or regulations enacted after the adoption of the PUD prevent or preclude compliance with one or more of the provisions of the Plan, such provisions shall be modified or suspended as necessary to comply with State and Federal law. Any such action shall be taken by the Carson City Board of Supervisors at a legally noticed public hearing.

1.5.5 Plan Amendments

It may be necessary to amend this PUD from time to time. This includes the need for clarification of specific standards or uses, and the incorporation of new environmentally sound technologies.

Amendment of this Plan shall be made by means of a zoning map amendment process, subject to review and approval by the Carson City Planning Commission and Board of Supervisors.

1.5.6 Financing

Project financing shall be the responsibility of owner/developer. All necessary infrastructure to serve the site shall be constructed at the expense of owner/developer and dedicated to Carson City as appropriate.

Any agreement between owner/developer or a future tenant/user and Carson City for alternative financing of infrastructure shall be allowed if agreeable to all parties, which agreement shall not be unreasonably withheld.

The owner/developer is required to pay all applicable development impact fees as mandated by Carson City and Nevada Revised Statutes.

1.5.7 Concurrency

Infrastructure upgrades are intended to occur in conjunction with land development. The master developer is therefore prepared to address Carson City's requirements for infrastructure upgrades as part of the application and building process. Due to the inherently complicated timelines, and frequently unpredictable nature of land planning and construction, it should be recognized that flexibility in establishing completion dates for infrastructure upgrades is warranted and should be addressed on a case-by-case basis as property is developed.

1.5.8 Phasing

Phasing of the Vintage at Kings Canyon shall be per the phasing plan adopted with the first tentative map. A maximum of 6 phases shall be permitted to complete the project.

2 Design Standards and Guidelines

The site planning standards and guidelines address general provisions of site development which include building orientation, grading and drainage, parking areas, landscape, lighting, signs, walls and fences, and service areas. Site planning controls the proper placement of buildings and internal roads that service and access the various land uses in the community. It addresses the linkages and land use relationships at a human-scale, in order to create a stimulating and visually pleasant community. The goal is to promote pedestrian activity and safety, create visual compatibility with surrounding neighborhoods and minimize negative impacts on the natural environment.

2.1 Assisted/Independent Living Development

2.1.1 Assisted/Independent Living Area Planning Standards

- a) Building placement and orientation shall be designed to create visual interest along street frontages and within publicly visible areas. Multiple buildings in a single project shall demonstrate a positive functional relationship to one another.
- b) Plazas, courtyards and pedestrian areas shall also be an important element in the design of assisted living buildings. A visual link should be established between buildings through the use of architectural features, landscaping, etc.
- c) Buildings shall be oriented so that public access or windows face adjoining streets.
- d) Plazas or common areas shall be located near building entrances or areas of high pedestrian traffic to ensure their use.
- e) To the extent possible, areas between buildings shall be utilized for plazas, outdoor seating, or landscape features in order to eliminate “dead zones” of underutilized space.

2.1.2 Assisted/Independent Living Area Grading and Drainage

- a) Design of the assisted living facilities shall be sensitive to the natural terrain, and structures should be located to minimize necessary grading and preserve natural site features such as drainageways, wetlands, etc. Grading should blend with the natural topography of the site.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

- b) Grading shall be designed to complement the architectural and landscape design character of the surrounding area. Grading techniques can be used to screen parking and service areas, reduce the perception of height and mass on larger buildings, and provide reasonable transitions between uses.
- c) Graded slopes should properly transition to existing natural terrain at project borders.
- d) Man-made slopes shall not exceed an average of 3:1 slope and turf areas shall not exceed an average 4:1 slope.
- e) Areas disturbed by grading activities shall be revegetated prior to the issuance of a certificate of occupancy. If climatic conditions or other circumstances prevent planting at the time of occupancy, a bond shall be provided for landscaping during the subsequent growing season. Drought tolerant plant species shall be utilized to help minimize erosion.
- f) New development must include a final hydrology report to be reviewed and approved by the Carson City Engineering Department prior to the issuance of a building permit.
- g) An erosion control plan shall be included with each grading permit.

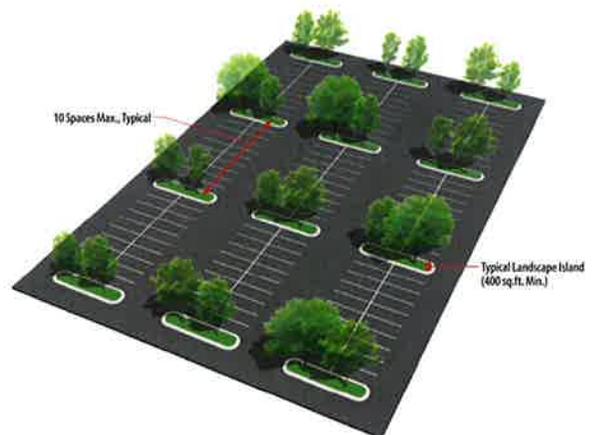
2.1.3 Assisted/Independent Living Area Parking Lots

- a) A minimum of 10 feet of landscaping shall be provided between parking lots and public streets.

b) A minimum 400 square foot interior planter shall be provided at the end of parking aisles (refer to example to the right). Planters shall include a minimum of one deciduous tree (min. 1" caliper) – see example to right.

c) Landscape islands (minimum 8' width) shall be provided for every 10 spaces in large parking fields and shall include a minimum of one tree (1 inch caliper minimum). See example to right.

d) Pedestrian connections between parking lots and buildings shall be provided along with connections to sidewalks along adjoining public streets.



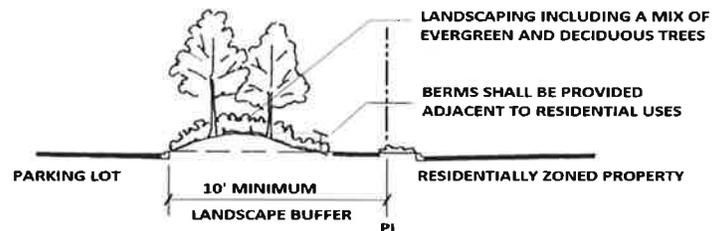
VINTAGE at KINGS CANYON- PUD Development Standards Handbook

- e) Parking areas shall be screened from adjoining residential areas through the use of landscaping and berming. This buffer shall be a minimum of 10 feet in width (see example below).
- f) A maintenance schedule shall be maintained for parking lots that includes regular sweeping and a snow removal/storage plan for winter weather events.
- g) Parking lot sweeping shall be limited to the hours between 8:00 am and 9:00 pm.
- h) Parking lot design, including space dimensions, aisle widths, etc. shall comply with the provisions of the Carson City Municipal Code.

2.1.4 Assisted/Independent Living Area Landscaping

- a) Landscaping, including plant materials and themes shall be consistent throughout the PUD.
- b) Landscaping standards contained in the Carson City Municipal Code shall apply within the PUD. Where a conflict exists between these design standards and the Municipal Code, the stricter of the standards shall apply.
- c) Areas not utilized for parking, buildings, plazas, or access/circulation shall be landscaped to the back of curb.

d) Drought tolerant plantings shall be used in conjunction with low water demand principles and techniques.



- e) All landscaped areas shall be irrigated with permanent automatic irrigation systems. All irrigation systems shall be placed underground.
- f) Landscape maintenance shall be the responsibility of the Vintage at Kings Canyon Homeowners Association or an established landscape maintenance association.

2.1.5 Assisted Living Area Lighting

- a) Adequate lighting shall be provided to ensure a safe pedestrian environment.
- b) Parking lot lighting adjacent to residential areas shall be limited to 12 feet in height and shall incorporate shielded fixtures that prevent spill-over to adjoining parcels.
- c) The use of bollard lighting is encouraged in pedestrian areas. See example to right.
- d) Exterior lighting shall be used for purposes of illumination and safety only, and shall not be designed for, or used as, an advertising display.



2.1.6 Assisted/Independent Living Area Signs

A limited use of signs may be included as part of the assisted/independent living facilities. Signs are intended to be utilized only where necessary, and in an understated manner, emphasizing an image of permanence and quality. Careful use of forms, styles, materials, and colors will establish continuity throughout the community.

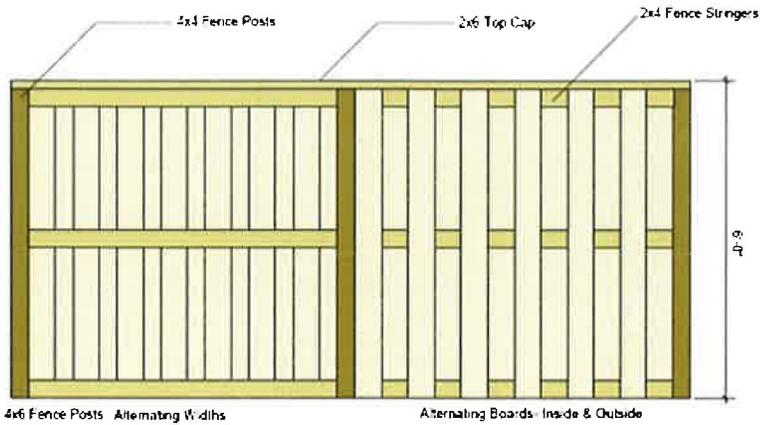
- a) Signs shall be included on facades or entry canopies of buildings and illuminated or backlit with indirect lighting. All signs shall be integrated into the architectural design of the building entry. Signs shall be proportional to the building architecture.
- b) Flashing or animated signs are prohibited.
- c) Building signs that project more than 4 inches beyond the wall façade are prohibited, unless incorporated as an architectural element.
- d) No signs shall face residential areas located outside of the Vintage at Kings Canyon PUD area.

2.1.7 Assisted/Independent Living Area Fencing

- a) Walls and fences shall be utilized to provide a buffer between uses. Walls shall be appropriately integrated into each project.

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b) Solid fencing (6 foot minimum) may be installed between assisted living areas and adjoining residential uses. This can include wood or vinyl fencing, concrete block walls, pre-cast wall systems, or similar. See examples below.



c) Chain link fencing shall be prohibited.

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2.1.8 Assisted/Independent Living Area Trash and Utility Areas

a) Service, maintenance and storage areas shall be screened from adjacent public right-of-ways, pedestrian plazas or adjacent residential uses with landscaped berms, walls or plantings.

b) All trash and garbage bins shall be stored in an enclosure that includes solid screening, to the approval of the Carson City Community Development Department.

c) Trash enclosures shall incorporate building materials, colors, etc. that are complementary to the overall project architecture. Gates shall be constructed of durable building materials that screens at a minimum 80% of the view into the trash enclosure. Wood or chain link gates are not allowed (see examples below).



d) Trash enclosures must include provisions for concrete pads or appropriately designed asphalt sections in front of the enclosure. The area in front of the trash enclosure shall be a minimum of six (6) feet to reduce pavement damage from disposal trucks.

2.1.9 Assisted/Independent Living Setbacks

Setbacks for assisted/independent living uses shall conform to the requirements outlined in the Carson City Municipal Code within the NB zoning district.

2.2 Single Family Residential Areas

2.2.1 Neighborhood Diversity

Single family areas within the Vintage at Kings Canyon PUD will include varied densities and housing types in order to create separate neighborhoods within the project. This can be accomplished through the use of varied housing types, distinct architectural styles and elements, etc.

- a) Densities within single family areas shall be as generally depicted on the site plan.
- b) Neighborhood density shall properly relate to adjoining developed areas and provide for transition between neighborhood types. Proper transitions can include feathering of density/lot size, landscape buffers, or walls/fences that serve to identify community boundaries.
- d) Varied densities are included throughout the PUD boundary to allow varied product types.
- e) It is the intent of the PUD to provide a number of distinctly different neighborhood types rather than a single “large neighborhood” with a single product type.

2.2.2 Single Family Neighborhood Design

Neighborhoods within the PUD will promote quality development that is complementary to the existing built environment, while establishing its own sense of identity through uniform and innovative design standards. A variety of single family detached, as well as single family attached products are anticipated within the PUD boundary.

- a) To the extent possible, “forward” architecture shall be used in the design of homes. This is accomplished by placing entries, windows, front porches, and living areas towards the street on most plan variations.
- b) when possible, plans should be reversed and plotted so that garages and entries are adjacent to each other. This creates an undulating sense of setback. Occasionally this pattern should be broken so that it will not become overly repetitious or reflected by the massing across the street.
- c) The garage shall not be the dominant feature of the building facade facing the street and should be offset through architectural detailing for garage forward elevations.

- d) So as not to contribute to a repetitious and monotonous appearance along the street, the use of varying building setbacks from the street right-of-way is encouraged.
- e) Neighborhoods shall provide connections into the community trail system.
- f) Zero lot line side setbacks shall be allowed on C and D lots as identified on the site plan.
- g) In order to avoid a “walled-in” feel, homes backing to parks, open space, or drainage corridors shall include open rear fencing. This includes the use of split rail or iron fencing.
- h) Except for zero lot line areas, setbacks for single family residential areas shall comply with the underlying zoning district for which the subdivision is located. In order to provide for visual interest within the streetscape, front setbacks may be reduced up to 5 feet in order to achieve a non-monotonous/repetitive streetscape pattern.

2.2.3 Single Family Grading

- a) The design of residential neighborhoods shall be sensitive to the natural terrain, and structures shall be located in such a manner so as to minimize necessary grading and preserve natural site features and drainage ways. Any grading of the site terrain shall blend with the natural topography of the site.
- c) Graded slopes shall be rounded resulting in smooth, harmonious transitions between the man-made terrain and the natural terrain.
- d) All graded slopes shall be revegetated prior to building occupancy. If climatic conditions or other circumstances prevent planting at the time of occupancy a bond shall be provided for landscaping during the subsequent growing season or other arrangements made for revegetation, subject to the approval of the administrator. Drought tolerant plant species shall be utilized to help minimize erosion.

2.2.4 Single Family Landscaping

a) Front yard landscaping shall be installed by the builder prior to the occupancy of the individual home. See example to right.

b) Front yard landscape packages shall provide for a minimum of 1 tree per 50 lineal feet of street frontage as well as a minimum of 12 shrubs. Trees shall be a minimum of 1 inch caliper for deciduous and 6 feet for evergreens. Shrubs shall be a minimum of 2 gallon.

c) Xeriscape options for front yards shall be permitted. Xeriscape packages must include the required trees and shrubs outlined under the previous standard.



c) Front yard landscaping is required for all homes and will be reviewed and approved with the tentative map establishing installation timing.

d) Front yard landscape packages shall include automatic irrigation systems.

2.2.5 Single Family Lighting

a) Lighting shall be designed to differentiate land use areas, emphasize community amenities, provide continuity along street corridors and ensure the safety of residents and users.

b) Exterior lighting shall be shielded from projection offsite and designed to be compatible with the architectural and landscape design of the home.

2.2.6 Single Family Walls and Fencing

a) Walls may be used where necessary to provide privacy and security for residential neighborhoods when adjacent to arterial or collector roadways, or when adjoining non-residential uses.

b) Walls within the community shall not become the dominant visual element and walls where needed shall blend into the overall landscape.

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- c) Walls shall not exceed 6 feet in height. Acceptable materials include stone, stone veneer, split face/precision block, slump stone, and stuccoed CMU.
- d) Open fencing shall be used where the rear of individual lots are adjacent to open space. See examples below.
- e) Open fences at rear yards may include landscaping with trees and shrubs to screen views of private yards from adjacent properties, common areas, and/or roadways.
- f) Acceptable open fencing materials include wood or vinyl split-rail or wrought iron. See examples below.



- g) Single family residential lots may include solid privacy fences. Acceptable materials include wood and vinyl. Privacy fencing shall not exceed 6 feet in height.
- h) Chain link fencing is prohibited within residential areas.

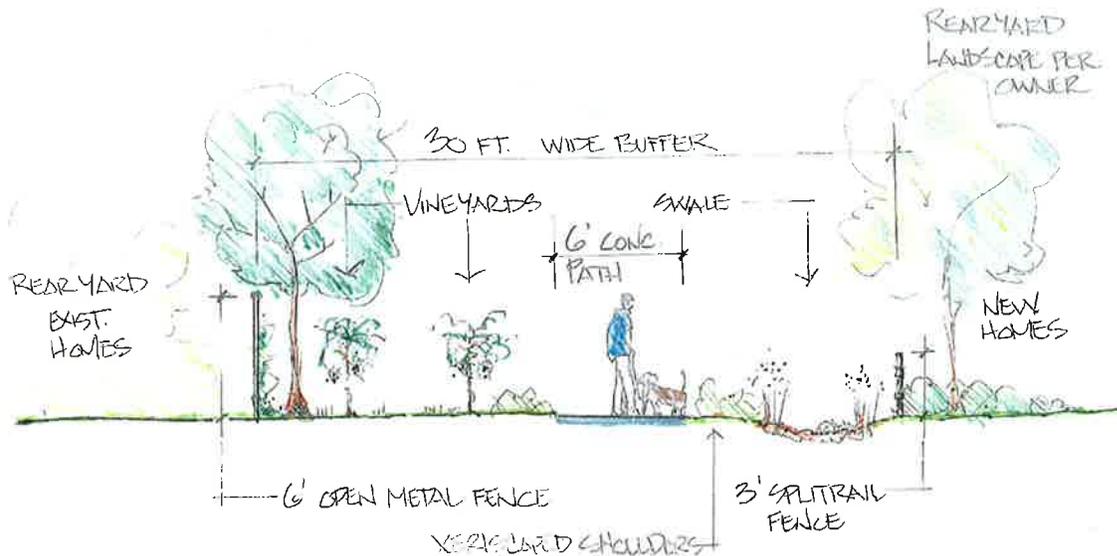
2.3 Community Buffer Areas

In order to ensure compatibility with existing adjoining neighborhoods, the following standards are included with the PUD:

- a) A minimum thirty (30) foot landscape buffer shall be included around the entire perimeter of the Vintage at Kings Canyon. Please see the buffer exhibit on the following page.
- b) At the south side of the project, between Mountain Street and Ormsby Boulevard, the buffer area shall be expanded to a minimum of sixty-five (65) feet.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

- c) Buffer areas shall provide a minimum six (6) foot concrete walking path providing pedestrian connections within the community as shown on the site plan.
- d) Bollard lighting, no more than 4 feet in height, may be provided within buffer areas in order to light pedestrian pathways.
- e) All buffer area landscaping and improvements shall comply with the preliminary landscape plan and site plan adopted with the Vintage at Kings Canyon PUD.



Buffer area cross section diagram

2.4 ARCHITECTURE STANDARDS AND GUIDELINES

2.4.1 Architectural Theme

The Vintage at Kings Canyon community is designed to naturally integrate a relaxed livable design that integrates indoor and outdoor living. The architectural feel of the community combines an informal and country feel of farmhouse inspiration with timeless architecture set in a beautiful landscape of west Carson City and the Sierra backdrop. Community buildings have functional porches that provide a transitional space for people to gather. Expanded dormers and symmetry throughout the building with a relaxed covered entrance dictate the building elevations.

2.4.2 Residential Architectural Elements

- a) New structures within the PUD shall, at a minimum, incorporate a minimum of two of the following elements:
- Gable roofs with deep overhangs.
 - Exposed rafters, brackets, columns, etc.
 - Decorative doors and windows
 - A mixture of 2 (at a minimum) exterior elements including stucco, wood siding or shingles, brick, or stone
 - Exterior porches or courtyards
- b) Acceptable roofing materials include concrete tile, slate, or architectural grade (30+ year) composition asphalt shingles. Metal roofing may be used as an architectural element in conjunction with the previously listed materials.
- c) Flat roofs are prohibited in residential areas.
- d) Metal buildings are prohibited.
- e) Modular homes are not permitted within the Vintage at Kings Canyon PUD.
- f) Building articulation shall include a minimum of 4 separate roof planes incorporated on front/primary elevations. Front/primary elevations shall contain a minimum of 2 wall planes offset by a minimum of 3 feet.
- g) Building colors shall utilize an earth tone pallet such as browns, tans, whites, greens, deep reds and oranges, pale yellows, etc. The use of bright or vibrant colors is prohibited with the exception of highlighting architectural elements.

2.4.3 Assisted/Independent Living Architecture

Assisted/independent living areas within the Vintage at Kings Canyon PUD are envisioned to complement residential uses in function and form. These areas and buildings shall incorporate the same architectural principles as the residential areas and include elements such as rock, stone, brick, etc.

2.4.4 Assisted Living Building Mass and Form

- a) Individual buildings, forms, and components shall be designed as a whole to ensure unity to the overall design of the center.

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- b) Facades shall include articulation to ensure that large scale buildings are softened and appropriate for the area at a human scale.
- c) Visual interest shall be created in building facades through the incorporation of wall plane projections or recesses that are a minimum of two (2) feet in depth.
- d) Wall plane projection or recess may be substituted with a combination of vertical or horizontal elements such as trellises, awnings, shed roofs, or columns. Any such element must have a minimum of 2 feet change in vertical or horizontal projection or recess. The proposed alternative design solution shall meet the intent of this standard.
- e) In assisted living areas adjoining residential uses, building heights shall relate to the adjacent development to enhance view corridors and ensure compatibility.
- f) Texture change, material change, or relief change shall be incorporated into buildings to avoid large expanses of blank walls and box-like structures.
- g) Buildings in excess of 10,000 square feet should vary building and roof forms to give the appearance of smaller forms.
- h) All assisted living buildings shall incorporate a consistent architectural theme.
- i) Assisted/independent living units shall be limited to one-story. Architectural elements such as dormers and upper windows may be used to add visual interest but shall not include inhabitable space.

2.4.5 Assisted/Independent Living Roof Form

- a) Rooflines shall include variations to add visual interest and reduce the scale of large buildings. Refer to example below.



VINTAGE at KINGS CANYON- PUD Development Standards Handbook

- b) Roof profile elements visible at ground level shall incorporate horizontal and vertical offsets as depicted in the example above.
- c) All rooftop equipment shall be screened from public view at street level and the parking lot.
- d) All roof mounted mechanical equipment must be screened from public view at the street level and the parking lot.

2.4.6 Assisted/Independent Living Materials and Colors

- a) The colors and materials of buildings shall be compatible with those of adjoining buildings/uses.
- b) Exterior building materials shall be of high quality. These may include, but are not limited to:
 - brick
 - stained, painted, or weathered wood/cementitious products such as heavy timbers or stock lumber
 - stone veneer/cultured stone
 - integral color split face block or rough cut wood.
 - metal such as corrugated, battened or standing panelized systems; performed painted or stained metal shapes
 - fabric or metal awnings
 - dimensioned asphalt or simulated wood shingles
- c) Accent colors may be used to emphasize special façade elements in order to attract attention at focal points.
- d) Facades shall include the use of earth tone palette colors in broad expanses. The use of high intensity colors are discouraged unless they are used to accentuate architectural forms or features.
- e) Building trim and accent may feature a brighter palette of colors used to direct focus toward visually interesting building elements.
- f) The following exterior building materials are not allowed as predominant features on building facades:
 - integral color smooth-faced or painted concrete masonry
 - tilt-up concrete panels without textures or finishes
 - pre-fabricated steel panels
 - unprotected wood
 - dimensional asphalt shingles (architectural grade asphalt shingles may be used on roofs)

2.4.7 Single Family Residential Architecture

Architectural standards for residential areas promote an upscale development concept that reflects a

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

western and ranching heritage while providing for modern amenities and features. Although neighborhoods may include distinctive architectural designs, common elements serve to create a cohesive community that creates a sense of place.

2.4.8 Single Family Building Mass and Form

- a) Home facades shall incorporate the architectural style and materials outlined in section 2.3.1.
- b) A minimum of 2 distinctive floor plans shall be used within each project phase.
- c) Architectural details and stylings used on the front of the home shall be carried over to all elevations.
- d) A minimum of 2 distinctive front elevations shall be included for each model within each phase.
- e) Varied setbacks, floorplans, and elevation packages shall be used within subdivisions to create a visually interesting streetscape.

2.4.9 Single Family Roof Form

- a) Roof planes are required to vary through the use of architectural features such as dormers, gables, hipped roofs and variations in pitch appropriate to the homes chosen architectural style. See example images below.

2.4.10 Single Family Materials and Colors

- a) As mandated within other provisions of this handbook, single family homes shall incorporate an earth tone color palette. The use of bright and vibrant colors is prohibited with the exception of enhancing key architectural elements and features.



- b) Conflicting architectural styles within a single subdivision shall be prohibited.

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c) Building materials and elements shall be consistent with those outlined under previous standards.

2.4.11 Single Family Garages

a) Garages shall include a minimum of 5 feet offset from inhabitable areas. Front elevations should provide focus on living areas and not garages. See example image below.



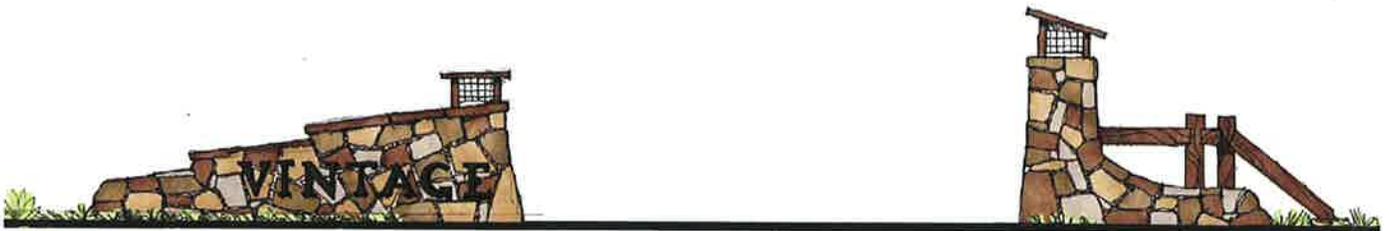
b) Garage forward plans shall be permitted when offsets (5 feet minimum) exist for the garage in order to provide visual distinction between the garage and residence.

2.5.1 Community Entries

In order to create a distinct community entry and establish a sense of place, distinct community entries shall be located at the primary project entries, subject to the following standards:

a) Entry monuments shall be located adjacent to Mountain Street and Ormsby Boulevard. At a minimum, entries shall be located at the Mountain Street entry and Ormsby Boulevard entry (east side of Ormsby). Entry monuments on the west side of Ormsby are optional.

b) Entry monuments shall include materials that complement those detailed in the architectural standards of this handbook, including the use of stucco, stone, and wood accents. See example below.



c) Entries may include signage as illustrated above. Any signage shall include indirect or back-lighting. Can signs and internal illumination are prohibited.

3 Public Services and Infrastructure

3.1 Parks, Open Space, and Trails

The Vintage at Kings Canyon PUD envisions a community that is linked, internally and to the surrounding neighborhood, through a system of trails, open space, and a community park. The intent of these standards is to implement the provisions of the Unified Pathways Master Plan, Parks and Recreation Master Plan, and Open Space Master Plan adopted by Carson City.

3.1.1 General Standards

- a) A Landscape Maintenance District (LMD) shall be formed by the Master Developer to provide for the maintenance and upkeep of open space and common area landscaping, trails, and park/recreation facilities and amenities. The LMD shall be in place prior to the issuance of the first certificate of occupancy.
- b) A private homeowner’s association (HOA) shall provide for the maintenance of all private landscape features and non-public recreation facilities (i.e. private parks within gated communities, etc.).
- c) Design of open space areas shall follow the standards and policies of the Carson City Open Space Master Plan, adopted by Carson City in June 2000.
- d) Pathways and trails, other than those described in Section 3.2 (following) shall conform to the standards and policies of the Unified Pathways Master Plan adopted by Carson City on April 6, 2016 (as revised March 15, 2007).
- e) The new park facility within the Vintage at Kings Canyon PUD shall conform to the Parks and Recreation Master Plan as adopted by Carson City on April 6, 2006.

3.1.2 Trails and Pathways

- a) Trails, pathways, and sidewalks not specifically called out within this section shall conform to the standards outlined in Section 6 of the Carson City Unified Pathways Master Plan (Pathway Types).
- b) A meandering path (consistent with Unified Pathways Master Plan standards) shall be constructed along an east/west route, connecting the existing Mountain Street trailhead and passive park area to Ormsby Blvd. This pathway may follow drainage channels where feasible and shall meet the guidelines for an “off-street/multi-use trail.”

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- b) The meandering path that connects the existing trailhead at Mountain Street to the existing Longview trails shall be concrete, a minimum of ten (10) feet in width with an additional three (3) feet of decomposed granite.
- c) Pathways located elsewhere within common areas (excluding residential sidewalks) shall be concrete and a minimum of six (6) feet in width.
- d) Trail/pathway locations shall be in substantial conformance with those included on the Vintage at Kings Canyon PUD site plan.
- e) A meandering path (consistent with Unified Pathways Master Plan standards) shall be constructed connecting Ormsby Blvd to open space to the west of the project site. This pathway may follow drainage channels where feasible and shall meet the guidelines for an “off-street/multi-use trail.”
- f) The east/west trails being constructed shall, at a minimum, include landscaping and pedestrian amenities. Trees (either evergreen or deciduous) shall be planted at a rate of 1 tree per 50 lineal feet with a minimum of 4 shrubs per tree. Park benches shall be located along the trails at a rate of 1 bench per 500 lineal feet of trail.
- g) A fitness course may be substituted for park benches. See examples below:



- h) Internal trails shall be constructed where appropriate, in order to connect different project roadways or land use elements.
- i) The applicant/developer shall be required to demonstrate that trail connectivity between parks, trails, and the overall open space network is being provided. This shall be to the satisfaction of the Community Development and Parks and Recreation Departments.

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3.1.3 Open Space

- a) Drainage channels shall be incorporated into open space areas and include trails/paths as described in section 3.1.2
- b) Open space areas shall be maintained through a Landscape Maintenance District and/or by a private homeowners association(s).
- c) Landscape medians, parkways, corridors, etc. included within common or open space areas shall be maintained by an individual homeowners association(s) and/or through the Landscape Maintenance District (LMD).
- d) Open space areas that remain private shall not include public access (if privately owned) and shall be maintained by a homeowners association and not through a Landscape Maintenance District (LMD).

3.1.4 Parks – General Standards

- a) Parks within the Vintage at Kings Canyon PUD shall be maintained through implementation of a Landscape Maintenance District. Any private parks (without general public access) shall be maintained by an individual homeowners association(s).
- b) Opportunities for joint use of park and open space facilities (i.e. stormwater detention basins) shall be a priority within the Vintage at Kings Canyon PUD.
- c) All park facilities and open space areas shall have access to the overall trail and pathway network within the PUD area.
- d) The park facility within Vintage at Kings Canyon will be coordinated with the Carson City Parks and Recreation Department for review and approval.
- e) Park design shall be consistent with Carson City Parks and Recreation Department guidelines and standards, including water conservation design elements.

3.2 Sanitary Sewer

- a) All new development within the Vintage at Kings Canyon PUD shall be required to connect to municipal sanitary sewer service.
- b) A final sewer report demonstrating capacity to serve the development shall be submitted with each individual project within the PUD boundary.

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c) The site has no known constraints which would impact the ability to be served by a gravity fed extension of the public sewer.

3.3 Water Service

a) All new development within the Vintage at Kings Canyon PUD shall be required to connect to municipal water service.

b) All new development shall be required to pay applicable water connection fees and demonstrate that adequate water supply is available to serve the project and dedicated for use.

c) Separate irrigation meters will be employed in accordance with the guidelines present at the time of connection.

3.4 Storm Water Management

a) The primary stormwater channels shall be designed to contain the existing off-site watershed discharges as well as the existing discharges from the PUD area.

b) Onsite retention and detention facilities are required within the development per Carson City standards.

c) Existing overall drainage patterns shall be maintained to the extent possible. Any deviation shall require review and approval by the Carson City Engineering and Public Works Departments.

d) A comprehensive drainage impact analysis for the overall Vintage at Kings Canyon PUD shall be reviewed and approved with the first permit request. The analysis shall provide estimates of project impacts at buildout along with required upgrades, improvements, etc. as well as with triggers for when these improvements are required.

3.5 Utility Service

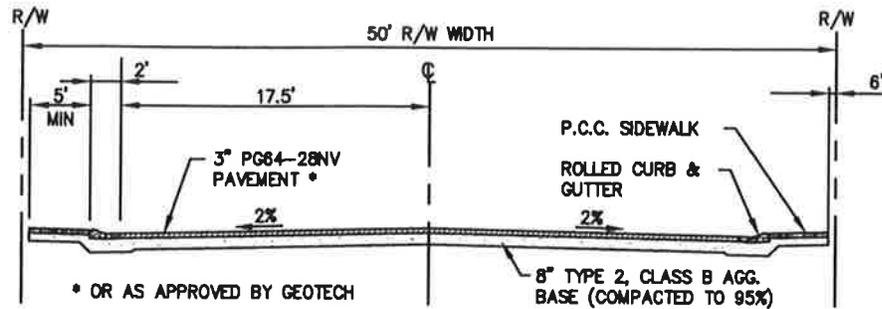
a) All utility services within the Vintage at Kings Canyon PUD shall be undergrounded. Overhead power lines shall be prohibited.

b) Plans for electrical, natural gas, telephone, and cable service shall be reviewed and approved by the applicable purveyor (i.e. NV Energy, Southwest Gas, ATT, etc) prior to the issuance of a building permit.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

3.6 Roadways

a) All roadways within the Vintage at Kings Canyon PUD shall comply with the standards and requirements included within the Carson City Municipal Code. The specifications contained in the roadway section detail, below, shall be applied to roads internal to the project.

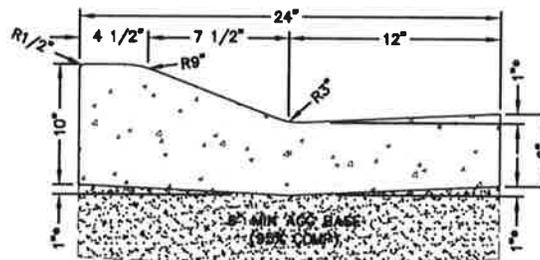


NOTES:

ALL A.C. SURFACES SHALL BE COMPACTED TO 96% (MINIMUM) MARSHALL MAXIMUM DENSITY AND RECEIVE A FOG SEAL.

BITUMINOUS PAVING MACHINES SHALL BE SELF CONTAINED, POWER-PROPELLED UNITS, WITH AN ACTIVATED SCREED OR STRIKE-OFF ASSEMBLY, HEATED IF NECESSARY, MINIMUM HOPPER CAPACITY OF 10 TONS AND CAPABLE OF SPREADING AND FINISHING COURSES OF BITUMINOUS MIXTURE IN LANE AND SHOULDER WIDTHS APPLICABLE TO THE SPECIFIED TYPICAL SECTION AND THICKNESS SHOWN ON PLANS.

ROADWAY SECTION



*REVERSE PAN ON UPHILL SIDE OF ROAD
SLOPE TO DRAIN

**ROLLED
CURB & GUTTER**

SCALE: N.T.S.

3.7 Traffic Impacts

- a) A comprehensive traffic impact analysis for the overall Vintage at Kings Canyon PUD shall be reviewed and approved with the first tentative map. The analysis shall provide estimates of the project impacts at buildout along with required upgrades, improvements, etc. along with triggers for when these improvements are required.
- b) Updates to the master traffic impact analysis shall be provided for any project generating more than 80 peak hour trips to determine if roadway upgrades/improvements are triggered.
- c) A traffic impact analysis/study focusing on vehicular access management to and from the proposed Vintage at Kings Canyon PUD community shall be reviewed and approved with adoption of this PUD. The analysis shall discuss the location and provision of the project's local road network along with potential improvements in the vicinity of the project.

3.8 Fire Protection

The Carson City Fire Department currently services the project area. Due to the infill location of this project, the Fire Department is not required to expand their service area. Based on project size and uses, the following standards are included within the PUD:

- a) As individual projects are submitted, the Carson City Fire Department shall review development plans in context with existing service limitations to ensure adequate levels of service are maintained.
- b) The Carson City Fire Department has the ability to condition projects to ensure adequate levels of service are maintained. Such conditions include requiring fire resistant building materials, requiring on-site hydrants, and reviewing road design and locations.

3.9 Police Protection

The Carson City Sheriff's Department currently operates patrols in the area. The following standards related to police protection are provided for the Vintage at Kings Canyon PUD:

- a) All new projects submitted for review by Carson City shall be routed through the Sheriff's Department for review and comment.
- b) The Sheriff's Department shall reserve to the right to condition projects in order to implement and or incorporate crime prevention measures, etc.

VINTAGE at KINGS CANYON- PUD Development Standards Handbook

c) The assisted/independent living facilities shall be required to submit a lighting and security plan to the Sheriff's Department for review and approval.

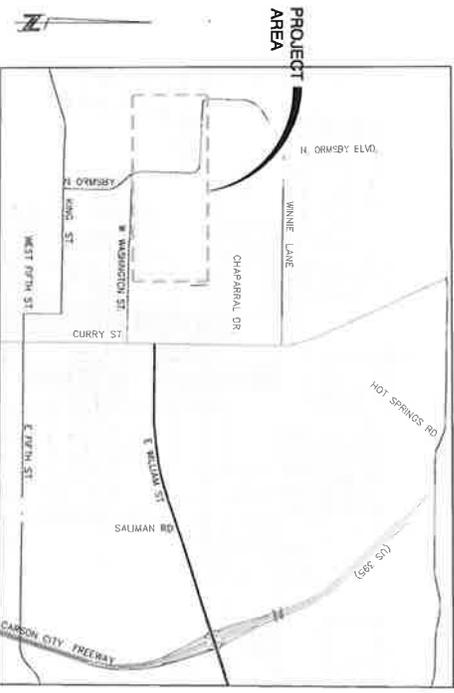
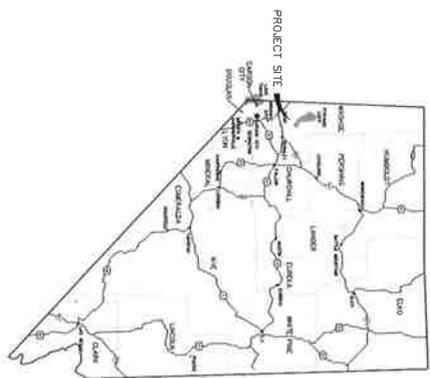
3.10 Schools

As an age-restricted community, Vintage at Kings Canyon will have no impact on schools.

THE VINTAGE AT KINGS CANYON

AT KINGS CANYON

APN'S: 009-012-02, 007-573-06, 07, AND 08



LOCATION MAP

OWNER:
ANDERSEN FAMILY ASSOC.
PO BOX 1746
CASON CITY, NV 89702

DEVELOPER:
VINTAGE AT KINGS CANYON, LLP
ATTN: VINCE SCOTT
9130 DOUBLE DIAMOND PKWY
RENO, NV 89521
PH: (775) 240-0241

ENGINEER:
LUMOS
800 E. COLLEGE PARKWAY
CARSON CITY, NEVADA 89706
PH: (775) 883-7077
FAX: (775) 883-7114

- PROJECT SUMMARY:**
- 1. NUMBER OF SINGLE FAMILY LOTS: 212 LOTS
 - 2. NUMBER OF COMMON AREAS: 2 COMMON AREAS
 - 3. COMMON AREAS: 2 COMMON AREAS
 - 4. DENSITY/INTENSITY: 3.92 UNITS/ACRE
 - 5. HEIGHT: 20' MAXIMUM PROPOSED HEIGHT
 - 6. HEIGHT: 17,000 SF (LOT 170)
 - 7. LARGEST LOT: 1,690 SF
 - 8. SMALLEST LOT: 1,690 SF
 - 9. CHALETEN LOTS: ZERO LOT LINE LOTS - 10' MINIMUM BETWEEN BUILDINGS
 - 10. LOTS 110-132 AND 131-132: ZERO LOT LINE LOTS - 10' MINIMUM BETWEEN BUILDINGS
 - 11. WESTERN LOTS 134-212: FRONT YARD 20'
 - 12. SIDE YARD 8'
 - 13. REAR YARD 20'
 - 14. REAR YARD 15'

TRASH COLLECTION BY WASTE MANAGEMENT BY INDIVIDUAL LOT ASSIGNED
 LIVING/INDEPENDENT UNITS SHALL UTILIZE DUMPSTERS LOCATED IN TRASH ENCLOSURES

SHEET INDEX:

TITLE SHEET	PROJECT NUMBER	DATE	BY
PROJECT AREA SHEET	01	01/15/14	TR
GENERAL NOTES SHEET	02	01/15/14	TR
LANDSCAPE PLAN	03	01/15/14	TR
	04	01/15/14	TR
	05	01/15/14	TR
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	100	01/15/14	TR

THE VINTAGE AT KINGS CANYON, LLP

THE VINTAGE AT KINGS CANYON

TENTATIVE MAP

TITLE SHEET

CARSON CITY, NEVADA

LUMOS ASSOCIATES

800 EAST COLLEGE PARKWAY
 CARSON CITY, NEVADA 89701
 TEL: (775) 883-7077
 FAX: (775) 883-7114
 WWW.LUMOS.COM

Civil Engineering
 Geotechnical Engineering
 Planning & Architecture
 Surveying & GIS Services
 Environmental Services
 Materials Testing

DATE: AUGUST 2016

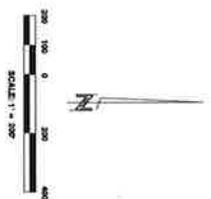
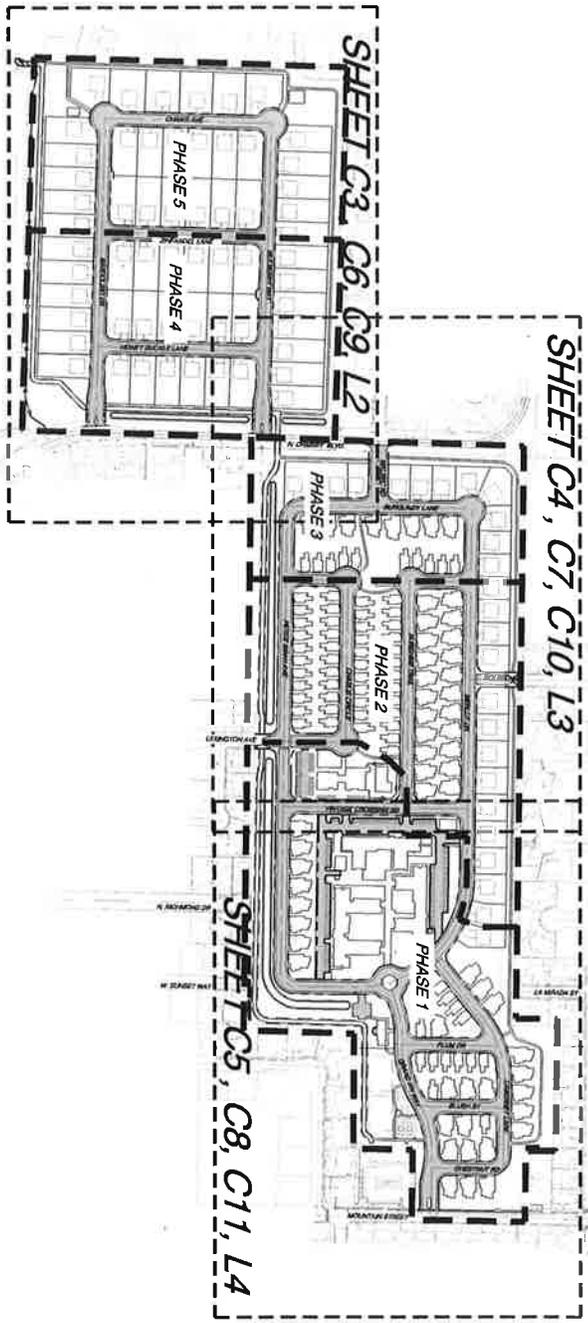
DESIGNED BY: TR

CHECKED BY: TR

JOB NO: 1407-200

REV **DATE** **DESCRIPTION** **BY**

 C1



DATE: AUGUST 2015
 DRAWN BY: KAC/BS
 CHECKED BY: TR
 JOB NO: BAV7200

C2

REV	DATE	DESCRIPTION	BY

THE VINTAGE AT KINGS CANYON, LLP
 THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 INDEX SHEET
 CARSON CITY NEVADA

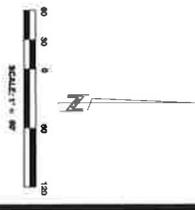
LUMOS ASSOCIATES
 801 EAST COLLIERE PARKWAY
 CARSON CITY, NEVADA 89401
 TEL (775) 883-7114
 FAX (775) 883-7114
 WWW.LUMOS.COM

CIVIL ENGINEERING
 PLANNING
 ARCHITECTURE
 SURVEYING
 ENVIRONMENTAL
 LABORATORY TESTING



LEGEND:

- OPEN SPACE (PRIVATE)
- AC PAVEMENT
- CONCRETE SIDEWALK / MOUNTING TRAIL (18' PUBLIC EASEMENT CENTERED ON 13' TRAIL)



DATE	DESCRIPTION	BY
01/21/14	DESIGNED BY	CS
01/21/14	CHECKED BY	TR
01/21/14	DATE	01/21/14
01/21/14	JOB NO.	01/21/14

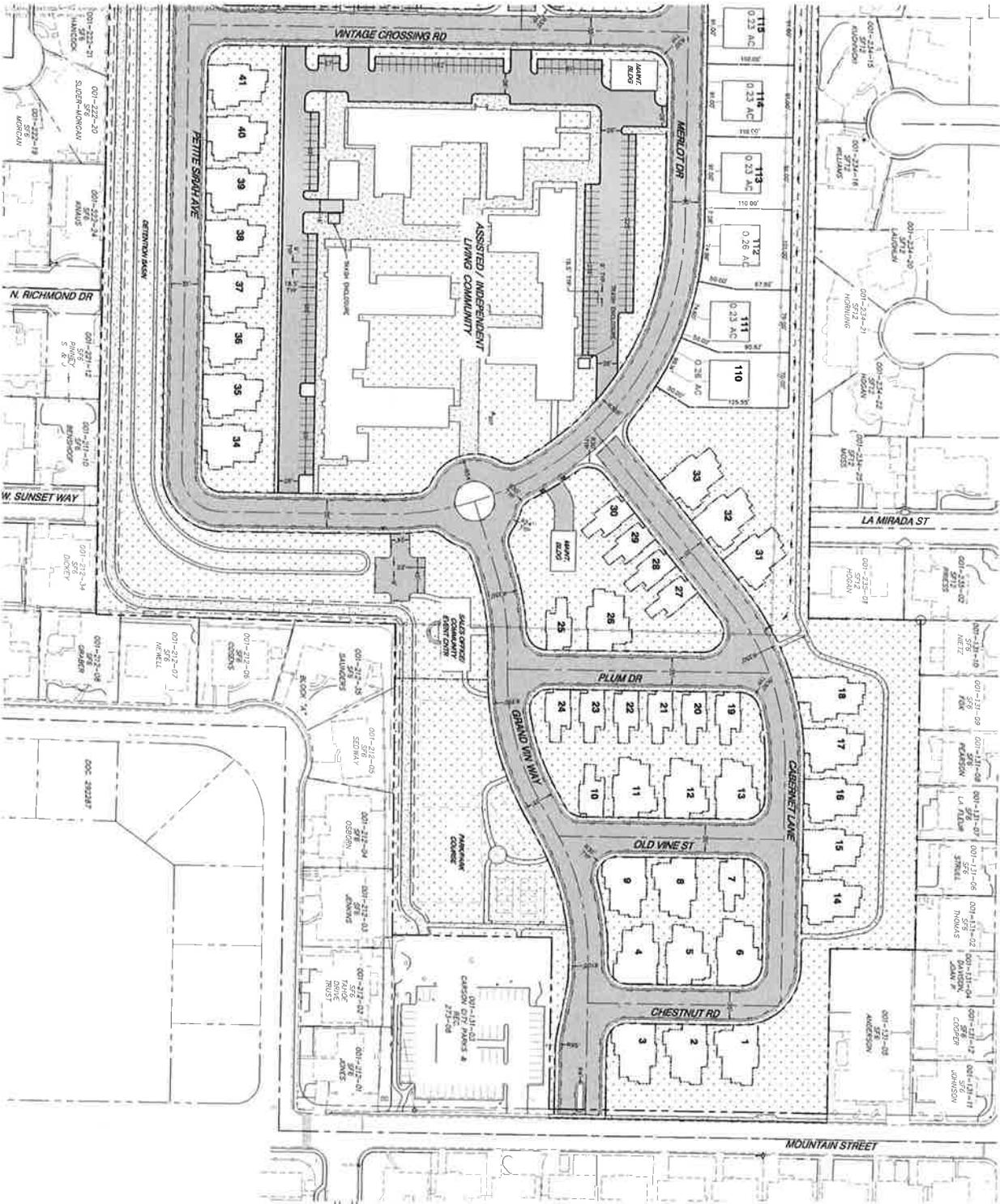
CS

THE VINTAGE AT KINGS CANYON, LLP
 THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 SITE PLAN - WEST
 CARSON CITY, NEVADA

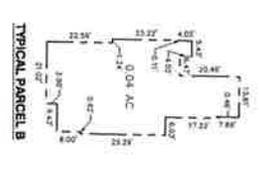
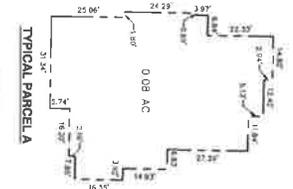
LUMOS ASSOCIATES

300 EAST TULLER PARKWAY
 CARSON CITY, NV 89701
 TEL: 775.443.7777
 FAX: 775.443.7774
 WWW.LUMOS.COM

DATE SUBMITTED: 01/21/14
 GEO/TECHNICAL ENGINEERING: [Name]
 PLANNING ARCHITECTURE: [Name]
 SURVEYING GIS: [Name]
 CIVIL ENGINEERING: [Name]
 MATERIALS TESTING: [Name]



- LEGEND:**
- OPEN SPACE (PRIVATE)
 - AC PAVEMENT
 - CONCRETE SIDEWALK / WALKING TRAIL
 - (20' PUBLIC EASEMENT CENTERED ON U3 TRAIL, INCLUDES PARK COURSE)



REV	DATE	DESCRIPTION	BY

C5

TENTATIVE MAP

THE VINTAGE AT KINGS CANYON, LLP

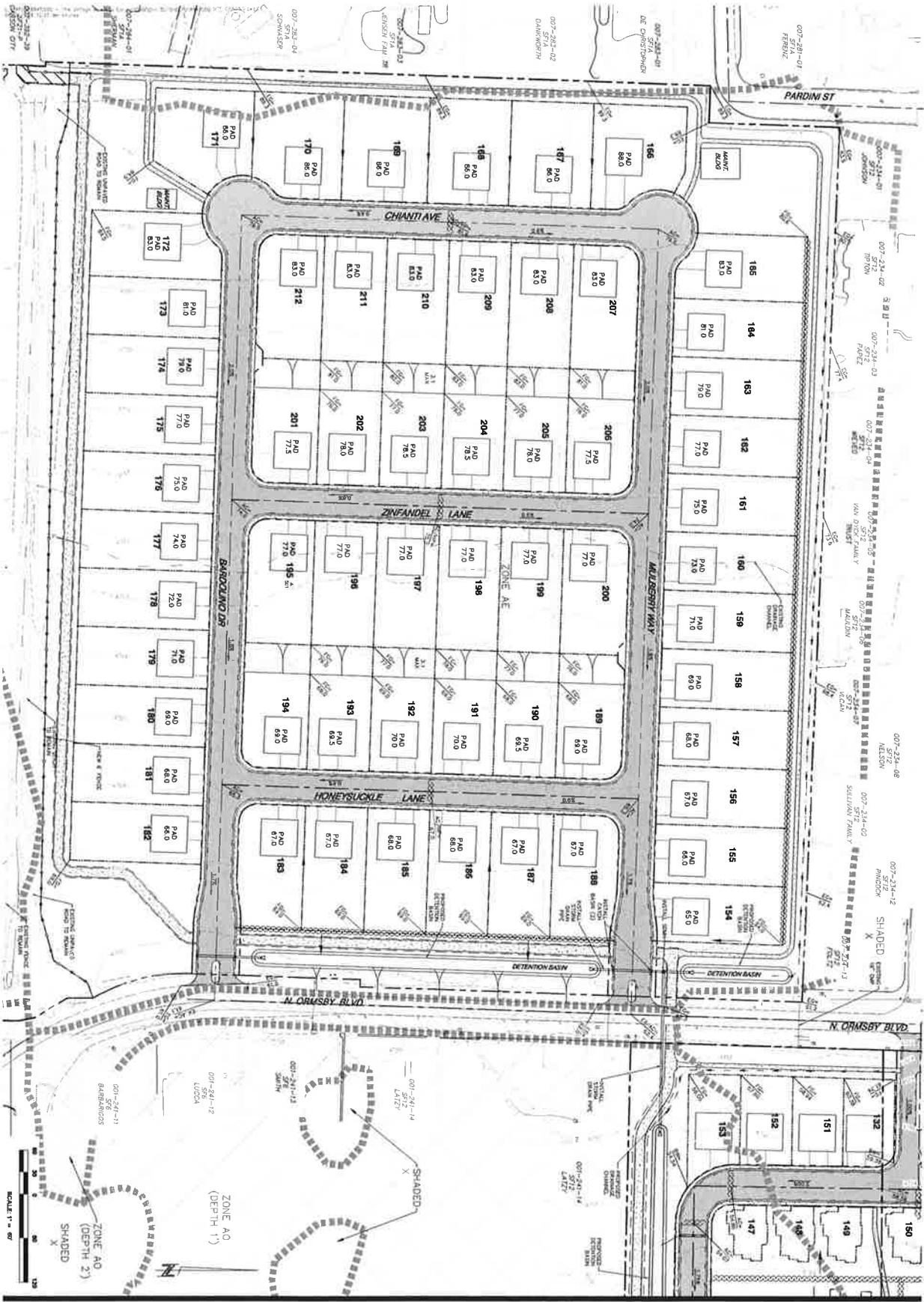
THE VINTAGE AT KINGS CANYON
TENTATIVE MAP
SITE PLAN - EAST

CARSON CITY NEVADA

LUMOS ASSOCIATES

300 EAST COLLEGE AVENUE
CARSON CITY, NEVADA 89401
TEL: (775) 885-2114
WWW.LUMOS.COM

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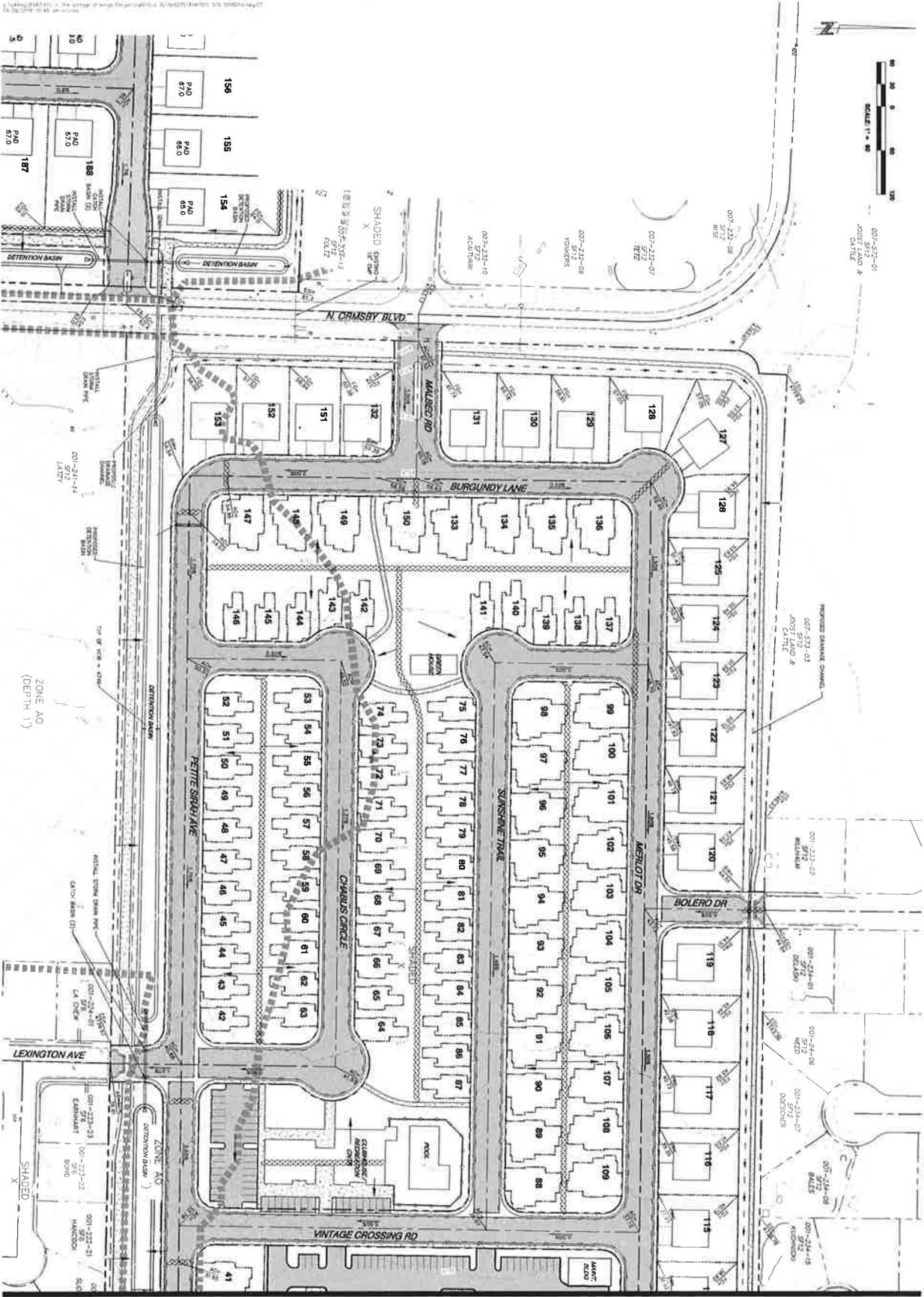
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JOB NO. 1847200

THE VINTAGE AT KINGS CANYON, LLP
**THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 GRADING PLAN - WEST**

LUMOS
 CONSULTANTS
 800 EAST COLLIERE PARKWAY
 DAVENPORT, NEVADA 89314
 (775) 853-5114
 WWW.LUMOS.COM

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 LANDMARKS DESIGN

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TENTATIVE MAP

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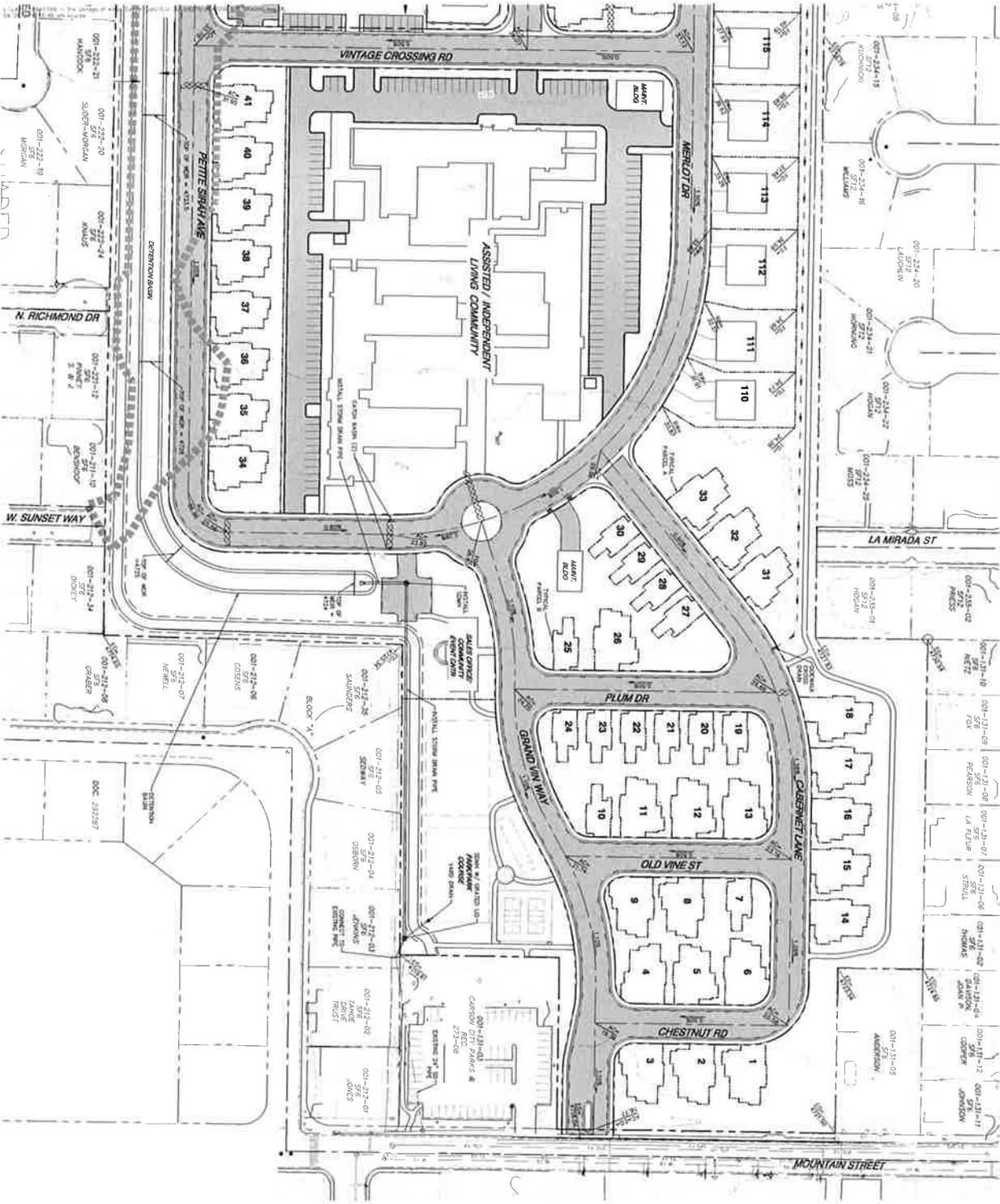
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 THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 GRADING PLAN - EAST

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LUMOS
 ASSOCIATES

360 EAST COLLIER PARKWAY
 CARSON CITY, NEVADA 89701
 TEL: (775) 883-1114
 FAX: (775) 883-1114
 WWW.LUMOS.COM

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 SIGNING & DESIGN
 LANDSCAPE ARCHITECTURE
 LANDMARKS DESIGN



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THE VINTAGE AT KINGS CANYON, LLC

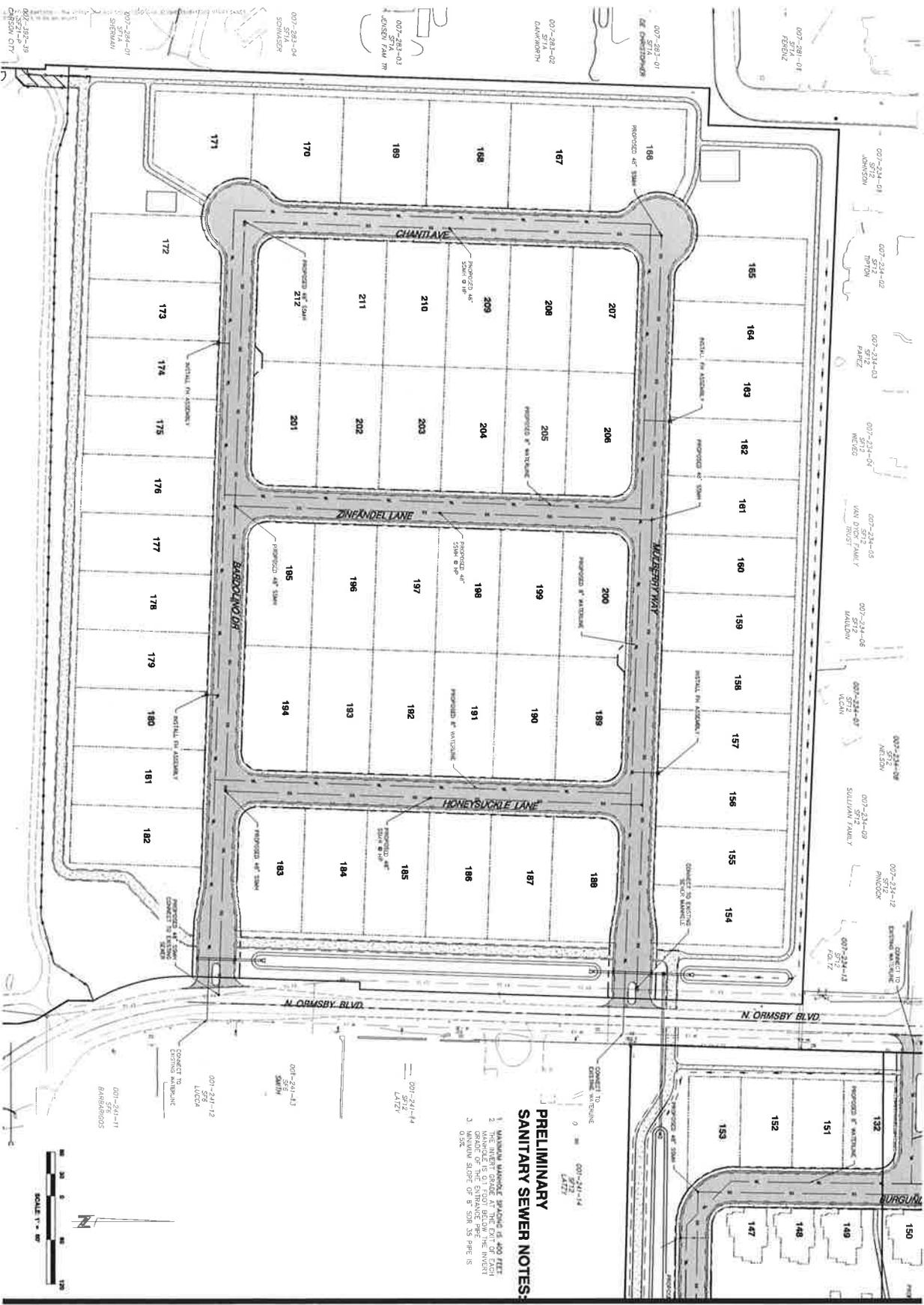
**THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 GRADING PLAN - EAST**

CARSON CITY NEVADA

LUMOS
 ASSOCIATES

80 EAST COLLIER PARKWAY
 CARSON CITY, NEVADA 89801
 PHONE: (775) 885-7114
 WWW.LUMOS.COM

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 MATERIALS TESTING



**PRELIMINARY
SANITARY SEWER NOTES:**

1. MANHOLE MANHOLE SPACING IS 400 FEET.
2. MANHOLE IS 0.1 FEET BELOW THE INVERT.
3. 0.5% SLOPE OF 8" SDR 35 PIPE IS

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THE VINTAGE AT KINGS CANYON, LP
**THE VINTAGE AT KINGS CANYON
TENTATIVE MAP
UTILITY PLAN - WEST**

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LUMOS ASSOCIATES

300 EAST COLLIER PARKWAY
DANVER, CO 80501
TEL: (970) 881-7114
WWW.LUMOS.COM

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**PRELIMINARY
SANITARY SEWER NOTES:**

1. MANHOLE MANHOLE SPACING IS 400 FEET
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DATE: AUGUST 2016
 DRAWN BY: KALINAH TR
 CHECKED BY: BMT/200
 JOB NO.: 187

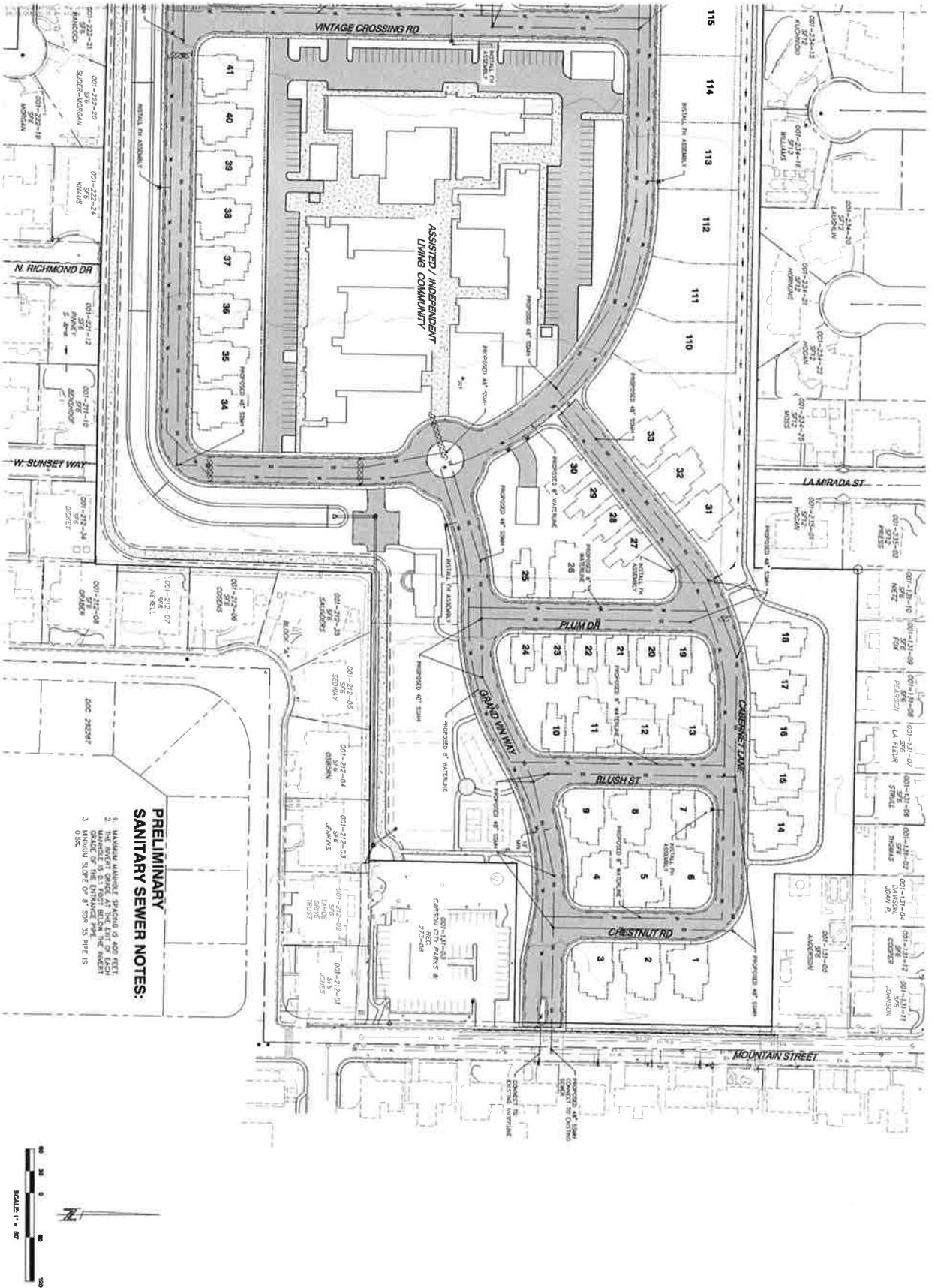
THE VINTAGE AT KINGS CANYON, LP
**THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 UTILITY PLAN - EAST**

CARSON CITY NEVADA

LUMOS ASSOCIATES

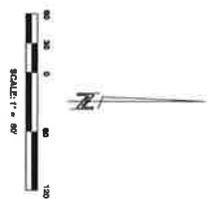
400 EAST COLLIER PARKWAY
 CARSON CITY, NEVADA 89401
 TEL: (775) 883-2114
 WWW.LUMOS.COM

CVL ENGINEERING
 PLANNING & ENGINEERING
 1000 S. WASHINGTON AVENUE
 SUITE 100
 CARSON CITY, NEVADA 89401
 TEL: (775) 883-2114



**PRELIMINARY
SANITARY SEWER NOTES:**

1. MAINLINE MANHOLE SPACING IS 400 FEET
2. THE INVERT GRADE AT THE END OF EACH MAINLINE MANHOLE SHALL BE THE FINISH GRADE OF THE DRAINAGE PIPING THROUGHOUT
3. MINIMUM SLOPE OF 8" PER 33 FEET IS REQUIRED



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DATE: AUGUST 2016
DRAWN BY: KAMRAN KHAN
CHECKED BY: TR
JOB NO.: 847200

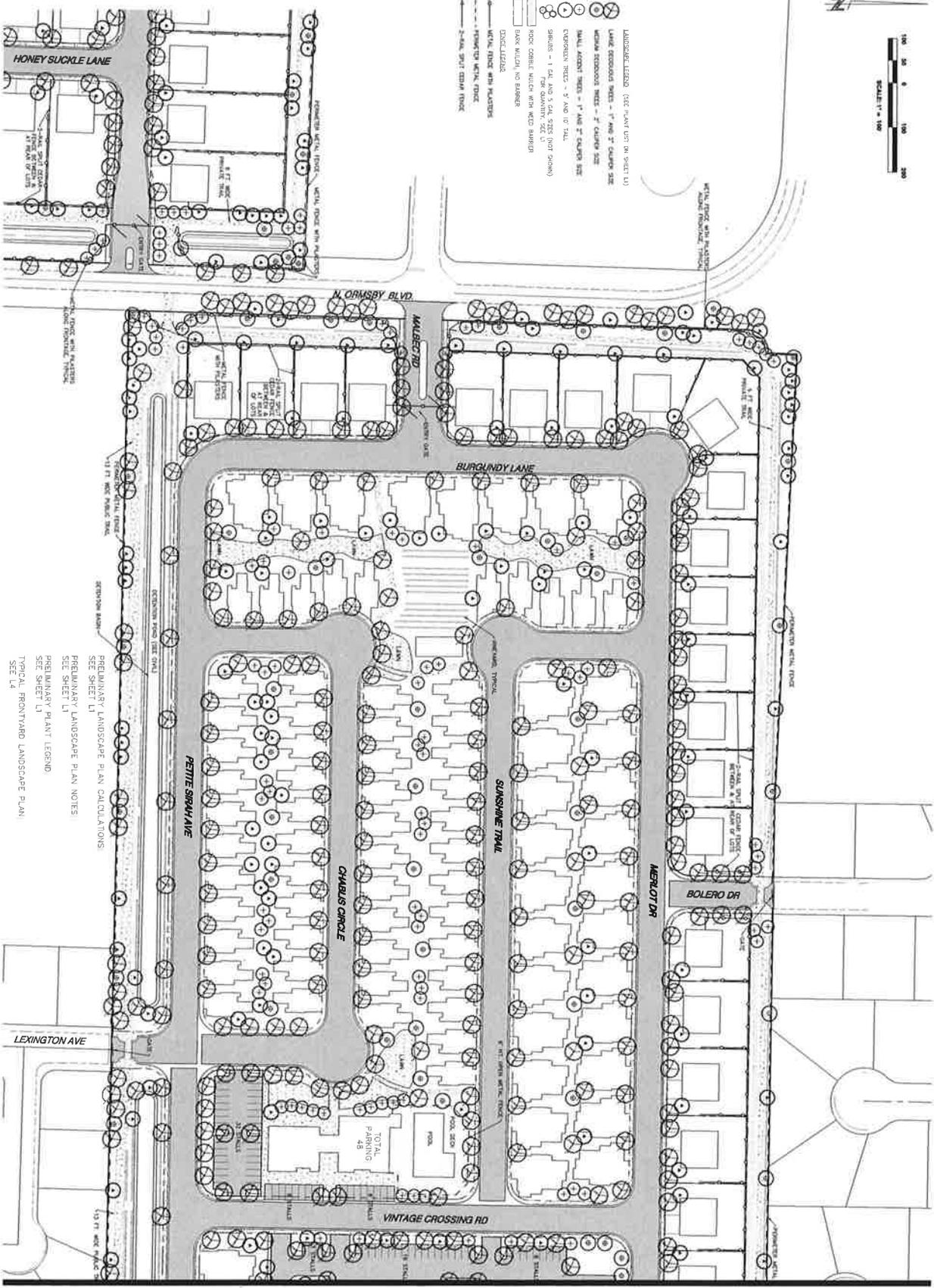
THE VINTAGE AT KINGS CANYON, LP
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 TENTATIVE MAP
 UTILITY PLAN - EAST**

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LUMOS
 SASSOCIATES

80 EAST COLLIERE PARKWAY
 CARSON CITY, NEVADA 89701
 TEL: (775) 853-7114
 WWW.LUMOS.COM

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PRELIMINARY LANDSCAPE PLAN NOTES
 PRELIMINARY LANDSCAPE PLAN CALCULATIONS
 SEE SHEET L1
 PRELIMINARY PLANT LEGEND
 SEE SHEET L1
 TYPICAL FRONTYARD LANDSCAPE PLAN
 SEE L4

REV	DATE	DESCRIPTION	BY

L3

TENTATIVE MAP

DATE: AUGUST 2018
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 JOB NO.: 1811

THE VINTAGE AT KINGS CANYON, LP
 THE VINTAGE AT KINGS CANYON
 TENTATIVE MAP
 LANDSCAPE PLAN - EAST

CARSON CITY, NEVADA

LUMOS ASSOCIATES

500 EAST COLLIER PARKWAY
 CARSON CITY, NEVADA 89701
 TEL: (775) 885-7114
 WWW.LUMOS.COM

ONLINE ENGINEERING
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 LANDSCAPE ARCHITECTURE

TRAFFIC IMPACT STUDY

FOR

The Vintage at Kings Canyon

August 16, 2016

PREPARED BY:



TRAFFIC WORKS, LLC
5482 Longley Lane, Suite B, Reno, NV 89511
775.322.4300
www.Traffic-Works.com

YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

This Traffic Impact Study evaluates the potential traffic impacts associated with construction of the proposed "The Vintage at Kings Canyon" residential development. The study of potential traffic impacts was undertaken for planning purposes and to assist in determining what traffic controls or mitigations may be needed to reduce potential impacts, if any are found.

What does the project consist of?

The project consists of east and west development areas. The east project area consists of 153 single-family housing units and 96 beds of Assisted/Independent Living facility. The west portion consists of 59 single-family housing units. The project also includes minor ancillary buildings such as a club house, sales office, a greenhouse, and a small retail area that will serve only residents of the project. These ancillary buildings are not anticipated to generate external trips in excess of what is already accounted for in the single-family residential and assisted living facility trip rates.

How much traffic will the project generate?

The proposed project is estimated to generate a total of 2,454 daily trips, 181 AM peak hour trips, and 240 PM peak hour trips.

Are there any traffic impacts?

No, all the studied intersections operate at acceptable level of service conditions now and with the addition of the project traffic. The project's multiple access points effectively distribute traffic to the roadway network and avoid concentration of new traffic at any one location. There are no specific impacts that require mitigation.

LIST OF FIGURES

1. Study Area
2. Existing Traffic Volumes
3. Site Plan
4. Project Trips
5. Existing Plus Project Traffic Volumes

LIST OF APPENDICES

- A. Existing Conditions LOS Calculations
- B. Existing Plus Project LOS Calculations

INTRODUCTION

This report presents the findings of a Traffic Impact Study completed to assess the potential traffic impacts on local intersections associated with construction of The Vintage at Kings Canyon, located in Carson City, NV. 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.

Study Area and Evaluated Scenarios

The project consists of east and west development areas. The east portion is located south of Long Street between Mountain Street and N. Ormsby Boulevard. The west portion is located west of N. Ormsby Boulevard between Kings Street and Ash Canyon Road. The study intersections were identified based on scoping conversations with Carson City staff and are shown in **Figure 1**. The following intersections are included in this study:

- Mountain Street/Long Street
- Mountain Street/East Driveway 1
- Mountain Street/Washington Street
- Washington Street/Lexington Avenue
- Long Street/Bolero Drive
- N. Ormsby Boulevard/Washington Street
- N. Ormsby Boulevard/West Driveway 2
- N. Ormsby Boulevard/West Driveway 1
- N. Ormsby Boulevard/East Driveway 2

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

- Existing Conditions (no project)
- Existing Plus Project Conditions

Analysis Methodology

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades "A" through "F" with "A" representing optimum conditions and "F" representing breakdown or over capacity flows. The complete methodology is established in the Highway Capacity Manual (HCM), 2010, published by the Transportation Research Board. **Table 1** presents the delay thresholds for each level of service grade at un-signalized and signalized intersections. Level of service calculations were performed for the study intersections using the Vistro 4.0 software suite, with analysis and results reported in accordance with the current HCM 2010 methodology.

Table 1: Level of Service Definition for Intersections

Level of Service	Brief Description	Un-signalized Intersections (average delay/vehicle in seconds)	Signalized Intersections (average delay/vehicle in seconds)
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 15	10 to 20
C	Stable conditions with significant affect from other vehicles.	15 to 25	20 to 35
D	High density traffic conditions still with stable flow.	25 to 35	35 to 55
E	At or near capacity flows.	35 to 50	55 to 80
F	Over capacity conditions.	> 50	> 80

Source: Highway Capacity Manual (2010), Chapters 16 and 17

Level of Service Policy

The Carson Area Metropolitan Planning Organization’s 2035 Regional Transportation Plan establishes LOS “D” as the level of service standard.

EXISTING TRANSPORTATION FACILITIES

Roadway Facilities

A brief description of the key roadways in the study area is provided below.

Mountain Street, within the study area, is a two-lane north-south roadway that provides primary access to the east portion of the project. The posted speed limit is 25 miles per hour and on-street parking is permitted.

Long Street is a two-lane east-west roadway. On-street parking is permitted on both sides of Long Street. The posted speed limit is 25 mph.

Washington Street, within the study area, is a two-lane east-west roadway. On-street parking is allowed on both sides of Washington Street. The posted speed limit is 25 mph.

N. Ormsby Boulevard is a two-lane north-south roadway that provides primary access to the west portion of the project and also provides a secondary route to the east project area. The posted speed limit is 35 mph.

Lexington Avenue is a two-lane north-south roadway that provides access to the south side of the east project area. On-street parking is permitted on both sides of Lexington Avenue.

Bolero Drive is a two-lane north-south roadway that provides access to the north side of the east project area. On-street parking is allowed on both sides of Bolero Drive. Several landscaped bulb-outs exist on Bolero Drive that are approximately the same width as a parked vehicle.

Alternate Travel Modes

There are currently paved sidewalks along the full length of Mountain Street and Long Street, on both sides of the roadway, throughout the study area. Discontinuous sidewalks exist on Washington Street. No marked bike lanes exist on any of the roadways in the study area as the roadways are residential collectors and local streets which are generally bikeable without dedicated bike lanes.

Carson City operates public transit service on Mountain Street (Route 2A and Route 2B), adjacent to the project site, as shown in **Exhibit 1**.



Exhibit 1. Transit Routes

EXISTING CONDITIONS

Existing Traffic Volumes

Existing traffic volumes were determined by collecting turning movement counts during the AM and PM peak periods at the study intersections. Counts were conducted on average mid-week days and include traffic levels with local schools in session. 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 2** and the calculation sheets are provided in **Appendix A**, attached.

As shown in **Table 2**, all the study intersections and their individual approaches/movements operate at acceptable level of service conditions during both the AM and PM peak hours.

Table 2: Existing Conditions Intersection Level of Service Summary

Intersection	Approach/Movement	Control	Existing AM		Existing PM	
			LOS	Avg Delay	LOS	Avg Delay
Mountain St./Long St.	Northbound Left	TWSC	A	7.56	A	7.70
	Southbound Left		A	7.85	A	7.63
	Eastbound		B	12.30	B	11.72
	Westbound		B	14.60	B	11.47
Mountain St./Washington St.	Overall	AWSC	A	9.86	A	9.12
Washington St./Lexington Ave.	Eastbound Left	TWSC	A	7.34	A	7.39
	Southbound		A	9.75	A	9.14
N. Ormsby Blvd./Washington St.	Southbound Left	TWSC	A	7.85	A	7.41
	Westbound		B	10.32	A	9.59
Long St./Bolero Dr.	Northbound	TWSC	A	8.32	A	8.31
	Southbound		A	8.62	A	8.61

TWSC = Two-Way Stop Control. AWSC = All-Way Stop Control

PROJECT GENERATED TRAFFIC

Project Description

The project consists of east and west development areas. The east portion is located south of Long Street between Mountain Street and N. Ormsby Boulevard. The west project area is located west of N. Ormsby Boulevard between Kings Street and Ash Canyon Road. The site plan is shown in **Figure 3**.

The east project area consists of 153 single-family housing units and 96 beds of Assisted/Independent Living facility. The west portion consists of 59 single-family housing units. The project also includes minor ancillary buildings such as a club house, sales office, a greenhouse, and a small retail area that serve only residents of the project. These ancillary spaces are not anticipated to generate external trips in excess of what is already accounted for in the single-family residential and assisted living facility trip rates.

Trip Generation

Trip generation rates for the proposed project were obtained from the Trip Generation Manual, 9th Edition, published by the Institute of Transportation Engineers. **Table 3** provides the Daily, AM peak hour, and PM peak hour trip generation calculation details for the proposed project.

As shown in **Table 3**, the proposed project is estimated to generate a total of 2,454 daily trips, 181 AM peak hour trips, and 240 PM peak hour trips.

Table 3: Trip Generation Estimates

ITE Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
East Project Area								
210 - Single-Family Detached Housing	153 Dwelling Units	1,553	117	29	88	154	97	57
254 - Assisted Living	96 beds	255	13	8	5	21	9	12
	<i>SUB-TOTAL</i>	1,808	130	37	93	175	106	69
West Project Area								
210 - Single-Family Detached Housing	59 Dwelling Units	646	51	13	38	65	41	24
	<i>SUB-TOTAL</i>	646	51	13	38	65	41	24
	TOTAL	2,454	181	50	131	240	147	93

Project Access

Interconnectivity of roadways between adjacent neighborhoods is a core urban planning principle and is important for efficient vehicular, bicycle, and pedestrian circulation. Disconnected pocket neighborhoods cause traffic to unnecessarily focus at certain intersections thereby causing higher degrees of congestion, force out-of-direction travel, longer trips, and trips through more intersections, and limit emergency response routes throughout communities. For these reasons, Cities throughout the nation are moving away from/no longer approving disconnected neighborhood designs and returning to more of a grid style connection of at least collector streets.

The Vintage at Kings Canyon project plan incorporates six (6) positive and important roadway connections to nearby collector streets. The east project area has four access points, one each to N. Ormsby Boulevard, Mountain Street, Lexington Avenue, and Bolero Drive. The west portion of the project has two access points on N. Ormsby Boulevard. Connections are thereby made to neighborhoods on each side of the project. The access points are shown on **Figure 3**.

All driveways will be full-access configurations with STOP control on the side-street (minor) approaches (the configurations are shown in **Figure 5**). All access points will be two-lane roadways with one approaching and one departing lane.

Every project access point will be gated, however, all gates shall remain open from 7:00 AM to 7:00 PM, seven days per week, as is stated in the PUD Handbook. The primary access points from the east project area to both Mountain Street and N. Ormsby Blvd. will have turn-around areas. With the gates required to be open during the entire daytime period and peak travel hours, no gate queuing issues are anticipated.

Trip Distribution and Assignment

Traffic generated by the project was distributed to the road network based on the location of the project site, major activity centers, and the access connection points to arterial roadways.

The following trip distribution percentages were used for distributing the project traffic:

East project area:

- 5% to/from the north via N. Ormsby Boulevard
- 5% to/from the south via N. Ormsby Boulevard
- 25% to/from the north via Mountain Street
- 15% to/from the south via Mountain Street
- 25% to/from the east via Long Street
- 25% to/from the east via Washington Street

West project area:

- 30% to/from the north via N. Ormsby Boulevard
- 20% to/from the south via N. Ormsby Boulevard
- 35% to/from the east via Washington Street
- 15% to/from the north via Mountain Street

Project generated trips were assigned to the adjacent roadway system based on the distributions outlined above. The project trip assignment is shown on **Figure 4**, attached.

EXISTING PLUS PROJECT CONDITIONS

Traffic Volumes

Existing plus project traffic volumes were developed by adding the project generated trips (**Figure 4**) to the existing traffic volumes (**Figure 2**) and are shown on **Figure 5**, attached. The “Plus Project” condition Peak Hour Factors (PHF) and travel patterns were assumed to remain the same as were observed under existing conditions.

Intersection Level of Service Analysis

Table 4 presents the level of service analysis summary for the “Plus Project” scenario assuming the existing intersection configurations. Detailed calculation sheets are provided in **Appendix B**, attached.

As shown in **Table 4**, all the study intersections and project driveways continue to operate at acceptable LOS conditions with the addition of the project traffic. The average delay at the Mountain Street/Long Street approaches increases by less than 2.5 seconds per vehicle with the addition of the project traffic, during both the AM and PM peak hours. The average delay at the N. Ormsby Boulevard/Washington Street intersection increases by less than 0.5 seconds per vehicle with the addition of the project traffic, during both the AM and PM peak hours. With the addition of the project traffic, average delay at the Mountain Street/Washington Street intersection increases by 1 second per vehicle during both the AM and PM peak hours. These increases in delay are insignificant and very good levels of service are maintained.

Table 4: Plus Project Intersection Level of Service Summary

Intersection	Approach/Movement	Control	Plus Project AM		Plus Project PM	
			LOS	Avg Delay	LOS	Avg Delay
Mountain St./Long St.	Northbound Left	TWSC	A	7.58	A	7.79
	Southbound Left		A	7.97	A	7.72
	Eastbound		B	13.80	B	13.25
	Westbound		C	16.36	B	13.72
Mountain St./East Dwy 1	Northbound Left	TWSC	A	7.73	A	7.77
	Eastbound		B	11.64	B	11.29
Mountain St./Washington St.	Overall	AWSC	B	10.83	B	10.11
Washington St./Lexington Ave.	Eastbound Left	TWSC	A	7.38	A	7.50
	Southbound		A	9.91	A	9.60
N. Ormsby Blvd./Washington St.	Southbound Left	TWSC	A	7.93	A	7.48
	Westbound		B	10.76	A	9.96
N. Ormsby Blvd./West Dwy 1	Northbound Left	TWSC	A	7.46	A	7.39
	Eastbound		A	9.38	A	9.04
N. Ormsby Blvd./West Dwy 2	Northbound Left	TWSC	A	7.51	A	7.42
	Eastbound		A	9.48	A	9.10
N Ormsby Blvd./East Dwy 2	Southbound Left	TWSC	A	7.49	A	7.43
	Westbound		A	9.42	A	9.15
Long St./Bolero Dr.	Northbound	TWSC	A	8.36	A	8.34
	Southbound		A	8.77	A	8.88

TWSC = Two-Way Stop Control. AWSC = All-Way Stop Control

The project is anticipated to add less than 40 peak hour trips to Bolero Drive. The existing roadway configuration is more than adequate to accommodate this minor increase in traffic volume (less one vehicle per minute on average during the highest hour). Similarly, Lexington Avenue would realize an increase of less than 60 vehicle trips during the peak hour and is design to accommodate traffic volumes significantly greater than what will occur. Neither of these roadways would be significantly impacted by the project.

CONCLUSIONS & RECOMMENDATIONS

Following is a list of our key findings and recommendations to best manage the traffic generated by the proposed project:

Project Trips: The proposed project is estimated to generate a total of 2,454 daily trips, 181 AM peak hour trips, and 240 PM peak hour trips.

Project Access: Access to the project site is planned via six access points. The proposed configuration intelligently distributes traffic throughout the roadway network reducing the project's affect at any one intersection. Connections are provided to each side of the project site consistent with best planning practices.

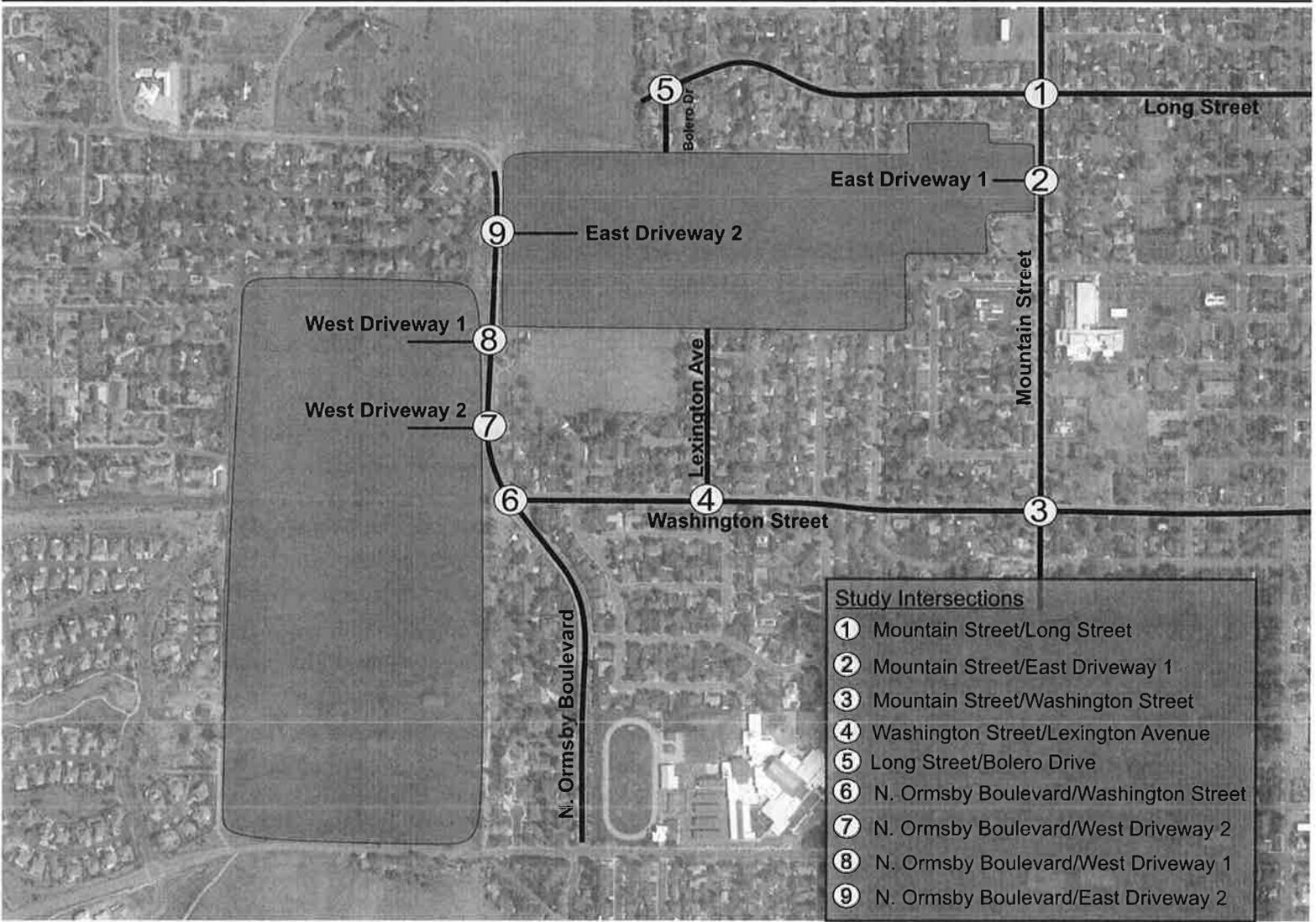
Gates will be constructed at each project access point, however, the gates will all remain open from 7:00 AM to 7:00 PM, seven days per week, as is specified in the PUD Handbook.

Existing Level of Service: All the study intersections currently operate at acceptable levels of service during both the AM and PM peak hours.

Plus Project Level of Service: All the study intersections, approaches and movements will operate at acceptable LOS conditions (LOS "C" or better) with the addition of the project traffic.

Recommendations: There are no identified impacts requiring mitigation. The average delay at the Mountain Street/Long Street approaches increases by less than 2.5 seconds per vehicle with the addition of the project traffic, during both the AM and PM peak hours. The average delay at the and N. Ormsby Boulevard/Washington Street intersection increases by less than 0.5 seconds per vehicle with the addition of the project traffic, during both the AM and PM peak hours. With the addition of the project traffic, average delay at the Mountain Street/Washington Street intersection increases by 1 second per vehicle during both the AM and PM peak hours. These increases in delay are insignificant and very good levels of service are maintained.

Bolero Drive, Lexington Avenue, and all other roadways in the study area will adequately accommodate the added project traffic without significant impacts.



- Study Intersections**
- ① Mountain Street/Long Street
 - ② Mountain Street/East Driveway 1
 - ③ Mountain Street/Washington Street
 - ④ Washington Street/Lexington Avenue
 - ⑤ Long Street/Bolero Drive
 - ⑥ N. Ormsby Boulevard/Washington Street
 - ⑦ N. Ormsby Boulevard/West Driveway 2
 - ⑧ N. Ormsby Boulevard/West Driveway 1
 - ⑨ N. Ormsby Boulevard/East Driveway 2

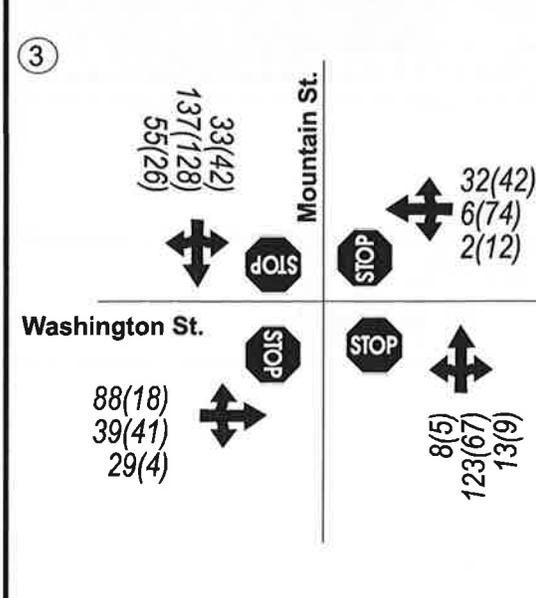
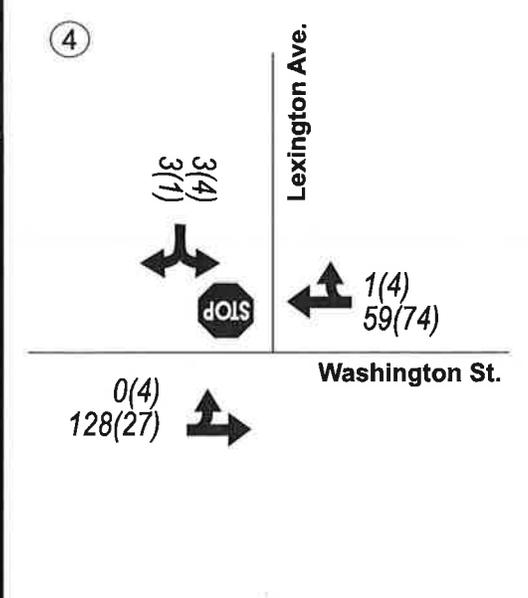
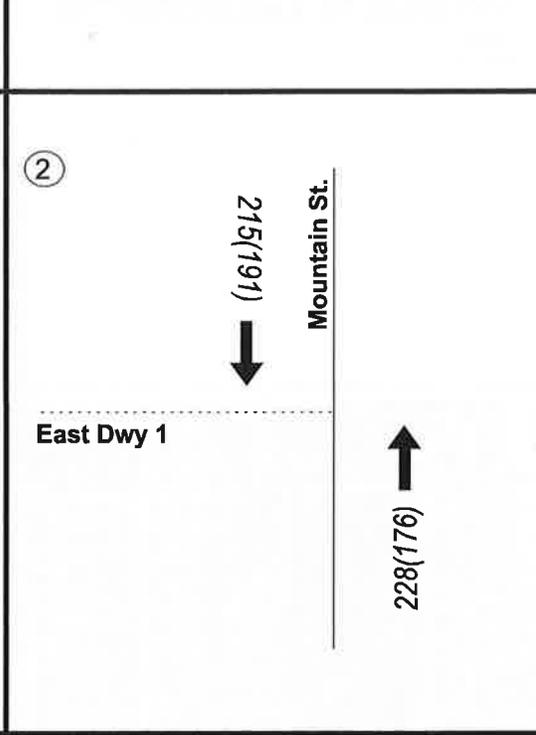
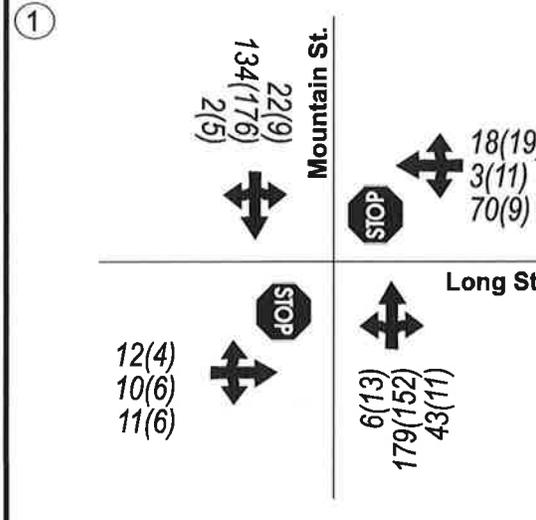
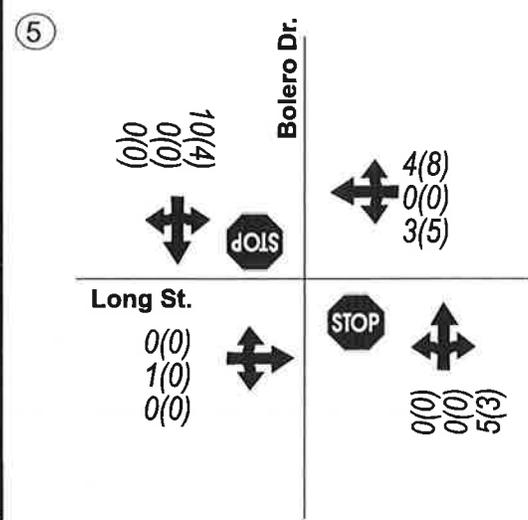
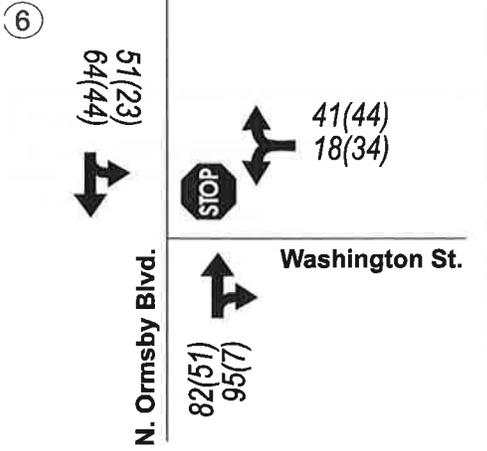
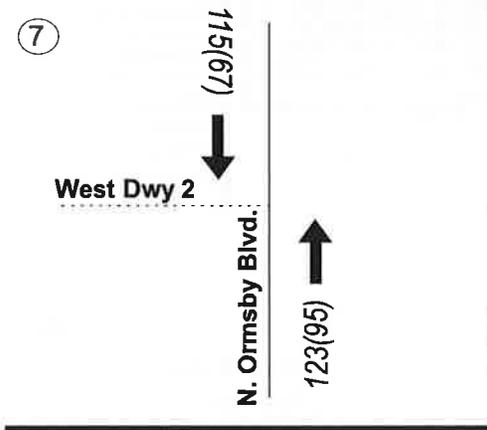
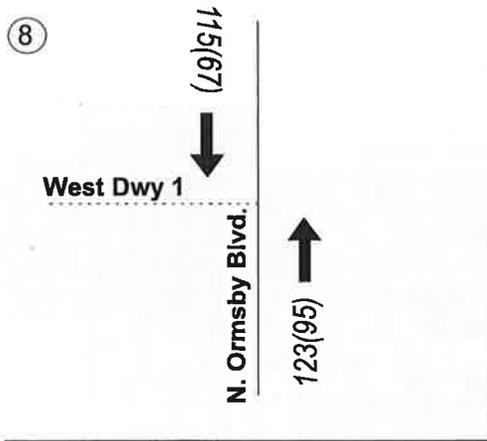
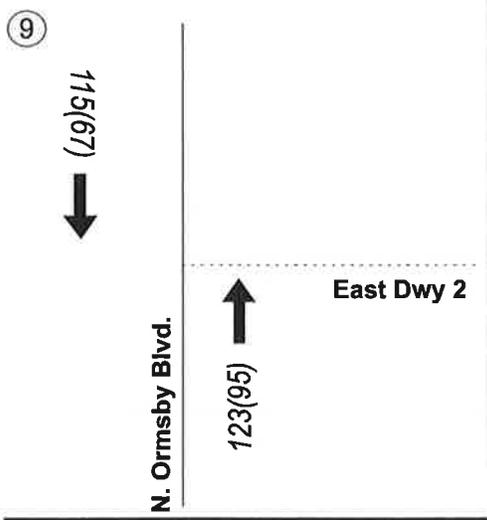


○ - Study Intersection

NO SCALE

Figure

THE VINTAGE AT KINGS CANYO
TRAFFIC IMPACT STUD
Study Area



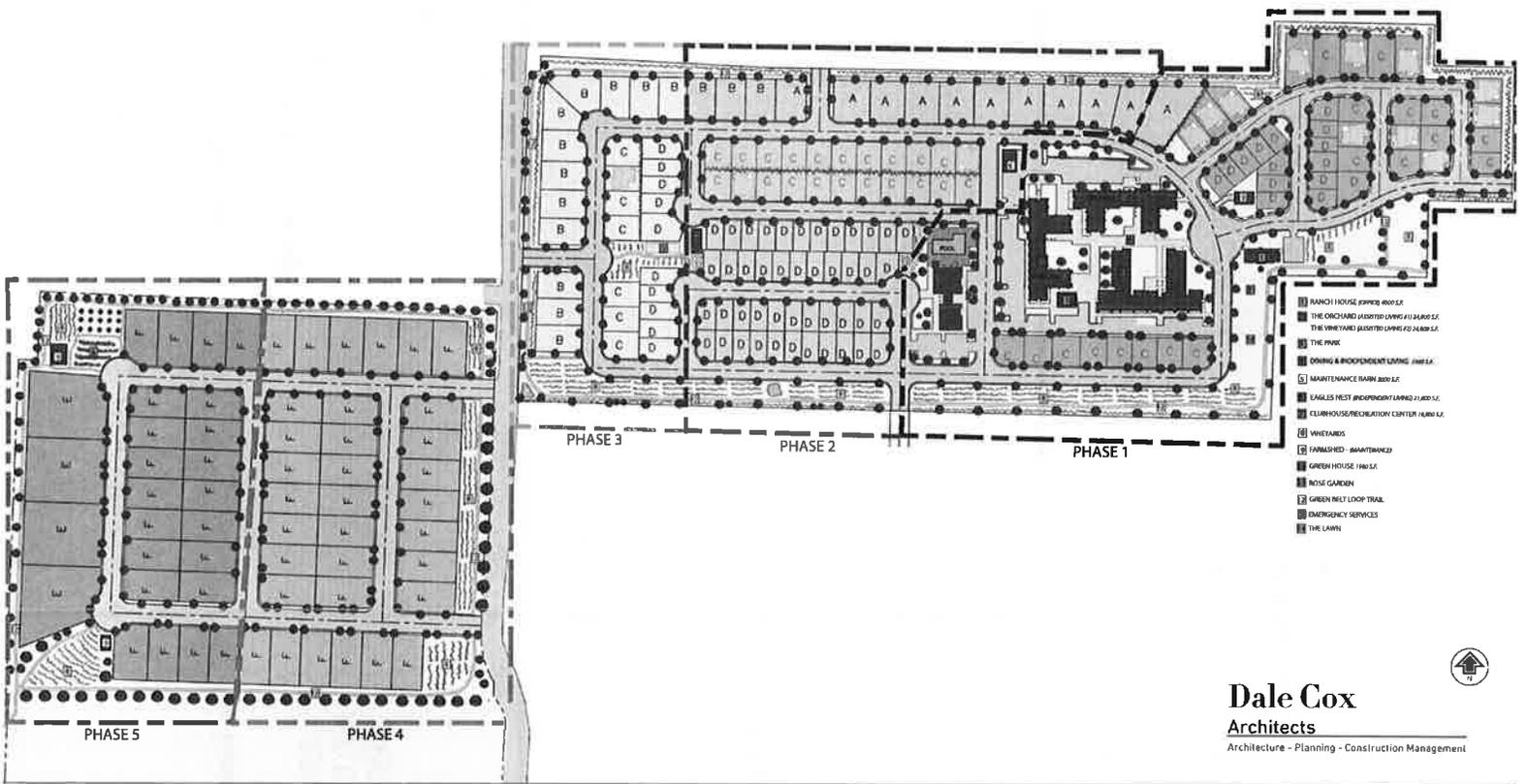
LEGEND

- AM(PM) - Peak Hour Traffic Volumes
- ← - Lane Configuration
- STOP - Stop Sign

Figure 2
THE VINTAGE AT KINGS CANYON
TRAFFIC IMPACT STUDY
 Existing Traffic Volumes

VINTAGE AT KINGS CANYON

7/28/2016
SCALE 1:100



Dale Cox
Architects
Architecture - Planning - Construction Management

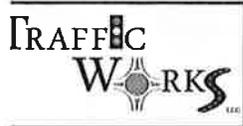
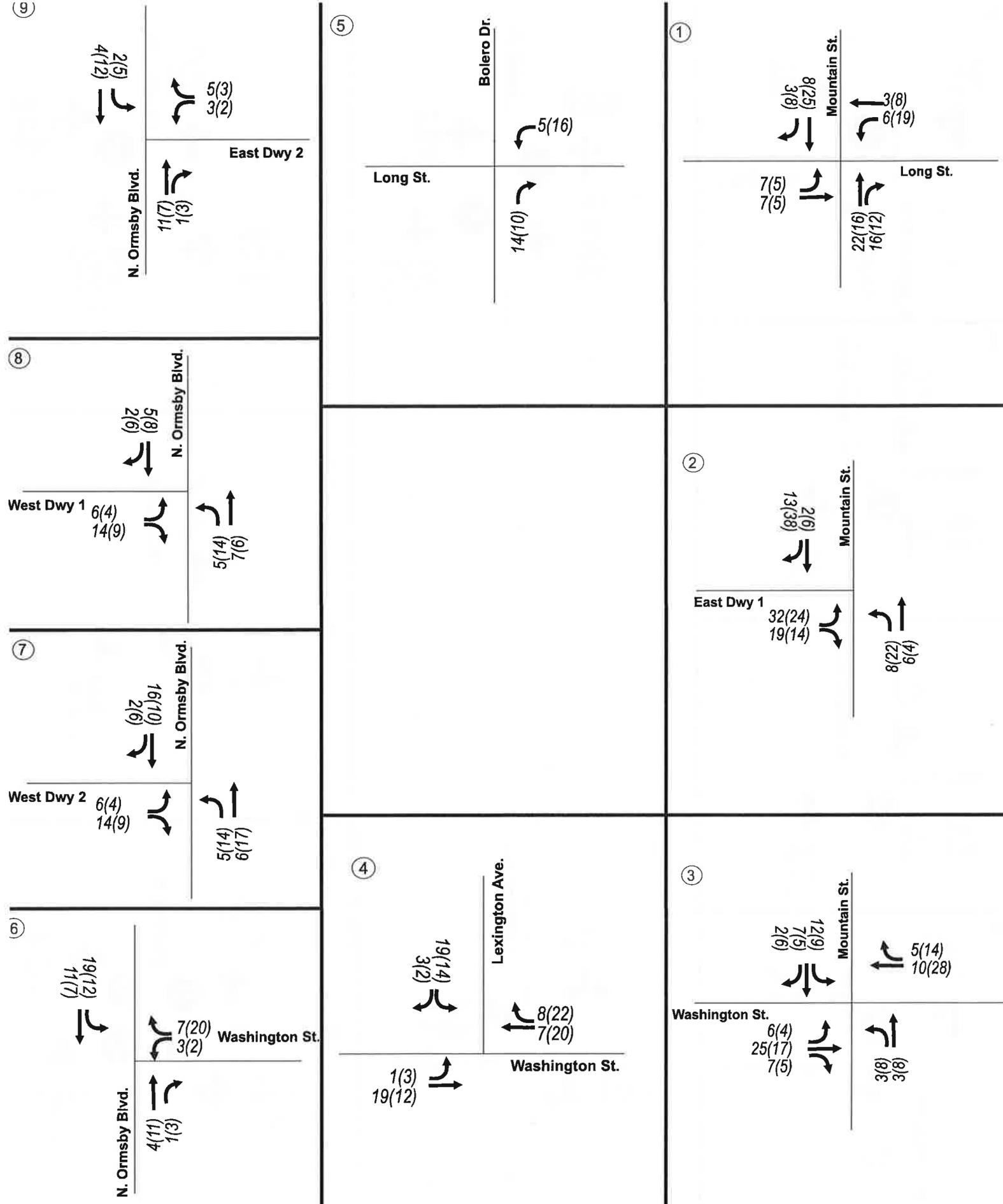
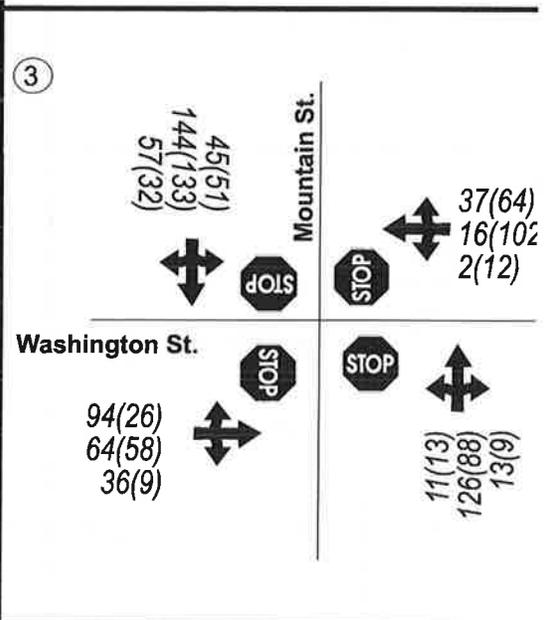
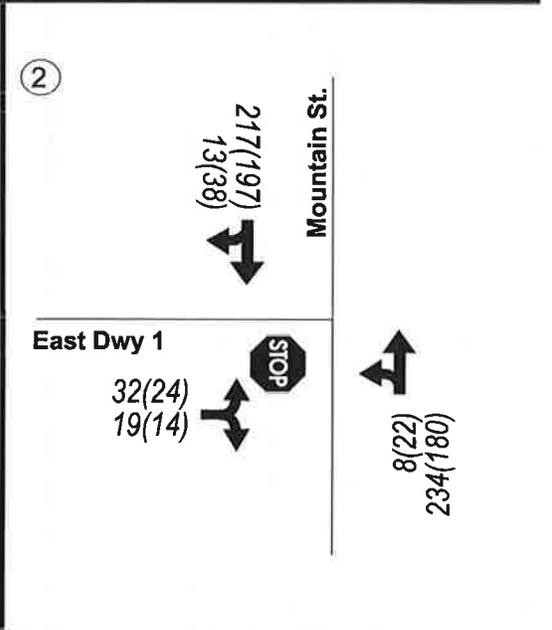
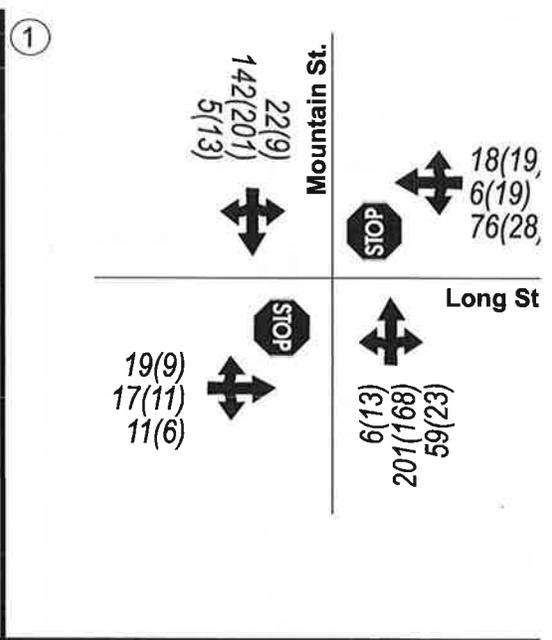
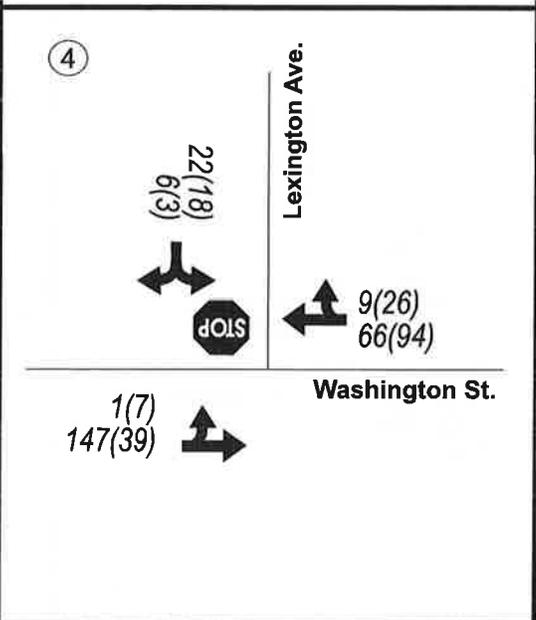
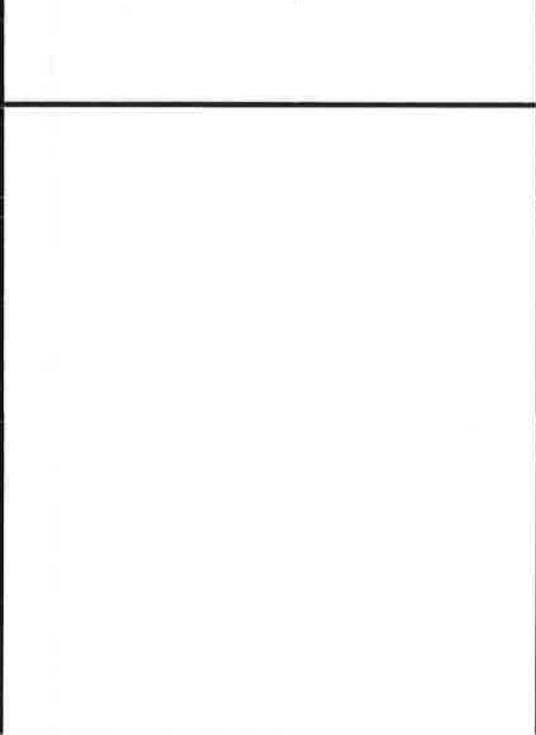
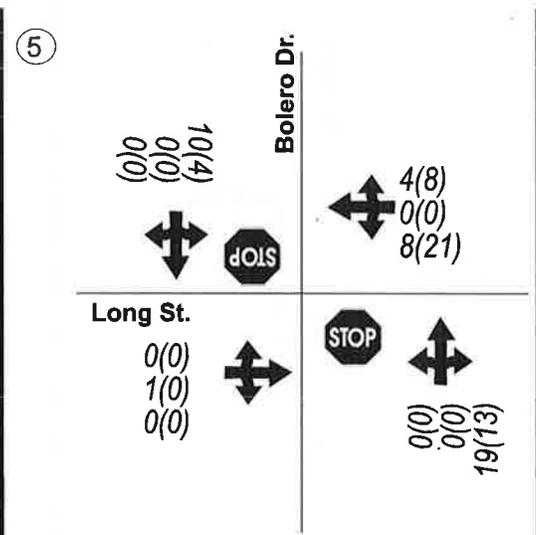
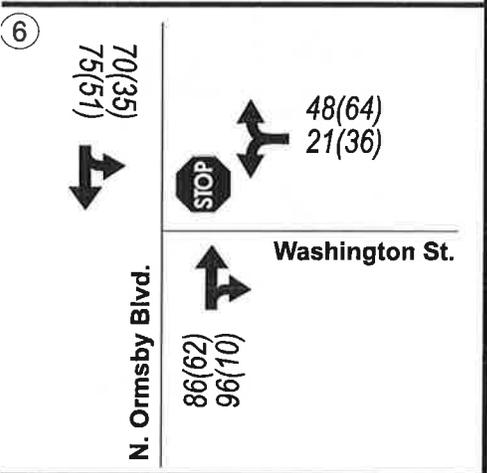
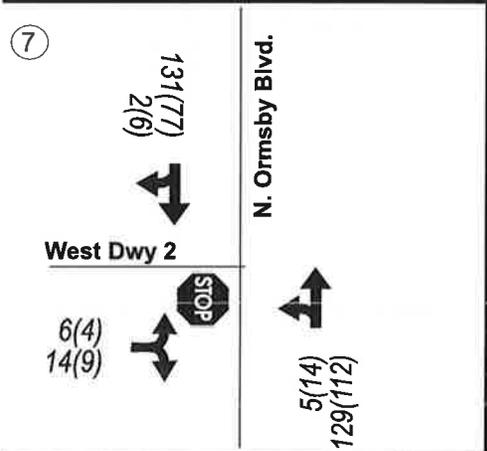
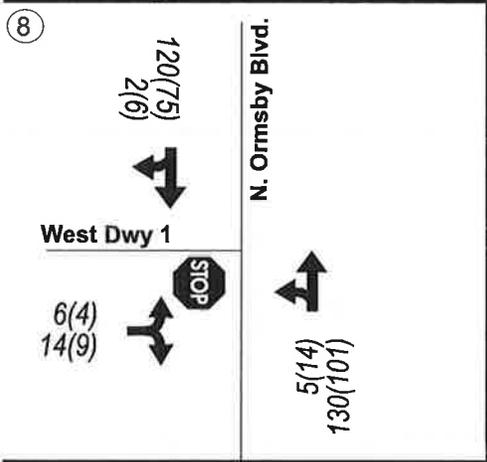
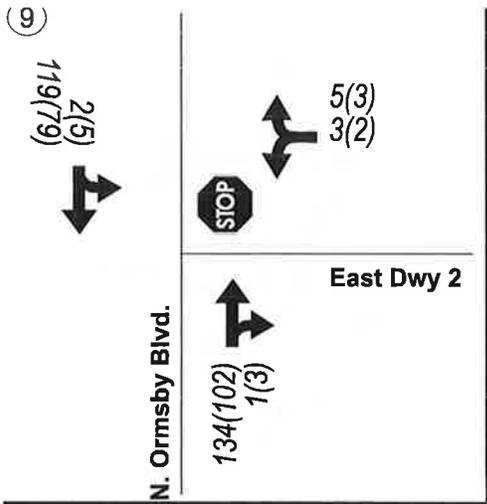


Figure
THE VINTAGE AT KINGS CANYON
TRAFFIC IMPACT STUDY
Site Plan

LEGEND

AM(PM) - Peak Hour Trip Assignment





LEGEND

AM(PM) - Peak Hour Traffic Volumes

← - Lane Configuration

STOP - Stop Sign

Figure 5

THE VINTAGE AT KINGS CANYON

TRAFFIC IMPACT STUDY

Existing Plus Project Traffic Volumes

Appendix A

Existing Conditions LOS Calculations

Intersection Level Of Service Report
Intersection 1: Mountain St/Long St

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 15.3
 Level Of Service: C
 Volume to Capacity (v/c): 0.199

Intersection Setup

Name	Mountain St			Mountain St			Long St			Long St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mountain St			Mountain St			Long St			Long St		
Base Volume Input [veh/h]	6	179	43	22	134	2	12	10	11	70	3	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.94	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	179	43	22	134	2	12	10	11	70	3	18
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	57	14	7	42	1	4	3	3	22	1	6
Total Analysis Volume [veh/h]	8	227	54	28	170	3	15	13	14	89	4	23
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.03	0.03	0.02	0.20	0.01	0.03
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	7.85	0.00	0.00	13.60	13.63	9.68	15.30	15.06	11.82
Movement LOS	A	A	A	A	A	A	B	B	A	C	C	B
95th-Percentile Queue Length [veh]	0.77	0.77	0.77	0.55	0.55	0.55	0.25	0.25	0.25	0.91	0.91	0.91
95th-Percentile Queue Length [ft]	19.13	19.13	19.13	13.75	13.75	13.75	6.36	6.36	6.36	22.80	22.80	22.80
d_A, Approach Delay [s/veh]	0.21			1.09			12.30			14.60		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.84											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 2: Mountain St/East Dwy 1**

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 11.6
Level Of Service: B
Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Mountain St		Mountain St		East Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↘		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Mountain St		Mountain St		East Dwy 1	
Base Volume Input [veh/h]	0	228	215	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.73	0.63	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	228	215	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	62	58	0	0	0
Total Analysis Volume [veh/h]	0	248	234	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	11.56	9.44
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: Mountian St/Washington St**

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Mountian St			Mountain St			Washington St			Washington St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Mountian St			Mountain St			Washington St			Washington St		
Base Volume Input [veh/h]	8	123	13	33	137	55	88	39	29	2	6	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	123	13	33	137	55	88	39	29	2	6	32
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	38	4	10	43	17	28	12	9	1	2	10
Total Analysis Volume [veh/h]	10	154	16	41	171	69	110	49	36	3	8	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.95	1.68	1.12	0.22
95th-Percentile Queue Length [ft]	23.77	41.98	28.04	5.54
Approach Delay [s/veh]	9.42	10.34	10.01	8.22
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	9.86			
Intersection LOS	A			

**Intersection Level Of Service Report
Intersection 4: N Ormsby Blvd/Washington St**

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

Intersection Setup

Name	N Ormsby		N Ormsby		Washington St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┌		└		└┌	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	N Ormsby		N Ormsby		Washington St	
Base Volume Input [veh/h]	82	95	51	64	18	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.44	2.11	1.96	1.56	0.00	2.44
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	95	51	64	18	41
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	32	17	21	6	14
Total Analysis Volume [veh/h]	109	127	68	85	24	55
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.04	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	7.85	0.00	11.74	9.69
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.39	0.39	0.35	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	9.71	9.71	8.71	8.71
d_A, Approach Delay [s/veh]	0.00		3.49		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.88					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: N Ormsby Blvd/West Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↘		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy	
Base Volume Input [veh/h]	0	123	115	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.63	1.74	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	123	115	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	31	0	0	0
Total Analysis Volume [veh/h]	0	134	125	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	0.00	9.90	8.87
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.39	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 6: N Ormsby Blvd/East Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N Ormsby		N Ormsby		East Dwy 2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┌		└		└┌	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		East Dwy 2	
Base Volume Input [veh/h]	123	0	0	115	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	0.00	0.00	1.74	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	0	0	115	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	0	0	31	0	0
Total Analysis Volume [veh/h]	134	0	0	125	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.46	0.00	9.90	8.91
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: N Ormsby Blvd/West Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↘		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy 2	
Base Volume Input [veh/h]	0	123	115	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	123	115	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	31	0	0	0
Total Analysis Volume [veh/h]	0	134	125	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	9.93	8.89
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 17: Washington St/Lexington Ave**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Lexington Ave		Washington St		Washington St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	T		T		T	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Lexington Ave		Washington St		Washington St	
Base Volume Input [veh/h]	3	3	0	128	59	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	0	128	59	1
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	39	18	0
Total Analysis Volume [veh/h]	4	4	0	156	72	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.75	8.66	7.34	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.70	0.70	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.20		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 18: Long St/Bolero Dr**

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 9.1
Level Of Service: A
Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration	↑			↑			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Base Volume Input [veh/h]	0	0	5	10	0	0	0	1	0	3	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	10	0	0	0	1	0	3	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	3	0	0	0	0	0	1	0	1
Total Analysis Volume [veh/h]	0	0	5	10	0	0	0	1	0	3	0	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.59	9.08	8.32	8.62	9.09	8.36	7.23	0.00	0.00	7.21	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.01	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft]	0.35	0.35	0.35	0.75	0.75	0.75	0.00	0.00	0.00	0.32	0.32	0.32
d_A, Approach Delay [s/veh]	8.32			8.62			0.00			3.09		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.50											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 1: Mountain St/Long St

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 13.2
 Level Of Service: B
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	Mountain St			Mountain St			Long St			Long St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mountain St			Mountain St			Long St			Long St		
Base Volume Input [veh/h]	13	152	11	9	176	5	4	6	6	9	11	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.66	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	152	11	9	176	5	4	6	6	9	11	19
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	48	3	3	56	2	1	2	2	3	3	6
Total Analysis Volume [veh/h]	16	192	14	11	223	6	5	8	8	11	14	24
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.02	0.03	0.03
d_M, Delay for Movement [s/veh]	7.70	0.00	0.00	7.63	0.00	0.00	13.19	12.86	9.65	13.11	13.09	9.77
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh]	0.59	0.59	0.59	0.63	0.63	0.63	0.12	0.12	0.12	0.26	0.26	0.26
95th-Percentile Queue Length [ft]	14.69	14.69	14.69	15.76	15.76	15.76	2.93	2.93	2.93	6.58	6.58	6.58
d_A, Approach Delay [s/veh]	0.55			0.35			11.72			11.47		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.91											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 2: Mountain St/East Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Mountain St		Mountain St		East Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↘		↗	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Mountain St		Mountain St		East Dwy 1	
Base Volume Input [veh/h]	0	176	191	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.79	0.41	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	176	191	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	52	0	0	0
Total Analysis Volume [veh/h]	0	191	208	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.62	0.00	0.00	0.00	10.90	9.30
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.10	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Mountian St/Washington St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 9.1
Level Of Service: A

Intersection Setup

Name	Mountian St			Mountain St			Washington St			Washington St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Mountian St			Mountain St			Washington St			Washington St		
Base Volume Input [veh/h]	5	67	9	42	128	26	18	41	4	12	74	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	5.56	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	67	9	42	128	26	18	41	4	12	74	42
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	21	3	13	40	8	6	13	1	4	23	13
Total Analysis Volume [veh/h]	6	84	11	53	160	33	23	51	5	15	93	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.46	1.34	0.37	0.78
95th-Percentile Queue Length [ft]	11.47	33.59	9.20	19.58
Approach Delay [s/veh]	8.48	9.67	8.61	8.89
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.11			
Intersection LOS	A			

**Intersection Level Of Service Report
Intersection 4: N Ormsby Blvd/Washington St**

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	N Ormsby		N Ormsby		Washington St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	N Ormsby		N Ormsby		Washington St	
Base Volume Input [veh/h]	51	7	23	44	34	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.44	2.11	1.96	1.56	0.00	2.44
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	7	23	44	34	44
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	2	8	15	11	15
Total Analysis Volume [veh/h]	68	9	31	59	45	59
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.06	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	7.41	0.00	10.13	9.18
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.19	0.19	0.40	0.40
95th-Percentile Queue Length [ft]	0.00	0.00	4.71	4.71	9.91	9.91
d_A, Approach Delay [s/veh]	0.00		2.55		9.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.53					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: N Ormsby Blvd/West Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↗		↘	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy	
Base Volume Input [veh/h]	0	95	67	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.63	1.74	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	95	67	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	18	0	0	0
Total Analysis Volume [veh/h]	0	103	73	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	9.40	8.62
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.01	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 6: N Ormsby Blvd/East Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N Ormsby		N Ormsby		East Dwy 2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┌		└		└	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		East Dwy 2	
Base Volume Input [veh/h]	95	0	0	67	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	0.00	0.00	1.74	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	0	0	67	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	0	0	18	0	0
Total Analysis Volume [veh/h]	103	0	0	73	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.40	0.00	9.40	8.76
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.08	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: N Ormsby Blvd/West Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		← →	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy 2	
Base Volume Input [veh/h]	0	95	67	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	95	67	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	18	0	0	0
Total Analysis Volume [veh/h]	0	103	73	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	0.00	9.42	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.03	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 17: Washington St/Lexington Ave**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Lexington Ave		Washington St		Washington St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↔		↕		↔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Lexington Ave		Washington St		Washington St	
Base Volume Input [veh/h]	4	1	4	27	74	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	4	27	74	4
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	8	23	1
Total Analysis Volume [veh/h]	5	1	5	33	90	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.21	8.74	7.39	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.08	0.08	0.00	0.00
95th-Percentile Queue Length [ft]	0.52	0.52	1.93	1.93	0.00	0.00
d_A, Approach Delay [s/veh]	9.14		0.97		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: Long St/Bolero Dr

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 9.1
 Level Of Service: A
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration	↑			↓			↑			↓		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Base Volume Input [veh/h]	0	0	3	4	0	0	0	0	0	5	0	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	3	4	0	0	0	0	0	5	0	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	1	0	0	0	0	0	1	0	2
Total Analysis Volume [veh/h]	0	0	3	4	0	0	0	0	0	5	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	9.11	8.31	8.61	9.10	0.00	0.00	0.00	0.00	7.21	0.00	0.00
Movement LOS		A	A	A	A			A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft]	0.00	0.21	0.21	0.30	0.30	0.00	0.00	0.00	0.00	0.60	0.60	0.60
d_A, Approach Delay [s/veh]		8.31		8.61		0.00		2.77				
Approach LOS		A		A		A		A				
d_I, Intersection Delay [s/veh]	4.77											
Intersection LOS	A											

Appendix B

Existing Plus Project LOS Calculations

Intersection Level Of Service Report
Intersection 1: Mountain St/Long St

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 17.1
 Level Of Service: C
 Volume to Capacity (v/c): 0.238

Intersection Setup

Name	Mountain St			Mountain St			Long St			Long St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mountain St			Mountain St			Long St			Long St		
Base Volume Input [veh/h]	6	179	43	22	134	2	12	10	11	70	3	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.94	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	16	0	8	3	7	7	0	6	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	201	59	22	142	5	19	17	11	76	6	18
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	64	19	7	45	2	6	5	3	24	2	6
Total Analysis Volume [veh/h]	8	254	75	28	180	6	24	22	14	96	8	23
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.06	0.05	0.02	0.24	0.02	0.03
d_M, Delay for Movement [s/veh]	7.58	0.00	0.00	7.97	0.00	0.00	14.89	14.85	10.29	17.14	16.57	13.02
Movement LOS	A	A	A	A	A	A	B	B	B	C	C	B
95th-Percentile Queue Length [veh]	0.94	0.94	0.94	0.62	0.62	0.62	0.44	0.44	0.44	1.17	1.17	1.17
95th-Percentile Queue Length [ft]	23.59	23.59	23.59	15.54	15.54	15.54	10.91	10.91	10.91	29.27	29.27	29.27
d_A, Approach Delay [s/veh]	0.18			1.04			13.80			16.36		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	4.32											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Mountain St/East Dwy 1

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 12.6
Level Of Service: B
Volume to Capacity (v/c): 0.067

Intersection Setup

Name	Mountain St		Mountain St		East Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Mountain St		Mountain St		East Dwy 1	
Base Volume Input [veh/h]	0	228	215	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.73	0.63	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	6	2	13	32	19
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	234	217	13	32	19
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	64	59	4	9	5
Total Analysis Volume [veh/h]	9	254	236	14	35	21
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.07	0.03
d_M, Delay for Movement [s/veh]	7.73	0.00	0.00	0.00	12.55	10.12
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.74	0.74	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft]	18.43	18.43	0.00	0.00	7.71	7.71
d_A, Approach Delay [s/veh]	0.26		0.00		11.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.27					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Mountian St/Washington St

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Mountian St			Mountain St			Washington St			Washington St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Mountian St			Mountain St			Washington St			Washington St		
Base Volume Input [veh/h]	8	123	13	33	137	55	88	39	29	2	6	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	0	12	7	2	6	25	7	0	10	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	126	13	45	144	57	94	64	36	2	16	37
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	39	4	14	45	18	29	20	11	1	5	12
Total Analysis Volume [veh/h]	14	158	16	56	180	71	118	80	45	3	20	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09	2.11	1.61	0.33
95th-Percentile Queue Length [ft]	27.23	52.64	40.22	8.27
Approach Delay [s/veh]	10.06	11.51	11.15	8.78
Approach LOS	B	B	B	A
Intersection Delay [s/veh]	10.83			
Intersection LOS	B			

**Intersection Level Of Service Report
Intersection 4: N Ormsby Blvd/Washington St**

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	N Ormsby		N Ormsby		Washington St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↷	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	N Ormsby		N Ormsby		Washington St	
Base Volume Input [veh/h]	82	95	51	64	18	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.44	2.11	1.96	1.56	0.00	2.44
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	1	19	11	3	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	96	70	75	21	48
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	32	23	25	7	16
Total Analysis Volume [veh/h]	115	128	93	100	28	64
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.07	0.00	0.05	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	7.93	0.00	12.69	9.91
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.51	0.51	0.44	0.44
95th-Percentile Queue Length [ft]	0.00	0.00	12.76	12.76	10.98	10.98
d_A, Approach Delay [s/veh]	0.00		3.82		10.76	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.27					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: N Ormsby Blvd/West Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		← →	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy	
Base Volume Input [veh/h]	0	123	115	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.63	1.74	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	7	5	2	6	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	130	120	2	6	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	35	33	1	2	4
Total Analysis Volume [veh/h]	5	141	130	2	7	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	10.19	9.01
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.33	0.33	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft]	8.28	8.28	0.00	0.00	2.01	2.01
d_A, Approach Delay [s/veh]	0.26		0.00		9.39	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: N Ormsby Blvd/East Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	N Ormsby		N Ormsby		East Dwy 2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		⊥	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		East Dwy 2	
Base Volume Input [veh/h]	123	0	0	115	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	0.00	0.00	1.74	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	1	2	4	3	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	1	2	119	3	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	0	1	32	1	1
Total Analysis Volume [veh/h]	146	1	2	129	3	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	10.09	9.02
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.30	0.30	0.03	0.03
95th-Percentile Queue Length [ft]	0.00	0.00	7.45	7.45	0.74	0.74
d_A, Approach Delay [s/veh]	0.00		0.11		9.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 9: N Ormsby Blvd/West Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		← →	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy 2	
Base Volume Input [veh/h]	0	123	115	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	6	16	2	6	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	129	131	2	6	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	35	36	1	2	4
Total Analysis Volume [veh/h]	5	140	142	2	7	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.51	0.00	0.00	0.00	10.30	9.10
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.34	0.34	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft]	8.39	8.39	0.00	0.00	2.05	2.05
d_A, Approach Delay [s/veh]	0.26		0.00		9.48	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Washington St/Lexington Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.037

Intersection Setup

Name	Lexington Ave		Washington St		Washington St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	← T		←		←	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Lexington Ave		Washington St		Washington St	
Base Volume Input [veh/h]	3	3	0	128	59	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	3	1	19	7	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	6	1	147	66	9
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	0	45	20	3
Total Analysis Volume [veh/h]	27	7	1	179	80	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.17	8.90	7.38	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.14	0.40	0.40	0.00	0.00
95th-Percentile Queue Length [ft]	3.47	3.47	10.08	10.08	0.00	0.00
d_A, Approach Delay [s/veh]	9.91		0.04		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 18: Long St/Bolero Dr

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 9.2
Level Of Service: A
Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration	↑			↑			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Base Volume Input [veh/h]	0	0	5	10	0	0	0	1	0	3	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	14	0	0	0	0	0	0	5	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	19	10	0	0	0	1	0	8	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	5	3	0	0	0	0	0	2	0	1
Total Analysis Volume [veh/h]	0	0	19	10	0	0	0	1	0	8	0	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.69	9.19	8.36	8.77	9.16	8.37	7.23	0.00	0.00	7.21	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft]	1.33	1.33	1.33	0.79	0.79	0.79	0.00	0.00	0.00	0.55	0.55	0.55
d_A, Approach Delay [s/veh]	8.36			8.77			0.00			4.81		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.24											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 1: Mountain St/Long St**

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 15.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.083

Intersection Setup

Name	Mountain St			Mountain St			Long St			Long St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mountain St			Mountain St			Long St			Long St		
Base Volume Input [veh/h]	13	152	11	9	176	5	4	6	6	9	11	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.66	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	12	0	25	8	5	5	0	19	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	168	23	9	201	13	9	11	6	28	19	19
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	53	7	3	64	4	3	3	2	9	6	6
Total Analysis Volume [veh/h]	16	213	29	11	254	16	11	14	8	35	24	24
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.03	0.03	0.01	0.08	0.06	0.03
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	7.72	0.00	0.00	14.61	13.94	10.19	14.98	14.75	10.86
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	B
95th-Percentile Queue Length [veh]	0.73	0.73	0.73	0.79	0.79	0.79	0.23	0.23	0.23	0.60	0.60	0.60
95th-Percentile Queue Length [ft]	18.37	18.37	18.37	19.85	19.85	19.85	5.65	5.65	5.65	14.92	14.92	14.92
d_A, Approach Delay [s/veh]	0.48			0.30			13.25			13.72		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.73											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 2: Mountian St/East Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Mountain St		Mountain St		East Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		← →	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Mountain St		Mountain St		East Dwy 1	
Base Volume Input [veh/h]	0	176	191	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.79	0.41	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	4	6	38	24	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	180	197	38	24	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	49	54	10	7	4
Total Analysis Volume [veh/h]	24	196	214	41	26	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.05	0.02
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	0.00	12.11	9.87
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.60	0.60	0.00	0.00	0.21	0.21
95th-Percentile Queue Length [ft]	14.91	14.91	0.00	0.00	5.36	5.36
d_A, Approach Delay [s/veh]	0.85		0.00		11.29	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.26					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: Mountian St/Washington St**

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Mountian St			Mountain St			Washington St			Washington St		
	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Mountian St			Mountain St			Washington St			Washington St		
	Base Volume Input [veh/h]	5	80	9	42	128	26	22	41	4	12	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	5.56	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	0	9	5	6	4	17	5	0	28	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	88	9	51	133	32	26	58	9	12	102	64
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	28	3	16	42	10	8	18	3	4	32	20
Total Analysis Volume [veh/h]	16	110	11	64	166	40	33	73	11	15	128	80
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.72	1.72	0.62	1.29
95th-Percentile Queue Length [ft]	18.08	42.88	15.48	32.24
Approach Delay [s/veh]	9.39	10.82	9.40	10.07
Approach LOS	A	B	A	B
Intersection Delay [s/veh]	10.11			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 4: N Ormsby Blvd/Washington St

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.067

Intersection Setup

Name	N Ormsby		N Ormsby		Washington St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	N Ormsby		N Ormsby		Washington St	
Base Volume Input [veh/h]	51	7	23	44	34	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.44	2.11	1.96	1.56	0.00	2.44
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	3	12	7	2	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	10	35	51	36	64
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	3	12	17	12	21
Total Analysis Volume [veh/h]	83	13	47	68	48	85
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.07	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	7.48	0.00	10.79	9.49
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.25	0.25	0.55	0.55
95th-Percentile Queue Length [ft]	0.00	0.00	6.23	6.23	13.66	13.66
d_A, Approach Delay [s/veh]	0.00		3.06		9.96	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.87					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: N Ormsby Blvd/West Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↗		↘	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy	
Base Volume Input [veh/h]	0	95	67	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.63	1.74	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	6	8	6	4	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	101	75	6	4	9
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	27	20	2	1	2
Total Analysis Volume [veh/h]	15	110	82	7	4	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	0.00	9.81	8.74
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.27	0.27	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft]	6.71	6.71	0.00	0.00	1.18	1.18
d_A, Approach Delay [s/veh]	0.89		0.00		9.04	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.04					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 6: N Ormsby Blvd/East Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	N Ormsby		N Ormsby		East Dwy 2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	└─▶		└─▶		└─▶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		East Dwy 2	
Base Volume Input [veh/h]	95	0	0	67	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	0.00	0.00	1.74	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	3	5	12	2	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	3	5	79	2	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	1	1	21	1	1
Total Analysis Volume [veh/h]	111	3	5	86	2	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	9.63	8.83
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.20	0.20	0.02	0.02
95th-Percentile Queue Length [ft]	0.00	0.00	4.88	4.88	0.43	0.43
d_A, Approach Delay [s/veh]	0.00		0.41		9.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.39					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: N Ormsby Blvd/West Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	N Ormsby		N Ormsby		West Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		← →	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	N Ormsby		N Ormsby		West Dwy 2	
Base Volume Input [veh/h]	0	95	67	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	17	10	6	4	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	112	77	6	4	9
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	30	21	2	1	2
Total Analysis Volume [veh/h]	15	122	84	7	4	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.42	0.00	0.00	0.00	9.92	8.77
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.30	0.30	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft]	7.50	7.50	0.00	0.00	1.20	1.20
d_A, Approach Delay [s/veh]	0.81		0.00		9.10	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 17: Washington St/Lexington Ave

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Lexington Ave		Washington St		Washington St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	← T →		← T →		← T →	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Lexington Ave		Washington St		Washington St	
Base Volume Input [veh/h]	4	1	4	27	74	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	2	3	12	20	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	3	7	39	94	26
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	1	2	12	29	8
Total Analysis Volume [veh/h]	22	4	9	48	115	32
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.70	9.04	7.50	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.12	0.12	0.00	0.00
95th-Percentile Queue Length [ft]	2.49	2.49	3.07	3.07	0.00	0.00
d_A, Approach Delay [s/veh]	9.60		1.18		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.38					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 18: Long St/Bolero Dr**

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 9.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration	↑			↓			↑			↓		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bolero Dr			Bolero Dr			Long St			Long St		
Base Volume Input [veh/h]	0	0	3	4	0	0	0	0	0	5	0	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	10	0	0	0	0	0	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	13	4	0	0	0	0	0	21	0	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	3	1	0	0	0	0	0	5	0	2
Total Analysis Volume [veh/h]	0	0	13	4	0	0	0	0	0	21	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	9.35	8.34	8.88	9.31	0.00	0.00	0.00	0.00	7.23	0.00	0.00
Movement LOS		A	A	A	A			A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft]	0.00	0.90	0.90	0.32	0.32	0.00	0.00	0.00	0.00	1.35	1.35	1.35
d_A, Approach Delay [s/veh]		8.34		8.88		0.00		5.23				
Approach LOS		A		A		A		A				
d_I, Intersection Delay [s/veh]	6.43											
Intersection LOS	A											

**GEOTECHNICAL INVESTIGATION
REPORT**

for

THE VINTAGE AT KING'S CANYON

Carson City, Nevada

Prepared for:

**The Vintage at Kings Canyon, LP
9130 Double Diamond Parkway
Reno, Nevada 89521**

Prepared by:

LUMOS and ASSOCIATES, INC.
800 E. College Parkway
Carson City, Nevada 89706
Tel: (775) 883-7077
Fax: (775) 883-7114

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**GEOTECHNICAL INVESTIGATION REPORT
THE VINTAGE AT KING'S CANYON**

Carson City, Nevada

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GEOTECHNICAL INVESTIGATION REPORT
for
THE VINTAGE AT KING'S CANYON
CARSON CITY, NEVADA

INTRODUCTION

Submitted herewith are the results of Lumos and Associates, Inc. (Lumos) geotechnical investigation for the proposed Vintage at King's Canyon project to be located in Carson City, Nevada. North Ormsby Boulevard bisects the site. The western portion of the site (approximately 25 acres in size) is located in the northwest quarter of section 18, township 15 north, range 20 east and is bounded by residential developments to the north and west, agricultural fields to the south, and North Ormsby Boulevard to the east. The eastern portion of the site (approximately 50 acres in size) is located in the north half of section 18 and the south half of section 7, township 15 north, range 20 east and is partially bounded by residential developments and agricultural fields to the north and south, is bounded on the west by North Ormsby Boulevard, and is bounded on the east by Mountain Street (refer to Plate 1).

It is our understanding that the proposed project will consist of one to two story houses with conventional foundations, Portland cement concrete improvements (sidewalks, curbs, and gutters), and asphalt concrete roadways. Additionally, we understand an office/medical complex has been proposed on the eastern portion of the site (approximately 9 acres in size) along Mountain Street. Structural loads for the residential portion of the project have been assumed not to exceed 1 to 2 kips per lineal foot and 6 to 8 kips for continuous wall and isolated column loads, respectively. Structural loads for the office/medical buildings have been assumed not to exceed three (3) to four (4) kips per lineal foot and 25 to 30 kips for continuous-wall and isolated-column loads, respectively. We have assumed that final grades at the site will be within five (5) feet from the existing grades.

The purpose of our investigation was to characterize the site geology and soil conditions, describe the native soils and determine their engineering properties as they relate to the proposed construction. The investigation was also intended to identify possible adverse geologic, soil, and/or water table conditions. However, this study did not include an environmental assessment or an evaluation for soil and/or groundwater contamination at the site. For your information, we have included, in Appendix E, the State of Nevada EPA Map of Radon Zones.

This report concludes with recommendations for site grading, foundations, footing area preparation, slope stability, utility installation, asphalt concrete, and Portland cement concrete. In addition, information such as logs of all exploratory borings, laboratory test data, allowable soil bearing capacities, estimated total and differential settlements based on static and dynamic loads, lateral earth pressures, and International Building Code (IBC) seismic site class designation are provided in this report.

The recommendations contained herein have been prepared based on our understanding of the proposed construction, as outlined above. Re-evaluation of the recommendations presented in this report should be conducted after the final site grading and construction plans are completed, if there are any variations from the assumptions described herein.

It is possible that subsurface discontinuities may exist between and beyond exploration points. Such discontinuities are beyond the evaluation of the Engineer at this time. No guarantee of the consistency of site geology and sub-surface conditions is implied or intended.

GEOLOGIC SETTING

Carson City is at the extreme western portion of the Great Basin geomorphic province. The Great Basin is characterized by internal drainage and large normal fault-bounded valleys (grabens) separated by high mountain ranges (horst). The Sierra Nevada province to the west is characterized by large granite masses that have been uplifted and tilted a few degrees toward the west. Overlying the granites are older oceanic meta-sedimentary rocks.

Specifically, the site is located near the western foothills of Eagle Valley. The surface geology of the project area has been mapped as a Qal soil type by Dennis T. Trexler (1977). The mapping indicates that pediment alluvial-fan deposits of Eagle Valley underlie the site. They are yellowish-brown to gray, unbedded to poorly bedded, poorly to moderately sorted, fine silty sand, sandy silt, granular muddy coarse sand, and minor sandy gravel, underlies broad surfaces of low gradient. John W. Bell and Dennis T. Trexler (1979) have also mapped this area as an area to experience the greatest severity of shaking during earthquakes and possible severe liquefaction locally.

SEISMIC CONSIDERATIONS

Carson City, similar to many areas of Nevada, is located near active faults, which are capable of producing significant earthquakes. This area can be described as an area that may experience major damage due to earthquakes having intensities of VII or more when evaluated using the Modified Mercalli Intensity Scale of 1931 (Plate 3).

The Carson City area is located within the Sierra Nevada-Great Basin seismic belt and at least four (4) major earthquakes with moment magnitudes greater than 6.0 (Plate 4) have occurred historically within 15 miles of the site. The areas north and south of Carson City have experienced a number of large earthquakes in the past, with a swarm of large events during the single years 1868 and 1869. During these episodes, the three (3) largest events were magnitudes 6.0, 6.1, and 6.7. The causative faults were located approximately 4 to 15 miles southwest of the site within the Genoa Fault area.

According to the Carson City Quadrangle Earthquake Hazards Map by Trexler and Bell (1979) a north/south trending fault is approximately 500-1000 feet north of the site (Plate 5). The fault is mapped as a Holocene, which is <12,000 years old, which is considered potentially active. However, no active Holocene (<12,000 years) age faulting is known to cross the site, nor has any direct evidence of on-site faulting been observed in the field during the current investigation.

Ground shaking should be anticipated at the site and intensities should be governed by a design earthquake occurring within a few miles of the site on faults belonging to the Sierra Nevada – Great Basin seismic belt that crosses Carson City. For design purposes, ground-shaking intensities should be based on a design earthquake occurring on the Carson City or Genoa Fault Zones with a maximum credible earthquake of 7.5 in moment magnitude.

Liquefaction is the phenomena where more commonly loose saturated sands or silty sands lose their shear strength when subjected to cyclic loading, and become unstable. Large earthquakes, as described above, may provide that type of cyclic loading. Liquefaction is most commonly associated with loose, saturated, relatively clean sands. These conditions were not encountered during our investigation. During our field investigation groundwater was encountered in the eastern portion of the site at a depth of 22 and 23 feet (Borings 3 and 4 respectively). Other holes were explored to as deep as 40 feet without encountering groundwater water. However, The Carson City Quadrangle General Ground Water Map by Terry Katzer (1980) indicates the depth to groundwater is at approximately 10 feet. Additionally, mottling, which indicates previous groundwater presence, was observed in samples taken from 20 of the 24 borings at depths of approximately 10 feet, or less.

2012 IBC Design: The mapped maximum considered earthquake spectral response acceleration at short periods (S_s) is 2.377g corresponding to a 0.2 second spectral response acceleration at five percent (5%) of critical damping and for a Site Class B (IBC Figure 1613.3.1(1)). The mapped maximum considered earthquake spectral response acceleration at a 1-second period (S_1) is 0.875g corresponding to a 1.0 second spectral response acceleration at five percent (5%) of critical damping and for a Site Class B (IBC Figure 1613.3.1(2)). According to section 1613.3.2, when the soil properties are not known in sufficient detail to a depth of 100 feet, site Class D shall be assumed. Therefore, the spectral response accelerations must be adjusted for Site Class effects. The site coefficient for spectral response accelerations adjustment at short periods (F_a) is 1.0 (IBC Table 1613.3.3(1)). The site class effect for spectral response accelerations adjustment at 1-second periods (F_v) is 1.5 (IBC Table 1613.3.3(2)). The maximum considered earthquake spectral response acceleration parameter for short period (S_{MS}) is 2.377g and for 1-second period (S_{M1}) is 1.312g. This corresponds to design spectral response acceleration parameters of 1.585g for short period (S_{DS}) and 0.875g for 1-second period (S_{D1}).

It is emphasized that the above values are the minimum requirements intended to maintain public safety during strong ground shaking. These minimum requirements are meant to safeguard against loss of life and major structural failures, but are not intended

to prevent damage or insure the functionality of the structure during and/or after a large seismic event. Additionally, they do not protect against damage to non-structural components or the contents of the building.

In conclusion, seismic concerns for this site are not unlike other sites in the Carson City area. No evidence of active faulting was found on the site. However, due to the proximity of the site to a number of faults that are considered active, as noted above, strong seismic shaking should be anticipated during the life of the proposed structures.

SITE-SPECIFIC LIQUEFACTION EVALUATION

A simplified liquefaction evaluation was performed in accordance with the Geotechnical Earthquake Engineering Reference Manual by Munfakh et. Al. (1998), Federal Highway Administration Report No. FHWA-HI-99-012.

Data used for the liquefaction evaluation included log information Standard Penetration (SPT) blow counts, unit weight of in-situ soils, depth to groundwater, Atterberg limits, and percent fines (percent passing the #200 sieve). Calculations to evaluate liquefaction included total vertical stress, effective vertical stress, effective confining stress, normalized and standardized SPT blow counts, critical stress ratio induced by the design earthquake, corrected critical stress ratio resisting liquefaction, and the factor of safety. Experience and engineering judgment were also exercised during our evaluation. The following parameters were used as part of analysis:

Moment Magnitude: (M_w) = 7.5

The Peak Ground Acceleration (adjusted for site class effects) = 0.75g (PGAm)(ASCE7-10)

Unit Weight of Soil Above Groundwater = 115 pounds-per-cubic-foot

Unit Weight of Soil Below Groundwater = 55 pounds-per-cubic-foot

Groundwater Depth = 10 feet (from groundwater map)

The peak ground acceleration of 0.75g was determined utilizing an F_{pga} factor for a Site Class D. Therefore, the critical stress ratio induced by the design earthquake was calculated. The critical stress ratio at which liquefaction is expected to occur during a $M=7.5$ earthquake was evaluated from the chart showing the relationship between cyclic stress ratio causing liquefaction and corrected SPT blow counts, which shows the liquefaction/no liquefaction for sand with fine content of 5, 15 and 35 percent. The corrected critical stress ratio resisting liquefaction was calculated by multiplying the critical stress ratio at which liquefaction is expected to occur times the magnitude scaling factor (not necessary in this case). Finally, the factor of safety against liquefaction was calculated by dividing the corrected critical stress resisting liquefaction by the stress ratio induced by the design earthquake.

Results of these analyses indicated that on-site soils between 10' and 17.5' (if the groundwater table were to rise to the mapped level) meet the "Chinese Criteria" and have a factor of safety less than one (1.1) against liquefaction; therefore, they are considered potentially liquefiable if they become saturated (Martin and Lew, 1999). Our calculations indicate that between 1 and 1½ inches of settlement (total and differential) induced by liquefaction is possible. This settlement does not include the potential settlement caused by static loading of the future structure and fill. We, therefore, recommend that structures are designed with this settlement in mind. If requested, Lumos can provide alternative foundation design parameters for deep foundations, such as drilled piers, to mitigate against potential liquefaction. A mat foundation, such as a post tensioned slab, may also be an option to mitigate against the effects of settlements associated with the potential liquefaction.

SITE CONDITIONS AND FIELD EXPLORATION

At the time of our investigation the site was in use as grazing pastures. The vegetation generally consists of thick grasses. The site generally slopes downward from west to east.

Field exploration included a site reconnaissance and subsurface soil-exploration. During the site reconnaissance, surface conditions were noted and the locations of the exploratory boring were determined. They were located using survey techniques. Locations and elevations of the exploratory borings should be considered accurate only to the degree implied by the method used.

Twenty-four (24) exploratory borings were excavated to a maximum depth of 41.5 feet below-ground-surface (bgs). The approximate locations of the exploratory borings within the site are shown on Plate 2. The subsurface soils were continuously logged and visually classified in the field by our Geotechnician in accordance with the Unified Soil Classification System. Representative bulk soil samples were collected within the upper five (5) feet. Standard Penetration Testing (SPT) split spoon samples and modified California samples were collected at 2.5 and five (5) foot intervals within the exploratory borings. All the samples, subsequently, were transported to our Carson City and Reno geotechnical laboratories for testing and analysis.

The native subsurface soils consisted generally of loose to medium dense silty sands and clayey sands in the upper five (5) feet, and relatively dense silty sands and clayey sands below five (5) feet. Layers of silts and clays were encountered in a handful of the borings throughout the site.

Groundwater was encountered at the time of our field investigation in Borings 3 and 4 at 22 and 23 feet bgs respectively. However, seasonal groundwater (water table) fluctuations should be anticipated at the site. According to the groundwater map, the approximate depth to groundwater is 10 feet. Many of the samples collected from a majority of borings had mottling, which could indicate groundwater conditions at some

point in time. The depth of Boring 9 was 25 feet bgs, however, no water was encountered. Deeper holes were drilled, heading west, to as deep as 40 feet, and no groundwater was encountered in those holes.

FIELD AND LABORATORY TEST DATA

Field and laboratory data was developed from samples taken and tests conducted during the field exploration and laboratory phases of this project. The borings were advanced utilizing a Jeff Co Speedstar 15 drill rig. Representative bulk soil samples were collected within the upper five (5) feet. Standard Penetration Testing (SPT) split spoon samples and modified California samples were collected at 2.5 and five (5) foot intervals within the exploratory borings. The samplers were driven utilizing a 140 pound hammer free falling 30 inches.

Laboratory tests performed on representative samples included sieve analysis, Atterberg Limits, modified proctor, R-value, direct shear, expansion index, soluble sulfates, pH value, and resistivity. Much of this data is displayed on the "logs" of the exploratory borings to facilitate correlation. Field descriptions presented on the logs have been modified, where appropriate, to reflect laboratory test results. The logs of the exploratory borings are included in Appendix A of this report as Plates A-1 through A-24. Plate A-25 describes the various symbols and nomenclature shown on the logs.

Individual laboratory test results are presented in Appendix B as Plates B-1 through B-6. Laboratory testing was performed per ASTM standards, except when test procedures are briefly described and no ASTM standard is specifically referenced in the report. Atterberg limits were determined using the dry method of preparation (Plate B-2). Special testing conducted for this project is described below.

Analytical Testing: Silver State Analytical Laboratories, Reno, Nevada, conducted this testing. The testing included pH value, resistivity and soluble sulfates. Test results are included (on Silver State letterhead) in Plates B-6.

The soil samples obtained during this investigation will be held in our laboratory for 30 days from the date of this report. The samples may be retained longer at an additional cost to the client or obtained from this office upon request.

DISCUSSION AND RECOMMENDATIONS

General

From a geotechnical viewpoint, the site is considered suitable for the proposed improvements when prepared as recommended herein.

The following recommendations are based upon the construction and our understanding of this project, as outlined in the introduction of this report. If changes in the construction are proposed, they should be presented to the Lumos Geotechnical Department, so that these recommendations can be reviewed and modified in writing, as necessary. As a minimum, final construction drawings should be submitted to the Lumos Geotechnical Department for review prior to actual construction and verification that our geotechnical design recommendations have been implemented.

General Site Grading

Prior to placement of fill and/or the proposed improvements, the areas to receive fill and/or improvements shall be cleared and grubbed. Clearing and grubbing is anticipated to be as much as 12 inches or more where thicker vegetation/roots are present.

Root- or organic-laden soils encountered during excavations, should be stockpiled in a designated area on site for later use in landscaping, or removed off site as directed by the owner. Excavated soils free from any organics, debris or otherwise unsuitable material and with particles no larger than three (3) inches in maximum dimension may be stockpiled and moisture conditioned for later use as compacted fill provided it meets the criteria for acceptable fill soils. Many of the site soils shall be considered "fine

grained" (for the purposes of this report "fine grained" is defined as soils with greater than or equal to 30% passing the #200 sieve). Site "fine grained" soils are not suitable to provide direct foundation support. The onsite soils maybe utilized as common fill, which is defined as fill outside of structural zones, provided they meet the requirements of common fill. Structural fill must be placed in structural zones.

The onsite clayey sands, clays, and silts ("fine grained" soils) will not meet the requirements of structural fill and shall be overexcavated a minimum of 18 inches below footings. This is due to the potential volume change and/or relatively weak nature of the site "fine grained" soils. Additionally, this is recommended due to the relatively low SPT blow counts observed in the upper five (5) feet of the exploratory borings. This indicates a low relative compaction and increases the potential for settlement induced by structural loading. Removals shall extend horizontally beyond the edge of all foundations a minimum of 18 inches, and then replaced with 18 inches of properly prepared and compacted structural fill as mentioned later in the report. We recommend potholing be done during construction to insure the minimum separation requirement is met.

All Surfaces to receive fill and/or improvements should be observed and approved by a Lumos representative prior to placement of fill. The surfaces shall be scarified to a minimum depth of twelve (12) inches, moisture conditioned to at least optimum moisture content, and re-compacted to at least ninety percent (90%) of the ASTM D1557 standard. Upon re-compaction and prior to placing any fill or aggregate base, the re-compacted surface should be proof-rolled to identify any possible yielding surfaces. Proof-rolling should be conducted with a heavy rubber-tire loader with a fully loaded bucket, or a fully loaded water truck, and observed and approved by a Lumos representative. Yielding (pumping) surfaces shall be stabilized to the satisfaction of the Geotechnical Engineer. Material should not be placed, spread or compacted while the ground is frozen or during unfavorable weather conditions. When site grading is interrupted by heavy rain or snow, grading or fill operations should not resume until a Lumos representative approves the moisture content and density conditions of the subgrade or previously placed fill.

Unstable conditions due to yielding and/or pumping soils may be encountered on site. Native soils may yield or pump under heavy equipment loads or where vibratory equipment draws up water. If yielding or pumping conditions are encountered, the soils should be scarified in place, allowed to dry as necessary and re-compacted, where applicable. Alternatively, the unsuitable or saturated soil should be removed, the exposed surface leveled and compacted/tamped as much as practical without causing further pumping, and covered (including the sides) with geotextile stabilizing fabric (Mirafi HP370 or other equivalent). The fabric should then be covered with at least 12 inches of 4- to 8-inch **angular rock fill** with enough fines to fill the inter-rock pore spaces. Placement should be by end dumping. No traffic or other action should be allowed over the fabric, which may cause it to deflect/deform prior to cobble placement. Test sections should be used to determine the minimum thickness and/or number of layers required for stabilization.

Stabilization should be evaluated by proof-rolling standards commensurate with the equipment used, and approved by a Lumos representative. The placement of the stabilizing rock-fill may require additional over-excavation to maintain appropriate grading elevations. A filter fabric (Mirafi 180N or equal) should also be placed over the cobble rock fill to prevent piping of fines from covering soils into the stabilizing rock matrix.

Acceptable structural fill soils to be used for this project should consist of non-expansive material (LL less than 35 and/or a PI less than 12, and/or an Expansion Index less than 20), and should be free of contaminants, organics (less than two percent (2%)), rubble, or natural rock larger than three (3) inches in largest dimension. The soluble sulfate content shall be less than 0.1% and the R-Value shall be a minimum of 30. Any import soils should be tested and approved prior to being placed or delivered on-site (seven (7) day advanced notice). Structural fill soils shall also meet the following gradation requirements (next page):

**TABLE 1
STRUCTURAL FILL GRADATION**

Sieve Size	% Passing
3"	100
3/4"	70 - 100
#40	15 - 65
#200	10 - 25

Soils not meeting all of the above requirements may be approved for use as structural fill at the discretion of the Geotechnical Engineer. Soils not approved for use as structural fill may be used as common fill, if approved by the Geotechnical Engineer, and placed outside of structural zones, which is defined as zones within 18 inches, laterally and vertically, of building foundations. Common fill shall have 100% passing the 3" sieve, a maximum of 50% passing the #200 sieve, LL less than 45, PI less than 25, and an EI less than 50. Common fill should be placed only on properly compacted sub-grade or on properly compacted fill in lifts not exceeding eight (8) inches in loose thickness, moisture conditioned to at least optimum moisture content, and compacted to at least ninety percent (90%) relative compaction, as determined by the ASTM D1557 standard. Structural fill, fill within 18 inches of building foundations, shall be placed in eight (8) inch loose lifts, moisture conditioned to within two percent (2%) of optimum, and compacted to a minimum of 95% of the ASTM D1557 Standard. It is anticipated that site soils encountered during grading will meet the requirements for common fill, but not for structural fill. Therefore, structural fill material will need to be imported. If fill is to be placed on a slope greater than 5:1, the slope shall be benched at least the width of the equipment being used to prevent the migration of fill soils down slope.

Landscaped areas should be cleared of all organic and objectionable material such as wood, root stumps, etc., if any. In cut areas, no other work is necessary except grading to proper elevation and drainage conditions. In landscape fill areas, fill should be placed in loose lifts not exceeding eight (8) inches, moisture conditioned to at least optimum moisture, and compacted to at least ninety percent (90%) relative compaction to prevent erosion.

A representative of Lumos should be present during all site clearing, excavation removals, and grading operations to ensure that any unforeseen or concealed conditions within the site are identified and properly mitigated, and to test and observe earthwork construction. This testing and observation is an integral part of our services as acceptance of earthwork construction and is dependent upon compaction and stability of the subgrade soils. The soils engineer may reject any material that does not meet acceptable fill, compaction, and stability requirements. Further, recommendations in this report are provided upon the assumption that earthwork construction will conform to recommendations set forth in this section of the report.

FOUNDATION DESIGN CRITERIA

Conventional spread footings founded on 18 inches of properly prepared structural fill and underlain by properly prepared subgrade/common fill soils may be used to support the proposed building foundations within the project site.

Spread footings: Footings should have a minimum embedment of 24 inches below lowest adjacent grade for frost protection. Footings founded on 18 inches of properly prepared structural fill underlain by properly prepared subgrade/common fill soils may be designed for a net allowable bearing pressure of 2,000 pounds-per-square-foot (psf).

Footing Settlements: The maximum anticipated settlements, caused by static loading, for continuous or isolated footings bearing on 18 inches of properly prepared structural fill and underlain by properly prepared subgrade/common fill soils and designed for a 2,000 psf bearing pressure is estimated at three-quarters ($\frac{3}{4}$) of an inch or less. Differential settlements are generally expected to be half of the total settlements. Settlements in granular soils are primarily expected to occur shortly after dead and sustained live loads are applied. Settlements in clay soils occur over a longer period of time. If settlements due to liquefaction are also considered, total settlement, due to static and dynamic loading, is anticipated to be approximately two (2) inches. Keep in mind, the groundwater level would have to rise to the mapped level, which is 10 feet below existing ground, for the anticipated settlements, due to liquefaction, to be possible.

Lateral Loading: Resistance to lateral loads can be provided by friction acting at the base of foundations and by lateral earth resistance. A coefficient of friction of 0.40 may be assumed at the base of footings bearing on structural fill soils. An allowable passive earth resistance of 250 psf per foot of depth starting six (6) inches below lowest adjacent grade may be used for the sides of footings poured against properly compacted structural fill. Passive resistance should not exceed 2,000 psf. The at-rest lateral pressure can be calculated utilizing an equivalent fluid pressure of 40 pcf.

Dynamic Factors: Vertical and lateral bearing values indicated above are for total dead-load and frequently applied live loads. If normal code requirements are applied for design, the above vertical bearing values may be increased by thirty-three percent (33%) for short duration loading due to wind or seismic forces. The additional Dynamic Lateral earth pressure can be calculated utilizing the following equation.

$$\text{Dynamic Lateral Force} = 42H^2K_h$$

H = height of wall

K_h = Horizontal Acceleration (which is 0.75 g per ASCE 7-10)

This force should be assumed to act at a height of 0.6H above the bottom of the wall.

RETAINING WALLS

Retaining structures over three (3) feet in height, if used, will require local code compliance and engineered based on parameters described in this section of the report. Retaining structures should be designed to resist the appropriate lateral earth pressures. Cantilevered walls, which are able to deflect at least 0.01 radians, can be designed using an equivalent fluid (backfill) unit weight of 40 pounds-per-cubic-foot (pcf). However, if the wall is fixed against rotation, the wall should be designed using an equivalent fluid (backfill) unit weight of 60 pcf. These design parameters are based upon the assumption that walls will retain only level backfill and no hydrostatic pressure will be present. Any other surcharge pressures should be added to the above recommended lateral earth pressures. Retaining walls should be backfilled with free draining granular material that extends vertically to the bottom of the stem and laterally at least six (6) inches beyond the face of the stem (wall) and wrapped with a Mirafi 180 N or equivalent non-woven filter fabric. Weep holes should be provided on the walls at regular intervals, or a slotted drainpipe placed at the bottom of the wall (bottom of granular material) to relieve any possible build-up of hydrostatic pressure. Backfill material within two (2) feet of the wall should be compacted with hand-held equipment only, and to at least 90% of the maximum ASTM D1557 standard.

CONCRETE SLAB DESIGN

Interior structural concrete slabs should be underlain with at least six (6) inches of Type 2, Class B Aggregate Base, compacted to a minimum of ninety-five percent (95%) relative compaction, as determined by the ASTM D1557 Standard, and supported on 18 inches of properly compacted structural fill and underlain by properly prepared subgrade/common fill soils. We recommend the aggregate base be placed after utility trenches are excavated and backfilled. A vapor barrier should be provided for all interior concrete slabs where floor moisture is undesirable. The vapor barrier shall meet the requirements of ASTM E1745, Class A, and be at least ten (10) mils thick. The vapor barrier shall be installed per the manufacturer's recommendations

Slab thickness design should be based on a Modulus of Subgrade Reaction equal to two-hundred (200) pounds-per-cubic-inch (pci) for construction on 18 inches of properly compacted structural fill. Reinforcement of concrete slabs should be as specified by the Project Structural Engineer.

Exterior concrete improvements (sidewalks, curbs, gutter, etc.) should be underlain with at least six (6) inches of Type 2, Class B aggregate base and at least 12 inches of properly prepared subgrade soils. All subgrade and fill should be prepared and placed as described in the grading section of this report, while the aggregate base material should be compacted to at least ninety-five percent (95%) relative compaction as determined by the ASTM D1557 standard.

PAVEMENT DESIGN

Subgrade soils in areas to be paved shall be scarified in place to a depth of at least 12 inches, moisture conditioned to at least optimum moisture content, and compacted to at least ninety percent (90%) of the laboratory maximum dry density determined by the ASTM D1557 standard. Pavement structural section for the asphalt concrete utilizing an R-value of 21 (laboratory test results) is provided in Table 2, "Recommended Asphalt Pavement Sections". A Traffic Index (TI) value of 5.0 was utilized for design. Prior to placement of aggregate base, we recommend roadway subgrade soils be proof rolled utilizing a loader with a full bucket, or a fully loaded 10 wheel water truck. Observed pumping and/or yielding subgrade soils located during the proof rolling, shall be stabilized to the satisfaction of the Geotechnical Engineer. Aggregate base should consist of Type 2, Class B material and meet the requirements of the Standard Specifications for Public Works Construction (SPPWC). Aggregate base material should be moisture conditioned to within two percent (2%) of optimum and compacted to at least ninety-five percent (95%) of the laboratory maximum density, as determined by the ASTM D1557 standard.

**TABLE 2
RECOMMENDED ASPHALT PAVEMENT SECTIONS**

Pavement Area	Minimum Asphalt Pavement	Minimum Aggregate Base	Properly Prepared Subgrade Soils
T.I. = 5	3"	8"	12"

See Appendix C for Test Results and Calculations

In all areas of the project, asphalt concrete should consist of PG64-28NV, and Type 3 asphalt aggregate per the "Orange Book" standards. We recommend a 50-blow Marshall mix that targets three percent (3%) air voids. Asphalt concrete, in any case, should be compacted to between ninety-two percent (92%) and ninety-seven percent (97%) of the Rice theoretical maximum density.

All mix designs for asphalt concrete should be submitted to the Geotechnical Engineer for review and approval a minimum of seven (7) days prior to paving.

CORROSION AND CHEMICAL ATTACK

On-site soils have a negligible water soluble sulfate content of less than 0.10% (<0.01% actual). No specific type of cement is required for concrete in direct contact with on-site soils, as required by the International Building Code. However, Type II cement (meeting ASTM C150) is recommended for concrete in direct contact with on-site soils.

All exterior concrete should have between 4.5 and 7.5 percent entrained air, a maximum water-cement ratio of 0.45, and comply with all other ACI recommendations for concrete placed in areas subject to freezing. A minimum compressive strength of 4,000 psi is recommended for all external concrete. All interior concrete should also be placed pursuant to ACI recommendations.

Native soils have a pH of between 6.34 and 7.05 and have a resistivity of between 2,178 and 6,398 ohm-cm under saturated conditions. This indicates a corrosive potential for ferrous metals in contact with these soils. Corrosion mitigation measures, such as protective coatings, wrappings, and cathodic protection are therefore recommended. If protective coatings are used, the type and quantity will depend on the kind of steel and specific construction application. Steel and wire concrete reinforcement cover of at least three (3) inches where cast against soil, unformed, is recommended.

SLOPE STABILITY AND EROSION CONTROL

The results of our exploration and testing confirm that 2:1 (H:V) maximum slopes will be stable for on-site materials both in cut and fill. All slopes shall incorporate a brow ditch to direct surface drainage away from the slope face. Slopes steeper than 2:1 will require stabilization, such as retaining walls.

The potential for dust generation is high at this project. Dust control will be mandatory on this project in order to comply with air quality standards. The contractor shall be responsible for submitting a dust control plan and securing any required permits.

Stabilization of all slopes and areas disturbed by construction will be required to prevent erosion and to control dust. Stabilization may consist of rip-rap, revegetation, or dust pallative, depending on the inclination of the slope.

In order to minimize storm water discharge from this site, best management practices should be implemented.

UTILITY EXCAVATIONS

On-site soils are anticipated to be excavatable with conventional construction equipment. Compliance with OSHA regulations should be enforced for Type C soils. Excavated soils will be suitable for backfill of utility trenches after screening any oversized material and debris, are moisture conditioned to at least optimum moisture content, placed in eight (8) inch maximum loose lifts, and compacted to a minimum of ninety percent (90%) (ASTM D1557). However, on-site soils are not suitable for use as, and do not meet the minimum requirements for, Class A bedding and should be imported, where required.

MOISTURE PROTECTION, EROSION AND DRAINAGE

The finish surfaces around all structures should slope away from the building and toward appropriate drop inlets or other surface drainage devices. It is recommended that within ten (10) feet of the buildings a minimum slope of five percent (5%) be used for soil subgrades and one percent (1%) be used for pavements. These grades should be maintained for the life of the structures.

Landscaping and downspouts should be planned to prevent discharge adjacent to buildings. Instead, water flow should be conveyed and re-routed to discharge areas away from any improvements. Additionally, foundation drains should be utilized, due to the potential for the groundwater table to rise to its mapped elevation (10 feet below existing grade) and the fact that mottling was observed in many samples from a majority of the borings at depths of 10 feet and less. Foundation drains may consist of perforated pipe, wrapped with Geotextile filter fabric, located at an elevation of approximately 1 foot below bottom of footing elevation and 1 foot laterally outside of foundations, sloped to drain toward appropriate inlets.

Backfill adjacent to the proposed building perimeters should be properly compacted to minimize water infiltration into the foundation soils.

CONSTRUCTION SPECIFICATIONS

All work on-site shall be governed by the latest edition of the International Building Code (IBC) as accepted by Carson City, except where modified herein.

All work off-site shall be governed by the Standard Specifications and Standard Details for Public Works Construction (SSPWC), as distributed by Carson City, except as modified herein.

LIMITATIONS

This report has been prepared in accordance with the currently accepted engineering practices in Northern Nevada and Northern California. The analysis and recommendations in this report are based upon exploration performed at the locations shown on the site plan, the proposed improvements as described in the Introduction section of this report and upon the property in its condition as of the date of this report. Lumos makes no guarantee as to the continuity of conditions as subsurface variations may occur between or beyond exploration points and over time. Any subsurface variations encountered during construction should be immediately reported to Lumos so that, if necessary, Lumos' recommendations may be modified.

This report has been prepared for and provided directly to The Vintage at Kings Canyon, LP ("The Client"), and any and all use of this report is expressly limited to the exclusive use of the Client. The Client is responsible for determining who, if anyone, shall be provided this report, including any designers and subcontractors whose work is related to this project. Should the Client decide to provide this report to any other individual or entity, Lumos shall not be held liable for any use by those individuals or entities to whom this report is provided. The Client agrees to indemnify, defend and hold harmless Lumos, its agents and employees from any claims resulting from unauthorized users.

If this report is utilized in the preparation of an Engineer's Estimate of Probable Construction Costs, then the preparer of the estimate acknowledges that the report recommendations are based on the subsurface conditions found at the specific locations investigated on site; that subsurface conditions may vary outside these locations; and that no guaranty or warranty, express or implied, is made that the conditions encountered are representative of the entire site. The preparer of the estimate agrees to indemnify, defend and hold harmless Lumos & Associates, its agents and employees from any and all claims, causes of action or liability arising from any claims resulting from the use of the report in the preparation of an Engineer's Cost Estimate.

This report is not intended for, nor should be utilized for, bidding purposes. If it is utilized for bidding purposes, Client acknowledges that the report recommendations are based on the subsurface conditions found at the specific locations investigated on site; that subsurface conditions may vary outside these locations; and that no guaranty or warranty, express or implied, is made that the conditions encountered are representative of the entire site. The Client agrees to indemnify, defend and hold harmless Lumos & Associates, its agents and employees from any and all claims, causes or action or liability arising from any claims resulting from the use of the report for bidding purposes.

As explained above, subsurface variations may exist and as such, beyond the express findings located in this report, no warranties express, or implied, are made by this report. No affirmation of fact, including but not limited to statements regarding suitability for use of performance shall be deemed to be a warranty or guaranty for any purpose.



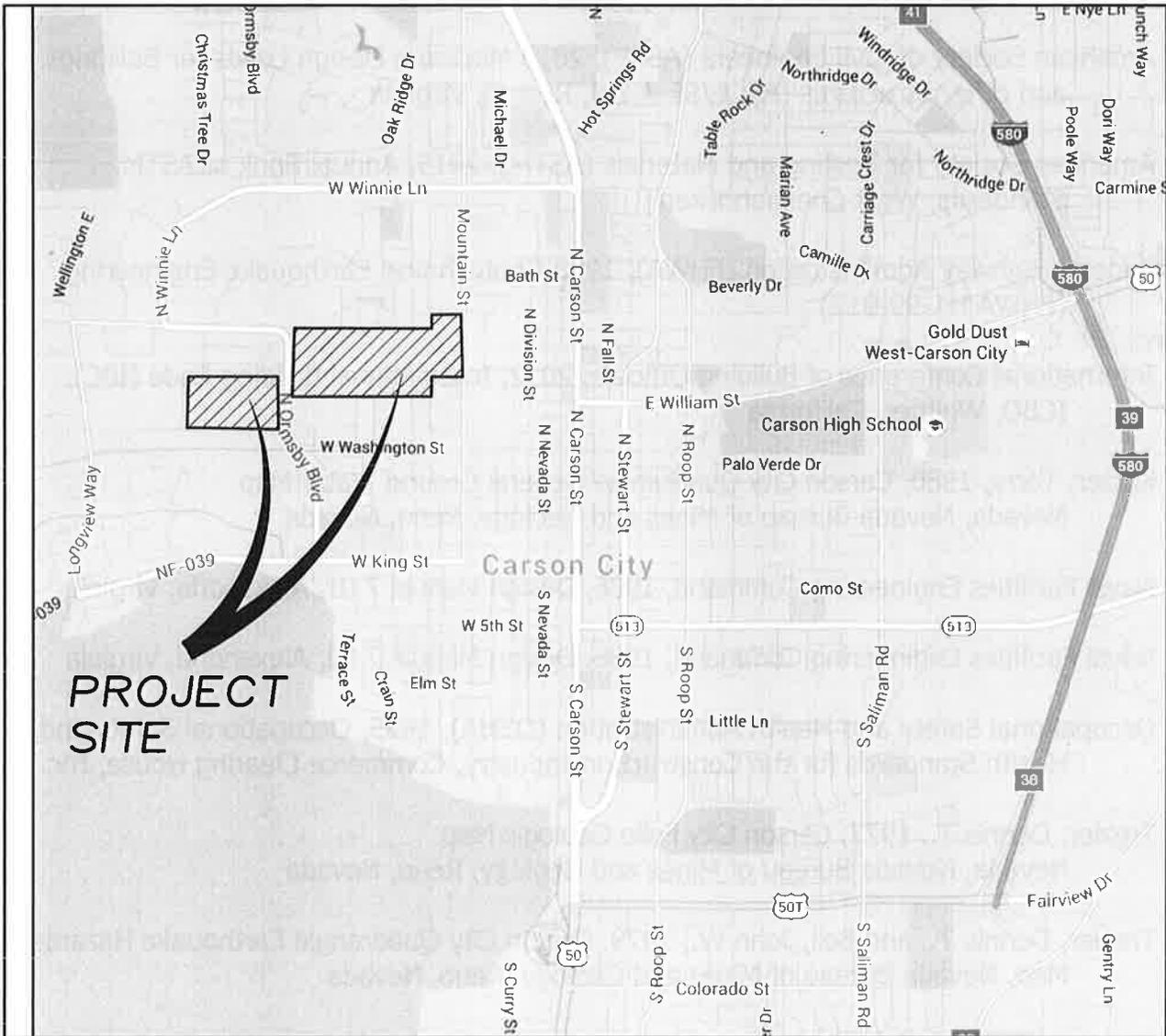
Bert Sexton, E.I.
Geotechnical Intern
Lumos and Associates, Inc.



Mitch Burns, P.E.
Construction Services Engineer
Lumos and Associates, Inc.

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LUMOS
 & ASSOCIATES
 800 E. COLLEGE PARKWAY
 CARSON CITY, NEVADA 89706
 PH. (775) 883-7077 FAX (775) 883-7114

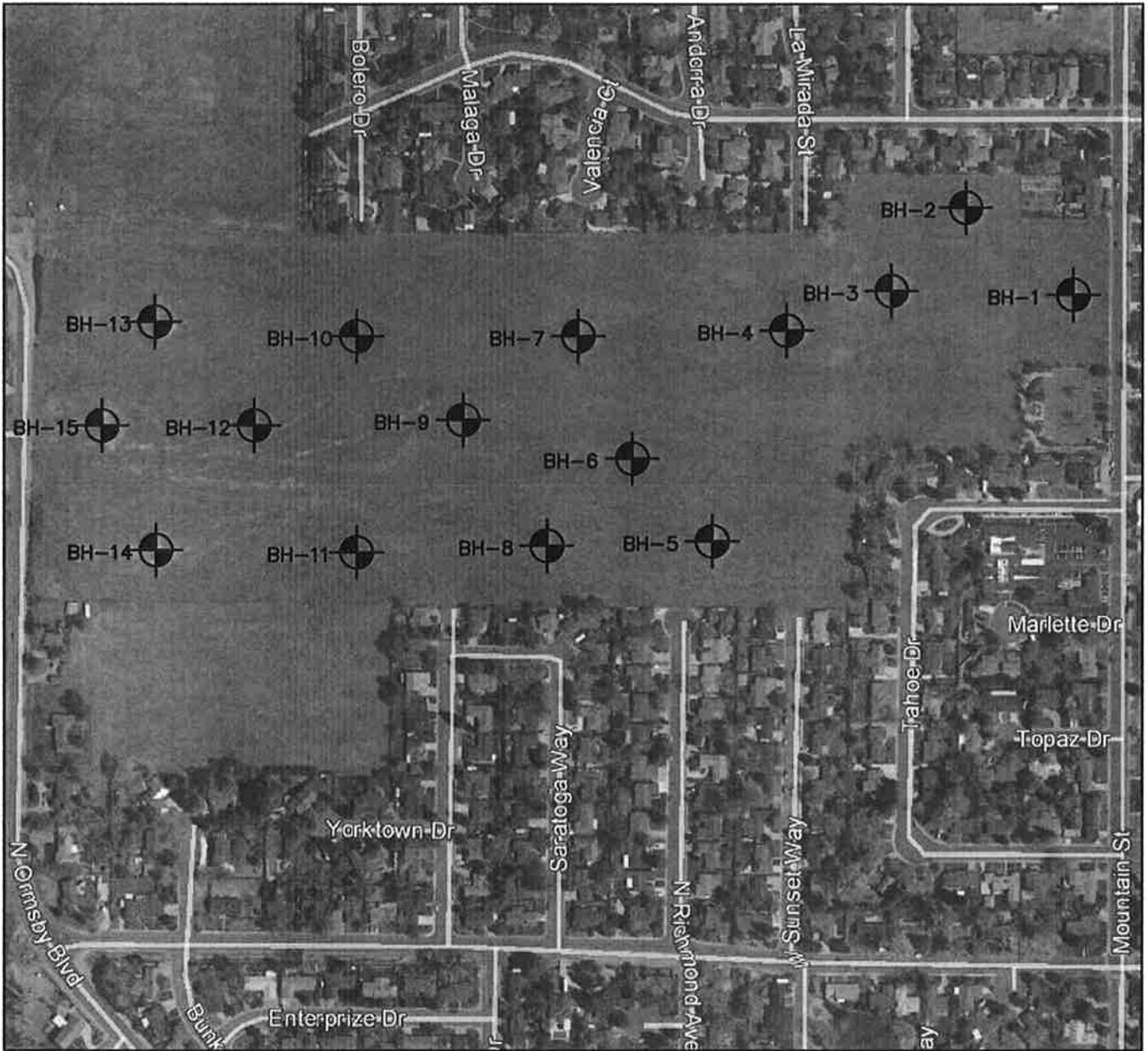
The Vintage at King's Canyon

VICINITY MAP

Carson City

Nevada

Date: May 2016
 Scale: N.T.S.
 Job No: 8947.000
 PLATE 1



LEGEND

BH-  = APPROXIMATE EXPLORATORY BORING LOCATION



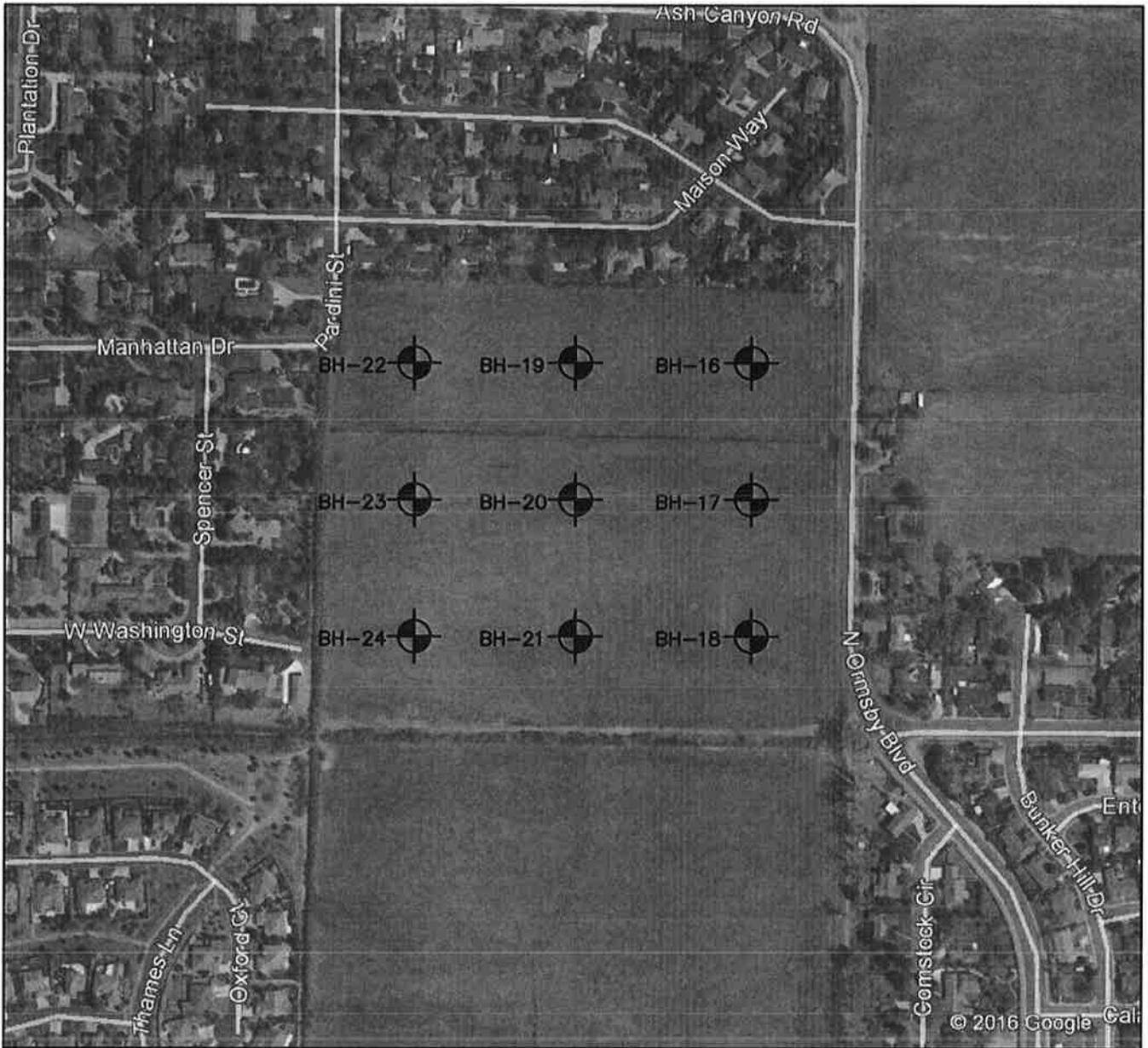

LUMOS
 & ASSOCIATES
 800 E. COLLEGE PARKWAY
 CARSON CITY, NEVADA 89706
 PH. (775) 883-7077 FAX (775) 863-7114

The Vintage at King's Canyon

SITE MAP

 Carson City Nevada

Date: May 2016
 Scale: N.T.S.
 Job No: 8947.000
 PLATE **121**



LEGEND

BH-  = APPROXIMATE EXPLORATORY BORING LOCATION




LUMOS
 & ASSOCIATES
 800 E. COLLEGE PARKWAY
 CARSON CITY, NEVADA 89706
 PH. (775) 883-7077 FAX (775) 883-7114

The Vintage at King's Canyon

SITE MAP

 Carson City Nevada

Date: May 2016
 Scale: N.T.S.
 Job No: 8947.000
 PLATE 122 **2.2**

MODIFIED MERCALLI INTENSITY SCALE

INTENSITY

EFFECTS

- I Not felt except by a very few under especially favorable circumstances.
- II Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
- III Felt quite noticeable indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.
- IV During the day felt indoors by many, outdoors by few. At night some awaken. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building; standing motor cars rock noticeably.
- V Felt by nearly everyone; many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbance of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
- VI Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
- VII Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
- VIII Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Disturbs persons driving motor cars.
- IX Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
- X Some well-built wooden structures destroyed; most masonry and frame structures with foundations destroyed; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (sloped) over banks.
- XI Few, if any (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipe lines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
- XII Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air.

From Wood and Newman, 1931, by U.S. Geological Survey, 1974, Earthquake Information Bulletin, v. 6, no. 5, p. 28:

Richter Magnitude	Intensity (maximum expected Modified Mercalli)
3.0 - 3.9	II - III
4.0 - 4.9	IV - V
5.0 - 5.9	VI - VII
6.0 - 6.9	VII - VIII
7.0 - 7.9	IX - X
8.0 - 8.9	XI - XII

LUMOS
 & ASSOCIATES
 800 E. COLLEGE PARKWAY
 CARSON CITY, NEVADA 89706
 PH. (775) 883-7077 FAX (775) 883-7114

The Vintage at King's Canyon

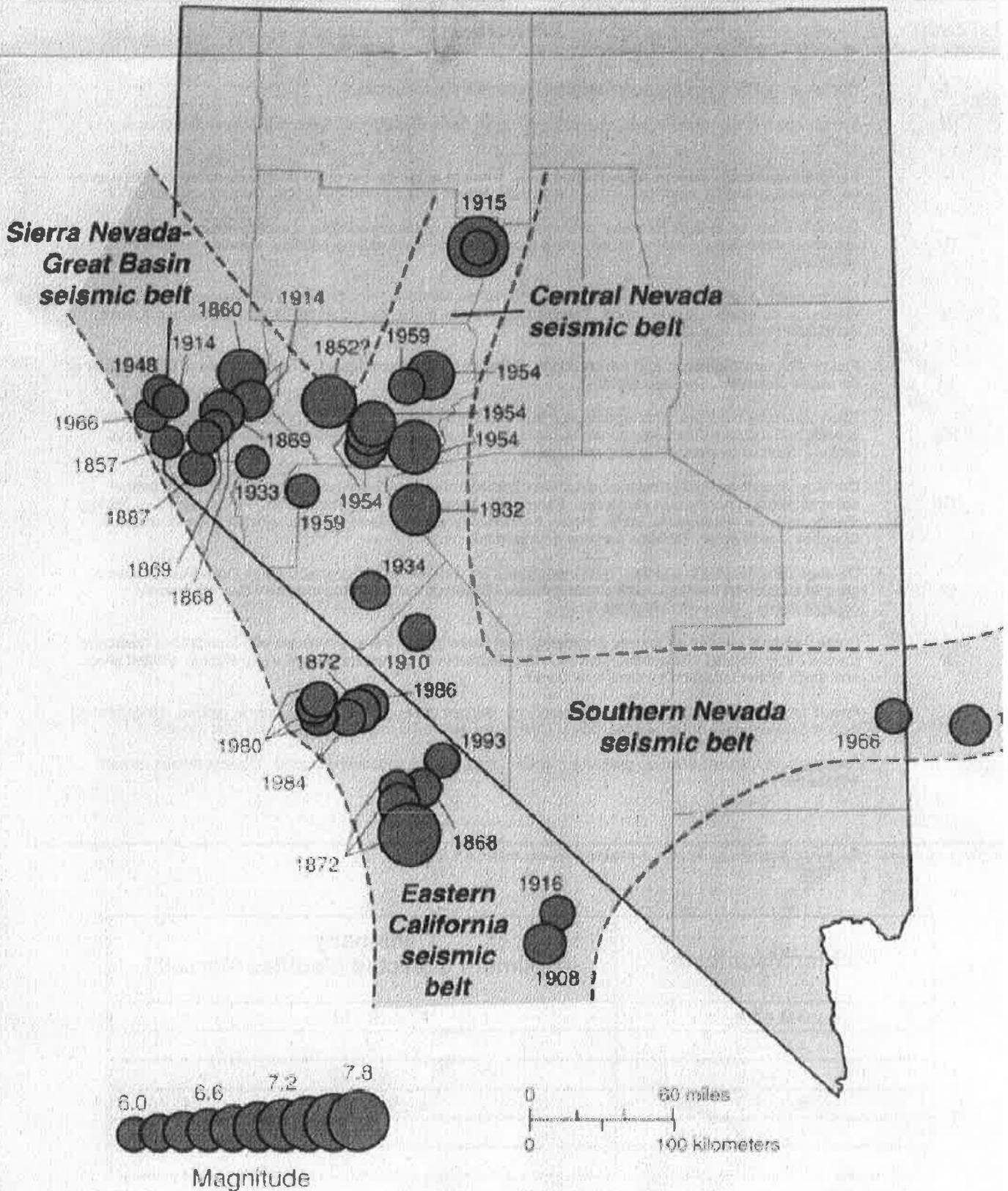
**MODIFIED
 MERCALLI SCALE**

Carson City

Nevada

Date: May 2016
 Scale: N.T.S.
 Job No: 8947.000
 PLATE 3

MAJOR EARTHQUAKES AND SEISMIC BELTS



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The Vintage at King's Canyon

MAJOR EARTHQUAKES/ SEISMIC BELTS

Carson City

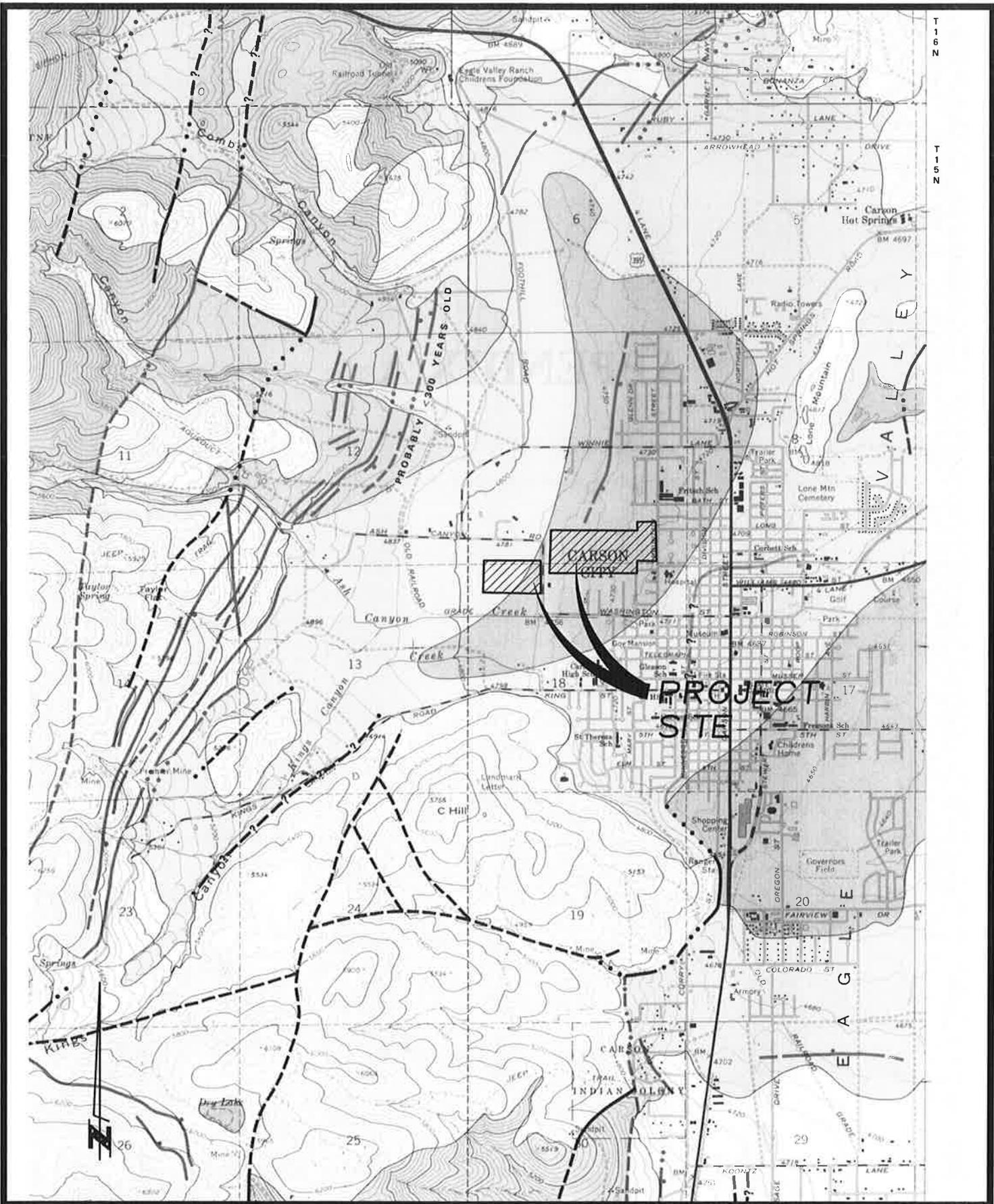
Nevada

Date: May 2016

Scale: N.T.S.

Job No: 8947.000

PLATE 4



T 1 6 N
T 1 5 N

R 1 1 E
R 1 2 E

R 1 3 E
R 1 4 E

R 1 5 E

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PH. (775) 883-7077 FAX (775) 883-7114

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FAULT MAP

Carson City

Nevada

Date: May 2016

Scale: N.T.S.

Job No: 8947.000

PLATE 5

125

APPENDIX A

TEST PIT No. B-01

Logged By: **B. Sexton**
 Date Logged: **4-18-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **21.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
			California Sampler	Bulk Sample	Static Water Table										
			SOIL DESCRIPTION												
			Brown Clayey SAND (SC). Moist, Medium Dense, with Roots.												
						6.7		36	14	0.8	61.3	38.0	43		
5															
			Reddish Brown Clayey SAND (SC). Moist, Medium Dense, with Mottling.												
						14.1		34	18	0.0	71.4	28.6			
10															
			Brown Silty SAND (SM). Moist, Medium Dense. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.												
15															
			Reddish Gray Brown Sandy SILT (ML). Moist, Stiff, with Mottling. Estimated 30% Medium to Fine Sand and 70% Non-Plastic Silt.			15.0	15.5								
			Reddish Brown Poorly Graded SAND with Silt (SP-SM). Moist, Medium Dense. Estimated 10% Fine Gravel, 80% Coarse to Fine Sand, and 10% Non-Plastic Silt.			16.0	17.5								
			Brown Clayey SAND (SC). Moist, Medium Dense. Estimated 55% Coarse to Fine Sand and 45% Clay.												
			Gray Brown Silty SAND (SM). Moist, Medium Dense.												
20						21.5	17.1	NP	NP	0.5	83.0	16.5			
			Test pit terminated at 21.5 feet. Test Pits backfilled without compaction verification												

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bs Sexton@lumosinc.com



The Vintage at King's Canyon

LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 20 2016

PLATE

A-1

TEST PIT No. B-03

Logged By: **B. Sexton**
 Date Logged: **4-18-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **41.5 feet**
 Water Depth: **22 feet ±**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
			Brown Clayey SAND (SC). Moist, Dense. See Test Results on Plate A-1.												
5		B				5.5									
		Z	Light Gray Brown Poorly Graded SAND with Silt (SP-SM). Moist, Dense. Estimated 5% Fine Gravel, 85% Coarse to Fine Sand, and 10% Non-Plastic Silt.												
10		Z				10.0									
		Z	Brown Silty SAND (SM). Moist, Dense. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.			10.5									
		Z	Gray Brown Clayey SAND (SC). Moist, Dense. Estimated 70% Coarse to Fine Sand and 30% Clay.			11.0									
15		Z				15.5									
		Z	Reddish Brown Silty SAND (SM). Moist, Dense, with Mottling. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.												
		Z	Gray Brown Clayey SAND (SC). Moist, Dense. Estimated 60% Coarse to Fine Sand and 40% Clay.			20.0									
20		Z				20.0									
		Z	Gray Brown Silty SAND (SM). Moist, Dense. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.												
25		Z	Groundwater Encountered at 22' Below Ground Surface. Switch to Mud Rotary at 22' Due to Slight Heaving of the Hole after Obtaining the Sample.												
30		Z				30.0									
		Z	Red Brown Poorly Graded SAND with Silt (SP-SM). Wet, Dense, with Mottling.			16.9			NP	NP	13.0	75.1	11.9		
35		Z				37.0									
		Z	Red Brown Silty SAND (SM). Wet, Dense, with Mottling. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.			40.0									
40		Z				41.5									
		Z	Gray Poorly Graded SAND (SP). Wet, Dense, with Layered Mottling.												

Test pit terminated at 41.5 feet.
 Test Pits backfilled without compaction verification

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT
 Job Number: 8947.000
 Date: May 20 2016

PLATE
A-3

TEST PIT No. B-04

Logged By: **B. Sexton**

Total Depth: **25 feet**

Date Logged: **4-21-2016**

Water Depth: **23 feet ±**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
			California Sampler	Bulk Sample	Static Water Table										
			<p>Brown Clayey SAND (SC), Moist, Medium Dense. Estimated 60% Coarse to Fine Sand and 40% Clay.</p>												
5			<p>Reddish Brown Silty SAND (SM), Moist, Medium Dense. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.</p>												
			<p>Light Brown Silty SAND (SM), Moist, Medium Dense, with Mottling.</p>												
10			<p>Color Change at 15' to Brown.</p>												
			<p>Pocket Penetrometer Field Test at 16' = 1.7tsf</p>												
15			<p>Gray Brown Clayey SAND (SC), Moist, Medium Dense.</p>												
20			<p>Color Change at 20' to Reddish Brown.</p>												
			<p>Reddish Brown Silty SAND (SM), Wet, Dense. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.</p>												
			<p>Continued to Drill Straight to 25'. Encountered Groundwater at 23'.</p>												
25			<p>Test pit terminated at 25 feet. Test Pits backfilled without compaction verification</p>												

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

The Vintage at King's Canyon
LOG OF EXPLORATORY TEST PIT
 Job Number: 8947.000
 Date: May 2016

PLATE
A-4

TEST PIT No. B-05

Logged By: **B. Sexton**
 Date Logged: **4-21-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
1			Brown Clayey SAND (SC), Moist, Medium Dense.			11.1			32	11	0.7	65.5	33.8		
2															
3															
4															
5															
6															
7															
8			Mottling Noted at 7.5'.												
9															
10															
11			Reddish Brown Lean CLAY with Sand (CL), Moist, Medium Stiff, Mottling. Estimated 20% Medium to Fine Sand and 80% Moderately Plastic Clay.			10.0									
				11.5											

Test pit terminated at 11.5 feet.
 Test Pits backfilled without compaction verification

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-5

TEST PIT No. B-06

Logged By: **B. Sexton**

Total Depth: **41.5 feet**

Date Logged: **4-19-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
5		<input checked="" type="checkbox"/>	Brown Clayey SAND (SC). Moist, Dense, Slight Mottling. Estimated 60% Coarse to Fine Sand and 40% Clay. Entire Hole Drilled Utilizing Mud Rotary Technique.												
10		<input checked="" type="checkbox"/>	Gray Brown Poorly Graded SAND with Silt (SP-SM). Moist, Dense. Estimated 90% Coarse to Fine Sand and 10% Non-Plastic Silt.			10.0									
15		<input checked="" type="checkbox"/>	Reddish Brown Silty SAND (SM) Moist, Dense. Estimated 5% Fine Gravel, 80% Coarse to Fine Sand, and 15% Non-Plastic Silt.			15.0									
20		<input checked="" type="checkbox"/>	Gray Brown Lean CLAY with Sand (CL) Moist, Stiff, with Mottling.			20.0	32.2		37	16	0.0	18.8	81.2		
25		<input checked="" type="checkbox"/>	Gray Brown Silty SAND (SM) Moist, Dense, Mottling. Estimated 5% Fine Gravel, 80% Coarse to Fine Sand, and 15% Non-Plastic Silt.			25.0									
30		<input checked="" type="checkbox"/>	Reddish Brown Silty SAND (SM) Moist, Dense. Estimated 5% Fine Gravel, 80% Coarse to Fine Sand, and 15% Non-Plastic Silt.												
35		<input checked="" type="checkbox"/>	2" Layer of Purple SM at 31'. Heavy Mottling Noted at 35'.												
40		<input checked="" type="checkbox"/>	Gray Reddish Brown Lean CLAY with Sand (CL). Moist, Stiff, with Mottling. Estimated 20% Medium to Fine Sand and 80% Moderately Plastic Clay.			41.0	41.5								

Test pit terminated at 41.5 feet.
Test Pits backfilled without compaction verification

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Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-6

TEST PIT No. B-07

Logged By: **B. Sexton**
 Date Logged: **4-21-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
1		B	Brown Clayey SAND (SC) Moist, Medium Dense. Estimated 60% Coarse to Fine Sand and 40% Clay.												
2															
3							3.0								
4		B	Gray Brown Silty SAND (SM) . Moist, Medium Dense, with Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.												
5						5.0									
6															
7		B	Gray Brown Clayey SAND (SC) Moist, Medium Dense. Estimated 70% Coarse to Fine Sand and 30% Clay.												
8															
9															
10		B	Color Change at 10' to Brown.												
11						10.8									
					Gray Brown Poorly Graded SAND with Silt (SP-SM) , Moist, Dense.			11.5	4.4		NP	NP	0.5	88.8	10.8

Test pit terminated at 11.5 feet.
 Test Pits backfilled without compaction verification

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-7

TEST PIT No. B-08

Logged By: **B. Sexton** Total Depth: **21.5 feet**
 Date Logged: **4-21-2016** Water Depth: **No groundwater encountered**
 Drill Type: **Jeff Co Speedstar 15** Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
5		<input checked="" type="checkbox"/> Split Spoon	Brown Clayey SAND (SC) Moist, Medium Dense. Estimated 60% Coarse to Fine Sand and 40% Clay.		5.5										
		<input checked="" type="checkbox"/> California Sampler	Reddish Brown Clayey SAND (SC) Moist, Medium Dense, with Mottling.		13.5		45	24	0.2	49.9	49.9				
10		<input checked="" type="checkbox"/> Split Spoon	Gray Brown Silty SAND (SM) Moist, Medium Dense, Roots. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.		10.0										
15		<input checked="" type="checkbox"/> California Sampler	Color Change at 15' to Brown.		16.0										
		<input checked="" type="checkbox"/> Ziplock Sample	Light Gray Brown Silty SAND (SM) Moist, Dense. Estimated 10% Fine Gravel, 60% Coarse to Fine Sand, and 30% Non-Plastic Silt.		20.0										
20		<input checked="" type="checkbox"/> Split Spoon	Gray Reddish Brown Silty Gravel (GM) Moist, Very Dense, with Mottling. Estimated 40% Coarse to Fine Gravel, 40% Coarse to Fine Sand, and 20% Non-Plastic Silt.		21.5										
			Test pit terminated at 21.5 feet. Test Pits backfilled without compaction verification												

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-8

TEST PIT No. B-09

Logged By: **B. Sexton**
 Date Logged: **4-21-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **25 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
0 - 5		B	Brown Clayey SAND (SC) Moist, Medium Dense.		8.0			40	24	3.2	48.9	47.9		35	
5			Color Change to Reddish Brown at 5'.												
5 - 10		X	Reddish Brown Silty SAND (SM) Moist, Dense. Estimated 10% Fine Gravel, 60% Coarse to Fine Sand, and 30% Non-Plastic Silt.		10.0										
10 - 15		X	Reddish Brown Silty SAND (SM) Moist, Dense. Estimated 10% Fine Gravel, 60% Coarse to Fine Sand, and 30% Non-Plastic Silt.		15.0										
15 - 16.2		X	Gray Brown Clayey SAND (SC) Moist, Dense. Estimated 70% Coarse to Fine Sand and 30% Clay.		16.2										
16.2 - 21.5		X	Gray Brown Silty SAND (SM) Moist, Dense. Estimated 10% Fine Gravel, 60% Coarse to Fine Sand, and 30% Non-Plastic Silt.												
21.5 - 25		X	Drilled Straight from 21.5' to 25' to Search for Water. No Water Present in Boring Hole at 25' After Waiting 2 Hours.		25.0										
25			Test pit terminated at 25 feet. Test Pits backfilled without compaction verification												

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
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 Fax: (775) 883-7114
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The Vintage at King's Canyon
LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-9

135

TEST PIT No. B-10

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **4-21-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	<input type="checkbox"/> Percolation Test <input checked="" type="checkbox"/> California Sampler	<input checked="" type="checkbox"/> Split Spoon <input type="checkbox"/> Bulk Sample	<input checked="" type="checkbox"/> Ziplock Sample <input type="checkbox"/> Static Water Table	Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			SOIL DESCRIPTION												
1		B	<p>Brown Clayey SAND (SC) Moist, Dense. Estimated 55% Coarse to Fine Sand and 45% Clay.</p>												
2		X				3.5									
3		Z	<p>Gray Brown Silty SAND (SM) Moist, Dense, with Roots. Estimated 60% Coarse to Fine Sand, and 40% Non-Plastic Silt.</p>												
4		X				8.0									
5		X	<p>Gray Brown Clayey SAND (SC) Moist, Dense, with Mottling.</p>												
6		X				7.9	26	9	0.1	56.3	43.7				
7		X													
8		X													
9		X													
10		X													
11		X													

Test pit terminated at 11.5 feet.
Test Pits backfilled without compaction verification

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Lumos and Associates
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Fax: (775) 883-7114
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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE
A-10

TEST PIT No. B-11

Logged By: **B. Sexton**
 Date Logged: **4-21-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
1		B	Brown Clayey SAND (SC) Moist, Medium Dense.												
2															
3			Slight Mottling Noted at 3.5'.												
4															
5															
6			Color Change to Light Brown and Contains Roots at 5.7'.			7.6			31	13	1.0	49.0	49.9		
7															
8															
9															
10						10.0									
11			Reddish Brown Silty SAND (SM) Moist, Medium Dense, with Heavy Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.												
				11.5											

Test pit terminated at 11.5 feet.
 Test Pits backfilled without compaction verification

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 800 E. College Parkway
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LOG OF EXPLORATORY TEST PIT
 Job Number: 8947.000
 Date: May 20 2016

PLATE
A-11

TEST PIT No. B-12

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **4-21-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	<input type="checkbox"/> Percolation Test <input type="checkbox"/> Split Spoon <input type="checkbox"/> Ziplock Sample	Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			<input checked="" type="checkbox"/> California Sampler <input type="checkbox"/> Bulk Sample <input type="checkbox"/> Static Water Table										

SOIL DESCRIPTION

1		<input type="checkbox"/> B	Brown Clayey SAND (SC) Moist, Medium Dense. Estimated 55% Coarse to Fine Sand and 45% Clay.										
2													
3			Slight Mottling Noted at 3.5'.										
4													
5			Heavier Mottling Noted at 5'.										
6													
7													
8				8.0									
9		<input checked="" type="checkbox"/>	Gray Brown Sandy SILT (ML) , Moist, Stiff.	6.6			38	10	0.3	30.4	69.3		
10			Slightly More Coarse at 10'.										
11				11.5									

Test pit terminated at 11.5 feet.
Test Pits backfilled without compaction verification

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The Vintage at King's Canyon
LOG OF EXPLORATORY TEST PIT
Job Number: 8947.000
Date: May 2016

PLATE
A-12

TEST PIT No. B-13

Logged By: **B. Sexton**
 Date Logged: **4-21-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
1		B	<p>Brown Clayey SAND (SC) Moist, Medium Dense.</p> <p>Gray Brown Silty SAND (SM), Moist, Medium Dense to Dense, Roots, and Slight Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.</p>												
2															
3															
4															
5															
6						5.8	30	11	0.8	61.7	37.6				
6.5						6.5									
7															
8															
9															
10															
11		11.5													
Test pit terminated at 11.5 feet. Test Pits backfilled without compaction verification															

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Lumos and Associates

800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

PLATE

A-13

Date: May 20 2016

TEST PIT No. B-14

Logged By: **B. Sexton**

Total Depth: **41.5 feet**

Date Logged: **4-19-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
5		<input checked="" type="checkbox"/>	<p>Brown Clayey SAND (SC). Moist, Medium Dense. Estimated 55% Coarse to Fine Sand and 45% Clay.</p> <p>Entire Hole Drilled Utilizing Mud Rotary Technique.</p>												
10		<input checked="" type="checkbox"/>	<p>Reddish Brown Silty SAND (SM). Moist, Medium Dense, with Roots and Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.</p> <p>Gray Brown Silty SAND (SM). Moist, Medium Dense to Very Dense, with Roots and Mottling. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt. No Mottling Noted but Still Containing Roots at 15'. Also a 1" Layer of a Black Silty SAND (SM). No Odor.</p>			10.0									
20		<input checked="" type="checkbox"/>	<p>Gray Reddish Brown Poorly Graded SAND with Silt (SP-SM). Moist, Dense to Very Dense. Estimated 10% Angular Fine Gravel, 80% Coarse to Fine Sand, and 10% Non-Plastic Silt.</p> <p>Color Change to just Reddish Brown at 25'.</p>			20.0									
30		<input checked="" type="checkbox"/>	<p>Reddish Brown Silty SAND (SM). Moist, Dense, with Mottling.</p>			30.0	19.8		NP	NP	0.3	59.6	40.1		
40		<input checked="" type="checkbox"/>	<p>Slightly More Coarse at 40'.</p>			41.5									
			<p>Test pit terminated at 41.5 feet. Test Pits backfilled without compaction verification</p>												

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-14

TEST PIT No. B-15

Logged By: **B. Sexton**
 Date Logged: **4-20-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	Legend			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
SOIL DESCRIPTION															
1		B													
2															
3						15.5		36	7	0.8	38.3	61.0			
4															
5															
5.5															
6		Z													
7															
8															
9															
10															
11															
						11.5									

Test pit terminated at 11.5 feet.
 Test Pits backfilled without compaction verification

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 20 2016

PLATE
A-15

TEST PIT No. B-17

Logged By: **B. Sexton**
 Date Logged: **4-20-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
1		B	Brown Silty SAND (SM). Moist, Loose.												
2															
3		Z				17.5		30	5	0.5	54.5	44.9			
4			Gray Brown Silty SAND (SM). Moist, Medium Dense, with Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.			3.7									
5															
6															
7			Small Roots Noted at 7.5'.												
8															
9															
10						10.0									
11			Brown Clayey SAND (SC). Moist, Dense, with Roots, and Mottling. Estimated 55% Coarse to Fine Sand and 45% Clay.												
						11.5									

Test pit terminated at 11.5 feet.
 Test Pits backfilled without compaction verification

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bs Sexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE
A-17

TEST PIT No. B-18

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **4-20-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
1	B		<p>Brown Silty SAND (SM). Moist, Loose, with Roots. Estimated 55% Coarse to Fine Sand and 45% Plastic Silt.</p>			5.0									
2															
3															
4															
5															
6		<p>Brown Clayey SAND (SC). Moist, Medium Dense, with Slight Mottling. Estimated 55% Coarse to Fine Sand and 45% Clay.</p>			10.0										
7															
8															
9															
10															
11		<p>Gray Brown Clayey SAND (SC). Moist, Medium Dense, with Mottling.</p>			11.5	8.4		29	11	0.1	51.7	48.1			
11															
Test pit terminated at 11.5 feet. Test Pits backfilled without compaction verification															

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE
A-18

TEST PIT No. B-20

Logged By: **B. Sexton**

Total Depth: **41.5 feet**

Date Logged: **4-19-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			<input type="checkbox"/> Percolation Test	<input checked="" type="checkbox"/> Split Spoon	<input checked="" type="checkbox"/> Ziplock Sample										
			<p>Brown Silty SAND (SM). Moist, Medium Dense, with Roots. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.</p>												
5					10.0										
			<p>Gray Reddish Brown Silty SAND (SM). Moist, Medium Dense, with Mottling. Estimated 5% Fine Gravel, 55% Coarse to Fine Sand and 40% Non-Plastic Silt.</p>												
10					15.0										
			<p>Gray Brown Clayey SAND (SC). Moist, Medium Dense.</p>			21.9			32	9	3.1	53.6	43.3		
15					20.0										
			<p>Gray Brown Silty SAND (SM). Moist, Dense, with Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.</p>												
20					30.0										
			<p>Gray Brown Poorly Graded SAND with Silt (SP-SM). Moist, Dense. Estimated 10% Fine Angular Gravel, 90% Coarse to Fine Sand, and 10% Non-Plastic Silt.</p>												
25					35.0										
			<p>Brown Silty SAND (SM). Moist, Dense, with Mottling. Estimated 70% Coarse to Fine Sand and 30% Non-Plastic Silt.</p>												
30					40.0										
			<p>Gray Brown Poorly Graded SAND with Silt (SP-SM). Moist, Dense. Estimated 10% Fine Angular Gravel, 90% Coarse to Fine Sand, and 10% Non-Plastic Silt.</p>			41.5									
35															
40															
			<p>Test pit terminated at 41.5 feet. Test Pits backfilled without compaction verification</p>												

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE
A-20

TEST PIT No. B-21

Logged By: **B. Sexton**
 Date Logged: **4-20-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **40 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			Percolation Test	Split Spoon	Ziplock Sample										
0 - 5		B	Brown Silty SAND (SM). Moist, Loose, with Roots. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.												
5 - 8.5			Slight Mottling Noted at 6'.												
8.5 - 10			Gray Brown Clayey SAND (SC). Moist, Medium Dense, with Mottling. Color Change to Brown at 10'.			6.6		30	8	0.3	53.9	45.9			
10 - 11.5						11.5									
11.5 - 40			Drilled First Down to 25'. No Water Noted. Then Proceeded to Drill to 40'. No Water Noted. Left the Hole Open for Approximately 2 Hours. No Water Noted within the Boring Hole to 40' Below Ground Surface.												
40			Test pit terminated at 40 feet. Test Pits backfilled without compaction verification			40.0									

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-21

TEST PIT No. B-22

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **4-20-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	<input type="checkbox"/> Percolation Test <input checked="" type="checkbox"/> Split Spoon <input type="checkbox"/> Ziplock Sample	Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index
			<input checked="" type="checkbox"/> California Sampler <input type="checkbox"/> Bulk Sample <input type="checkbox"/> Static Water Table										
SOIL DESCRIPTION													
1		B											
2													
3													
4													
5			Z										
5.7													
6													
7													
8													
9													
10													
11													
Test pit terminated at 11.5 feet. Test Pits backfilled without compaction verification													

Brown Silty SAND (SM). Moist, Loose to Medium Dense. See Plate A-6 for Test Results.

Gray Brown Silty SAND (SM). Moist, Loose, with Mottling. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bs Sexton@lumosinc.com

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LOG OF EXPLORATORY TEST PIT

Job Number: 8947.000

Date: May 2016

PLATE

A-22

TEST PIT No. B-23

Logged By: **B. Sexton**
 Date Logged: **4-20-2016**
 Drill Type: **Jeff Co Speedstar 15**

Total Depth: **11.5 feet**
 Water Depth: **No groundwater encountered**
 Ground Elev.: **E.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION			Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index	
1		B	Brown Silty, Clayey SAND (SC-SM). Moist, Loose to Dense, with Roots.													
2																
3																
4																
5							8.5		28	6	3.4	62.6	33.9			
6																
7			Gray Reddish Brown Silty SAND (SM). Moist, Loose, with Mottling and Roots. Estimated 60% Coarse to Fine Sand and 40% Non-Plastic Silt.			6.2										
8			Gray Brown Clayey SAND (SC). Moist, Medium Dense, with Mottling. Estimated 60% Coarse to Fine Sand and 40% Clay.			7.5										
9																
10																
11							11.5									

Test pit terminated at 11.5 feet.
 Test Pits backfilled without compaction verification

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

The Vintage at King's Canyon
LOG OF EXPLORATORY TEST PIT
 Job Number: 8947.000
 Date: May 2016

PLATE
A-23

TEST PIT No. B-24

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **4-20-2016**

Water Depth: **No groundwater encountered**

Drill Type: **Jeff Co Speedstar 15**

Ground Elev.: **F.G.S. feet ±**

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION	Natural Moisture Content, %	Moisture Content, %	Dry Density, pcf	Liquid Limit, %	Plasticity Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	R-Value	Expansion Index	
														<input type="checkbox"/> Percolation Test <input checked="" type="checkbox"/> California Sampler
1			Brown Silty SAND (SM) , Moist, Loose to Medium Dense, with Roots.											
2														
3					9.8			29	7	6.8	65.5	27.7		
4														
5				Roots and Mottling Noted at 5'.										
6														
7														
8														
9														
10					10.0									
11				Reddish Brown Silty SAND (SM) , Moist, Loose, with Heavy Mottling. Estimated 60% Coarse to Fine Sand and 40% Plastic Silt.										
				11.5										

Test pit terminated at 11.5 feet.
Test Pits backfilled without compaction verification

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Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

The Vintage at King's Canyon
LOG OF EXPLORATORY TEST PIT
Job Number: 8947.000
Date: May 2016

PLATE
A-24

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</small>	GRAVEL AND GRAVELLY SOILS <small>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</small>	CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS <small>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</small>	CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
				ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
FINE GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</small>	SILTS AND CLAYS <small>LIQUID LIMIT LESS THAN 50</small>		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS	
	SILTS AND CLAYS <small>LIQUID LIMIT GREATER THAN 50</small>		CH	INORGANIC CLAYS OF HIGH PLASTICITY	
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Other Tests	
AN	ANALYTICAL TEST (pH, Soluble Sulfate, and Resistivity)
C	CONSOLIDATION TEST
DS	DIRECT SHEAR TEST
MD	MOISTURE DENSITY CURVE

LUMOS LEGEND 8947.000 KINGS CANYON.GPJ 10-23-06.GDT 5/25/16

Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

The Vintage at King's Canyon

LEGEND

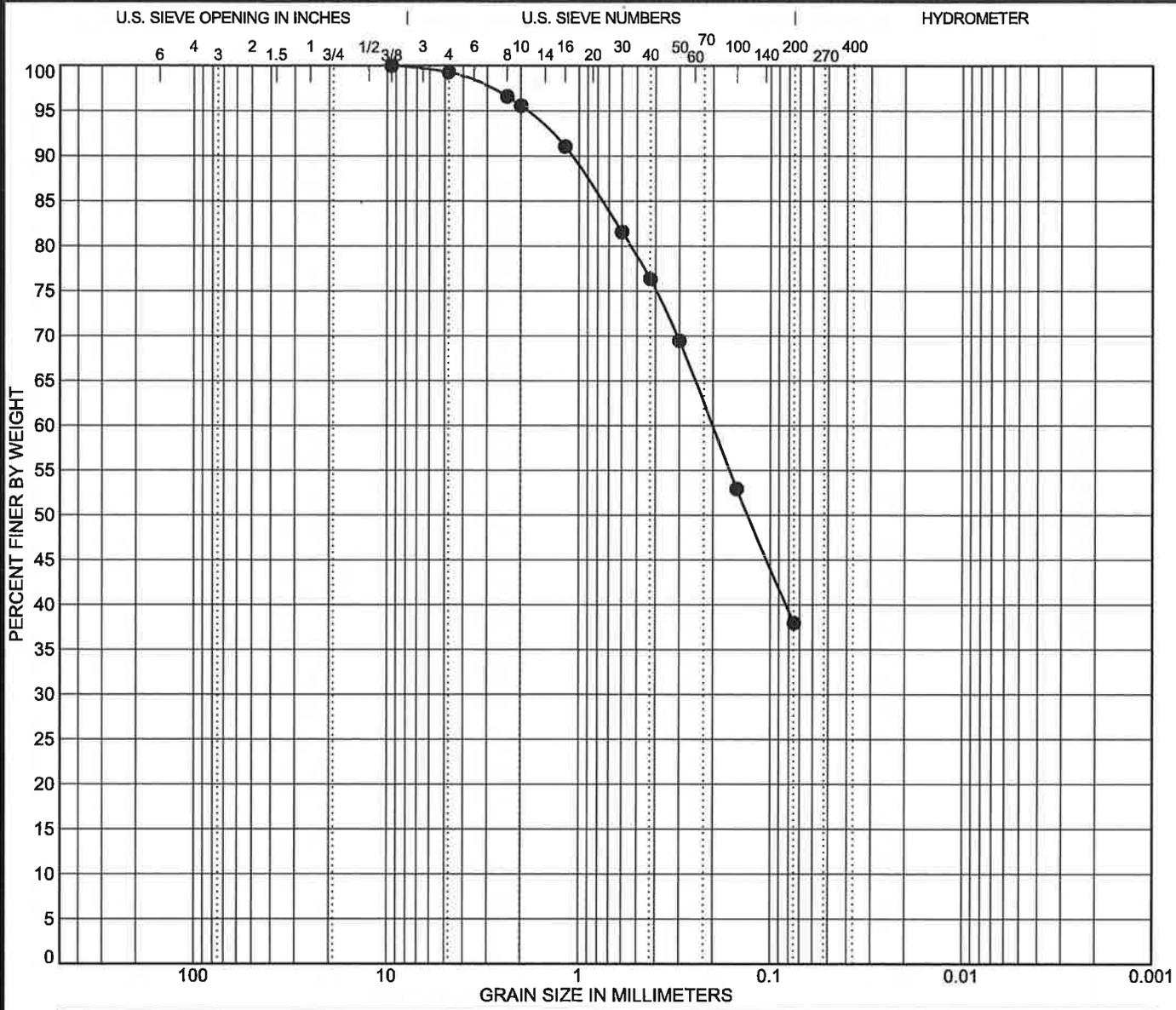
Job Number: 8947.000

Date: May 2016

PLATE

A-25

APPENDIX B



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-6-2016					LL	PL	PI	Cc	Cu
B-01	Classification					36	23	13		
Depth: 0	Clayey SAND (SC)									
Sample Location	Comb. Samp. B-1, 2, 3, & 5 from 0'-3'									
USCS	SC									
AASHTO										

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-01	9.5	0.202			0.8	61.3	38.0	
Depth: 0								
Natural Moisture	6.7 %		S.E.		Absorption %			
R-Value	43		Durability Index		Soundness			
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear		35	

Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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GRAIN SIZE DISTRIBUTION

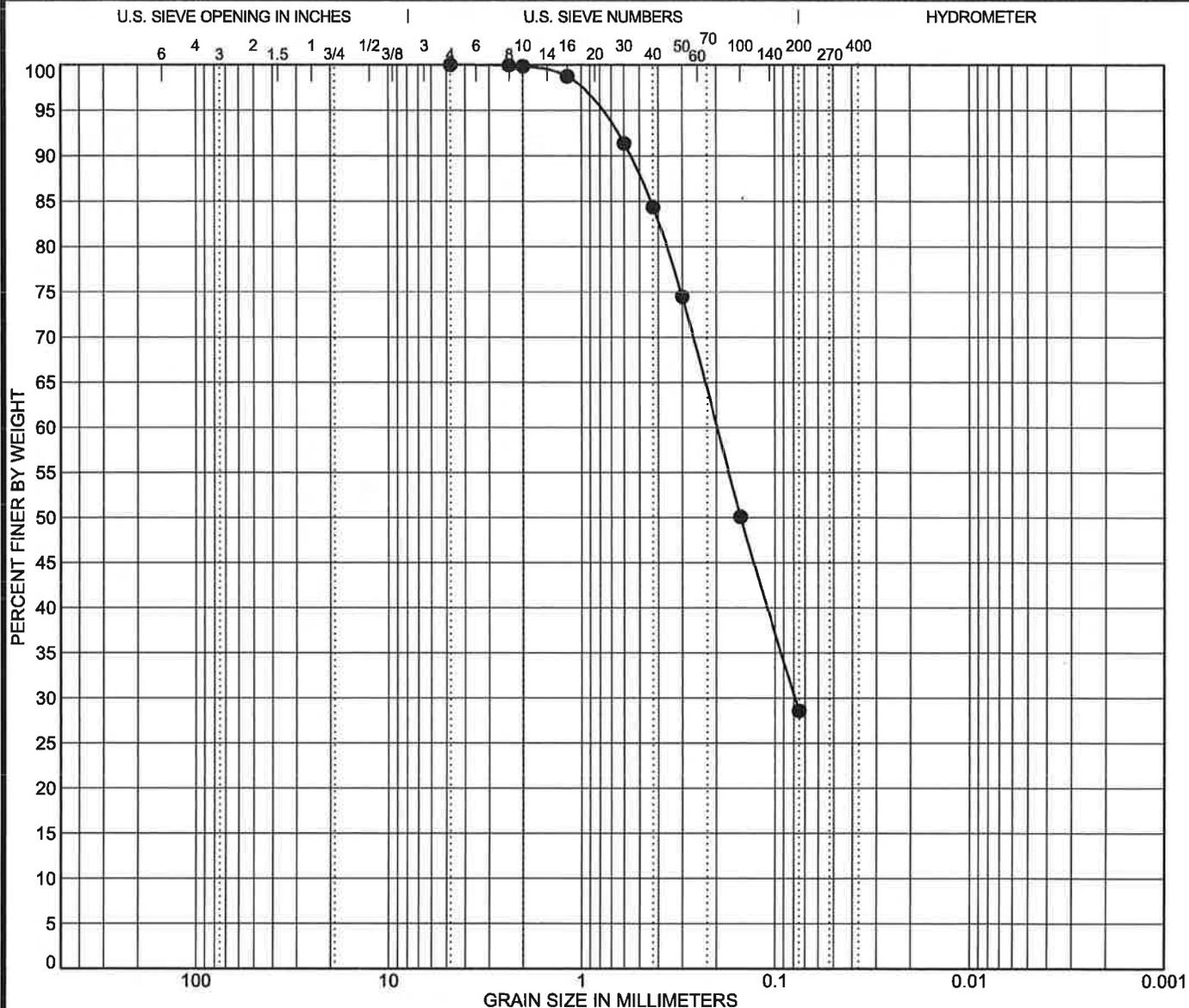
Job Number: 8947.000

Date: May 2016

PLATE

B-1.1

LUMOS GRAIN SIZE 8847.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016					LL	PL	PI	Cc	Cu
● B-01	Classification					34	16	18		
Depth: 5	Clayey SAND (SC)									
Sample Location	Boring 1 from 5' - 6.5'									
USCS	SC									
AASHTO										

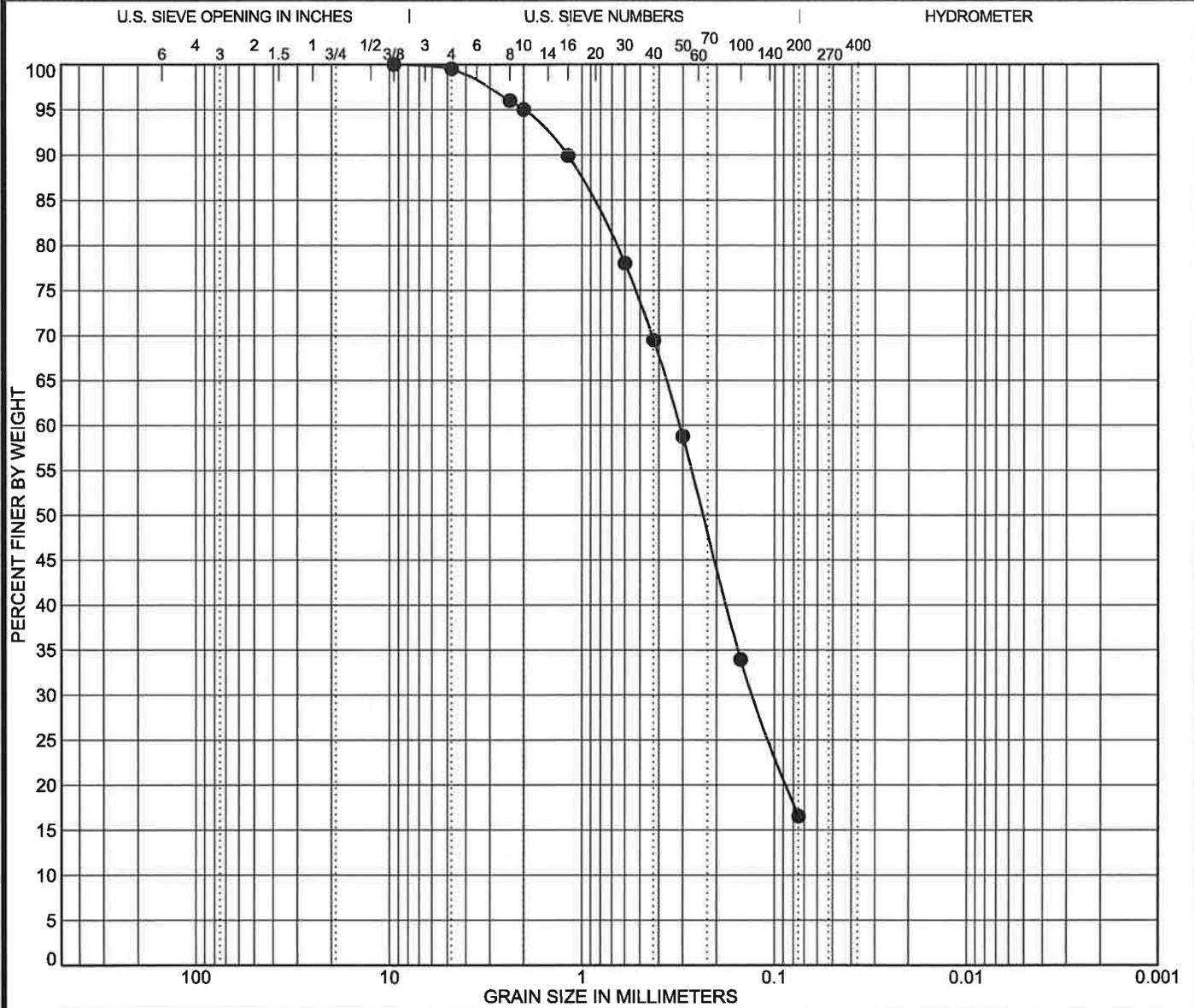
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-01	4.75	0.199	0.079		0.0	71.4	28.6	
Depth: 5								
Natural Moisture	14.1 %		S.E.		Absorption %			
R-Value			Durability Index		Soundness			
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear			

LUMOS & ASSOCIATES
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsenton@lumosinc.com

The Vintage at King's Canyon
GRAIN SIZE DISTRIBUTION
 Job Number: 8947.000 Date: May 2016

PLATE
B-1.2

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-01	Classification					LL	PL	PI	Cc	Cu
	Depth: 21	Silty SAND (SM)					NP	NP	NP		
Sample Location		Boring 1 from 21' - 21.5'									
USCS		SM									
AASHTO											
Specimen Identification											
●	B-01	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
	Depth: 21	9.5	0.313	0.128		0.5	83.0	16.5			
Natural Moisture		17.1 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
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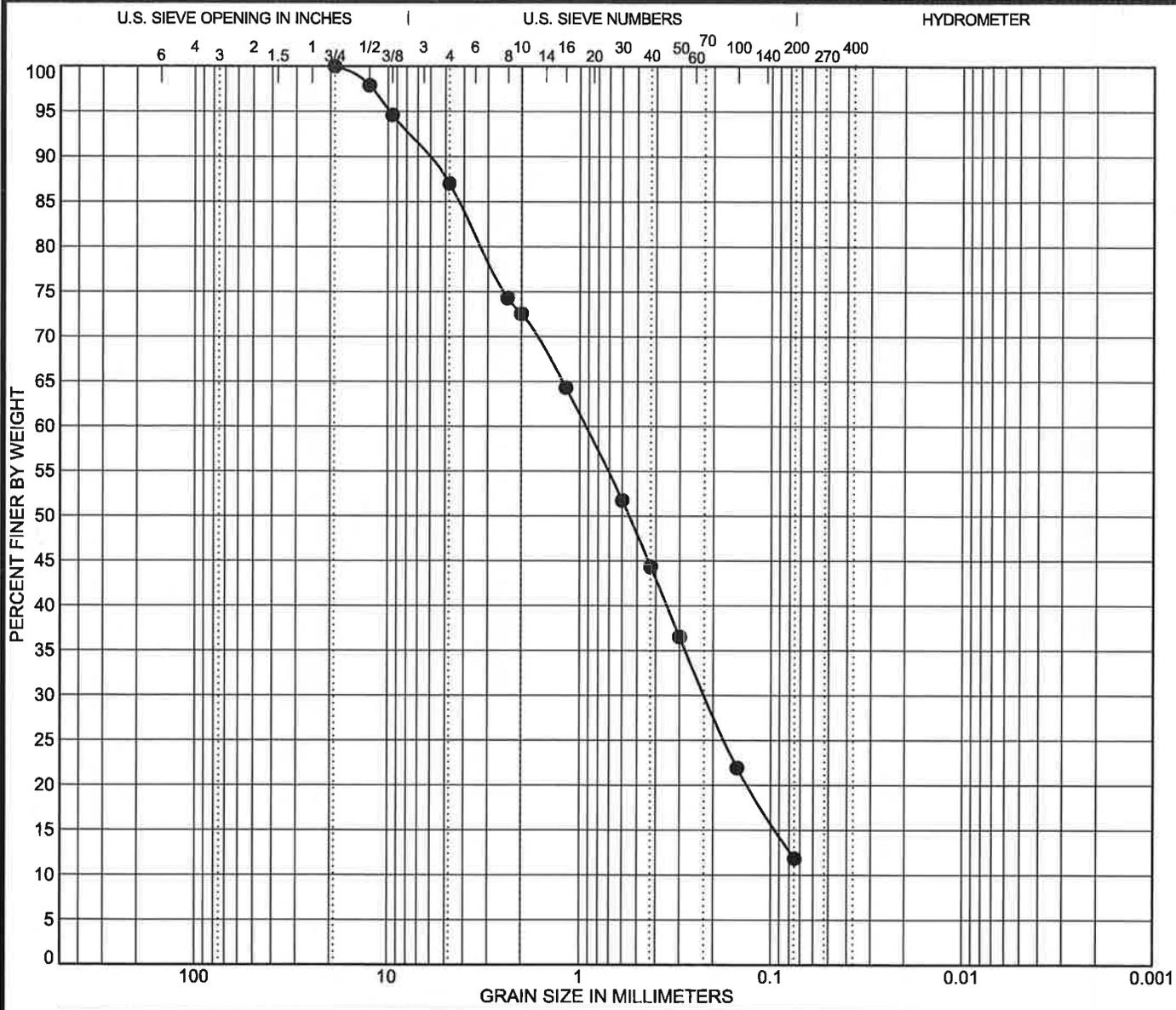
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Date: May 2016

PLATE

B-1.3



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016	LL	PL	PI	Cc	Cu
● B-03	Classification	NP	NP	NP	0.8	14.2
Depth: 30	Poorly Graded SAND w/Silt (SP-SM)					
Sample Location	Boring 3 from 30' - 31.5'					
USCS	SP-SM					
AASHTO						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-03	19	0.936	0.22		13.0	75.1	11.9	
Depth: 30								
Natural Moisture	16.9%		S.E.		Absorption %			
R-Value			Durability Index		Soundness			
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear			

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800 E. College Parkway
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Fax: (775) 883-7114
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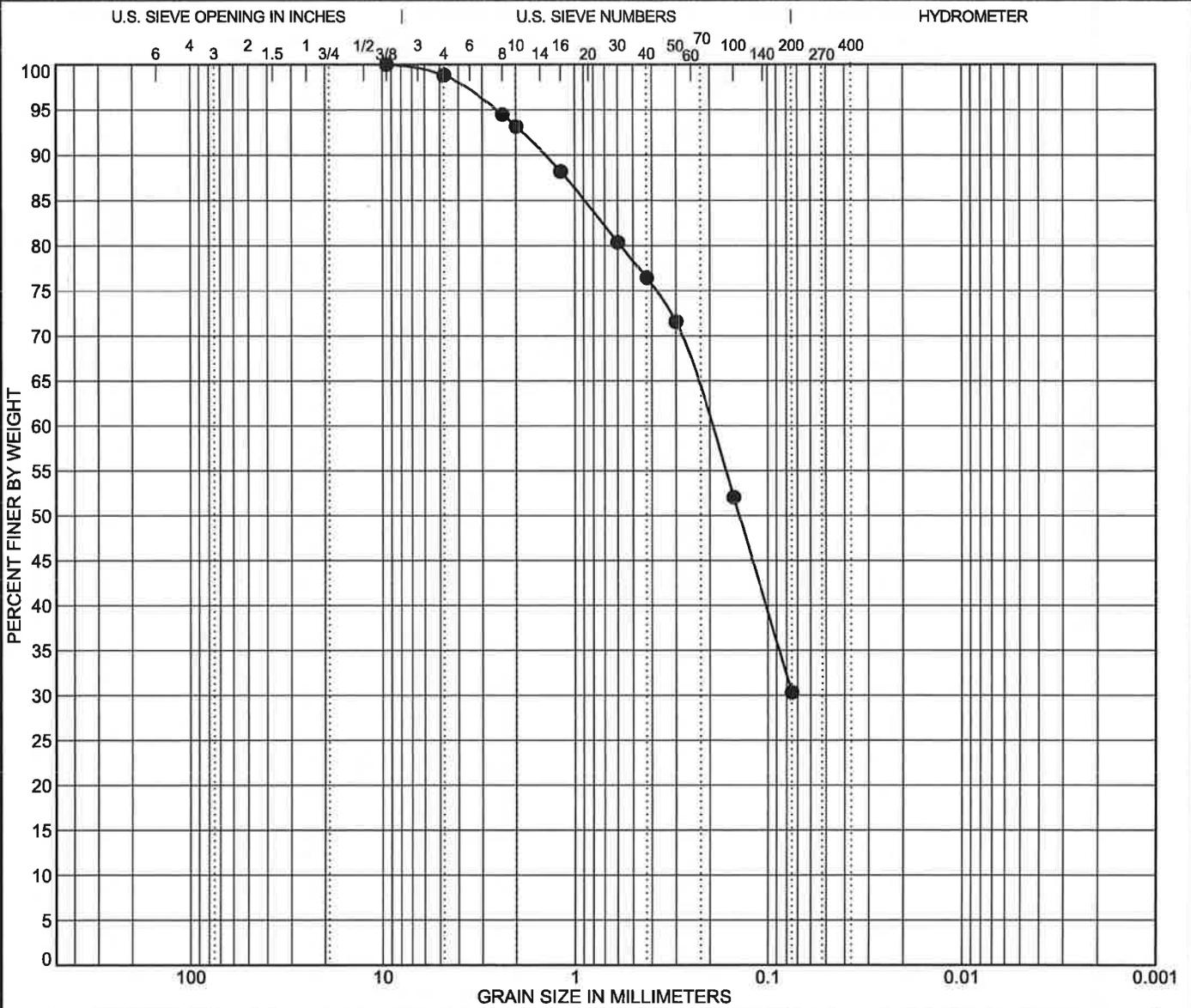
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Date: May 2016

PLATE

B-1.5

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-04	Classification					LL	PL	PI	Cc	Cu
	Depth: 10	Silty SAND (SM)					NP	NP	NP		
	Sample Location	Boring 4 from 10' - 11.5'									
	USCS	SM									
	AASHTO										
Specimen Identification											
●	B-04	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
	Depth: 10	9.5	0.199			1.2	68.5	30.3			
	Natural Moisture	8.8 %		S.E.		Absorption %					
	R-Value			Durability Index		Soundness					
	Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear					

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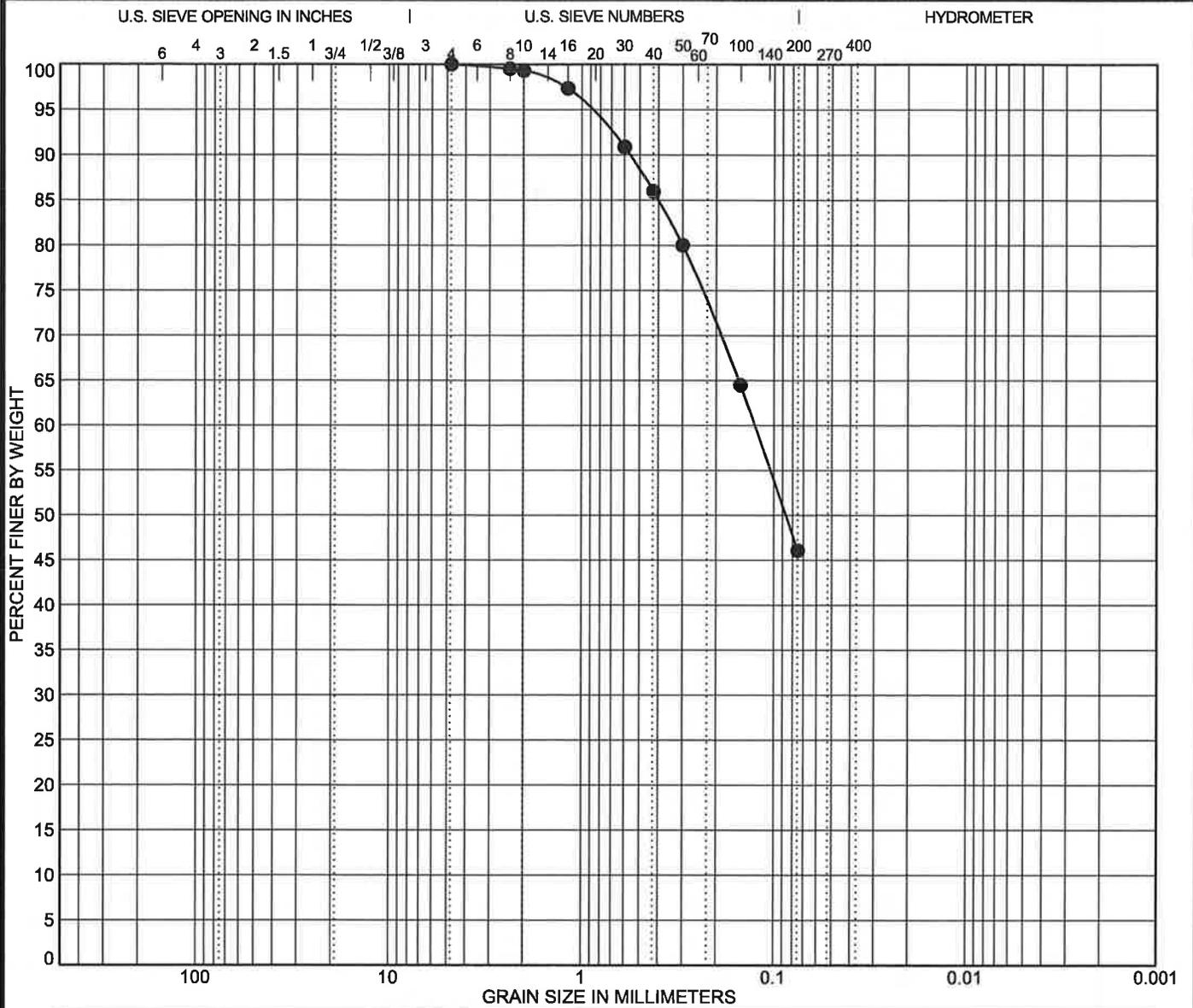
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 Fax: (775) 883-7114
 bsxton@lumosinc.com

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PLATE
B-1.6

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
● B-04		Classification					LL	PL	PI	Cc	Cu
Depth: 16		Clayey SAND (SC)					31	16	15		
Sample Location		Boring 4 from 16' - 16.5'									
USCS		SC									
AASHTO											
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
● B-04											
Depth: 16		4.75	0.127			0.0	53.9	46.1			
Natural Moisture		18 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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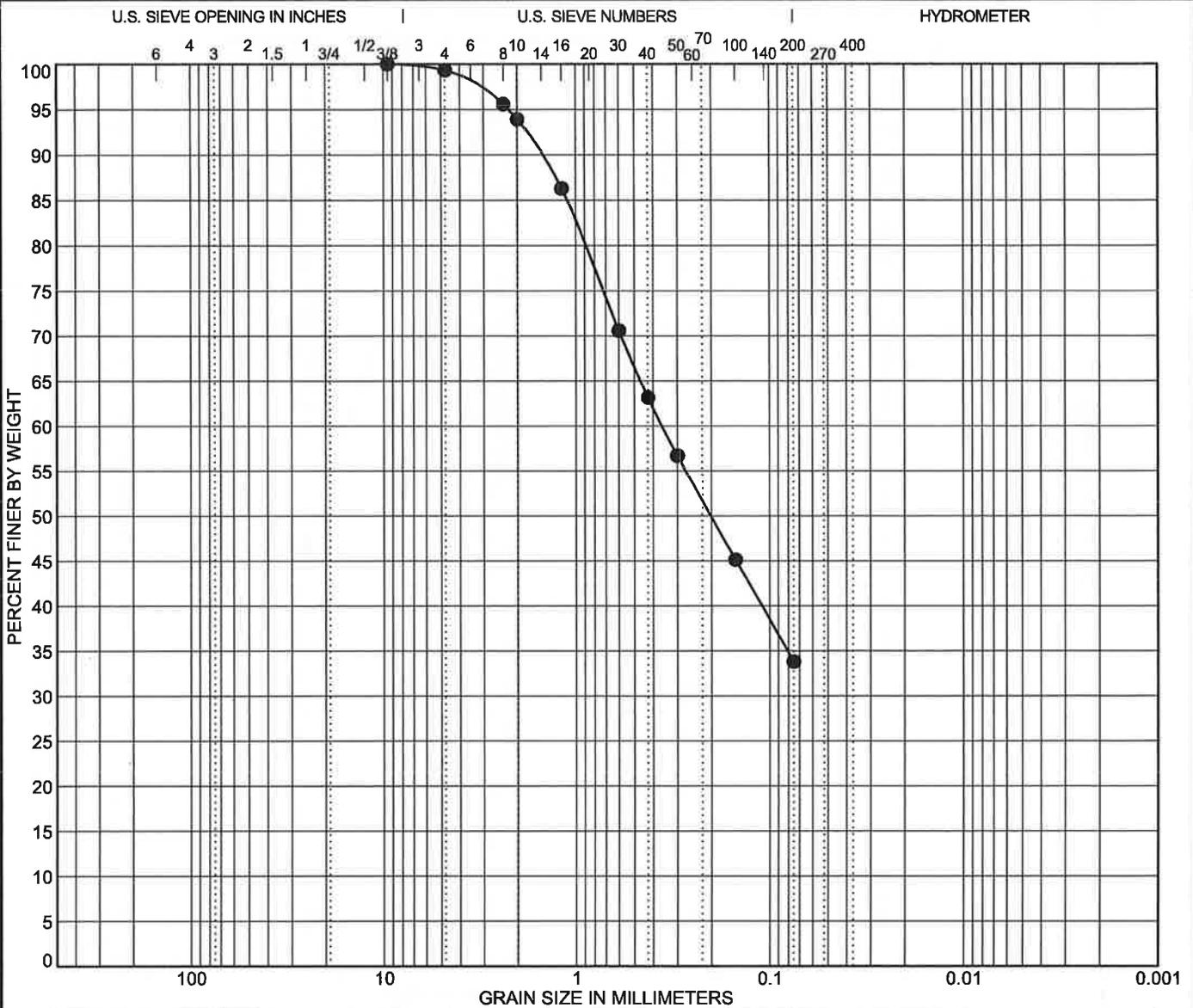
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PLATE

B-1.7



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-05	Classification					LL	PL	PI	Cc	Cu
	Depth: 3	Clayey SAND (SC)					32	21	11		
Sample Location		Boring 5 from 3' - 3.5'									
USCS		SC									
AASHTO											
Specimen Identification											
●	B-05	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
	Depth: 3	9.5	0.358			0.7	65.5	33.8			
Natural Moisture		11.1 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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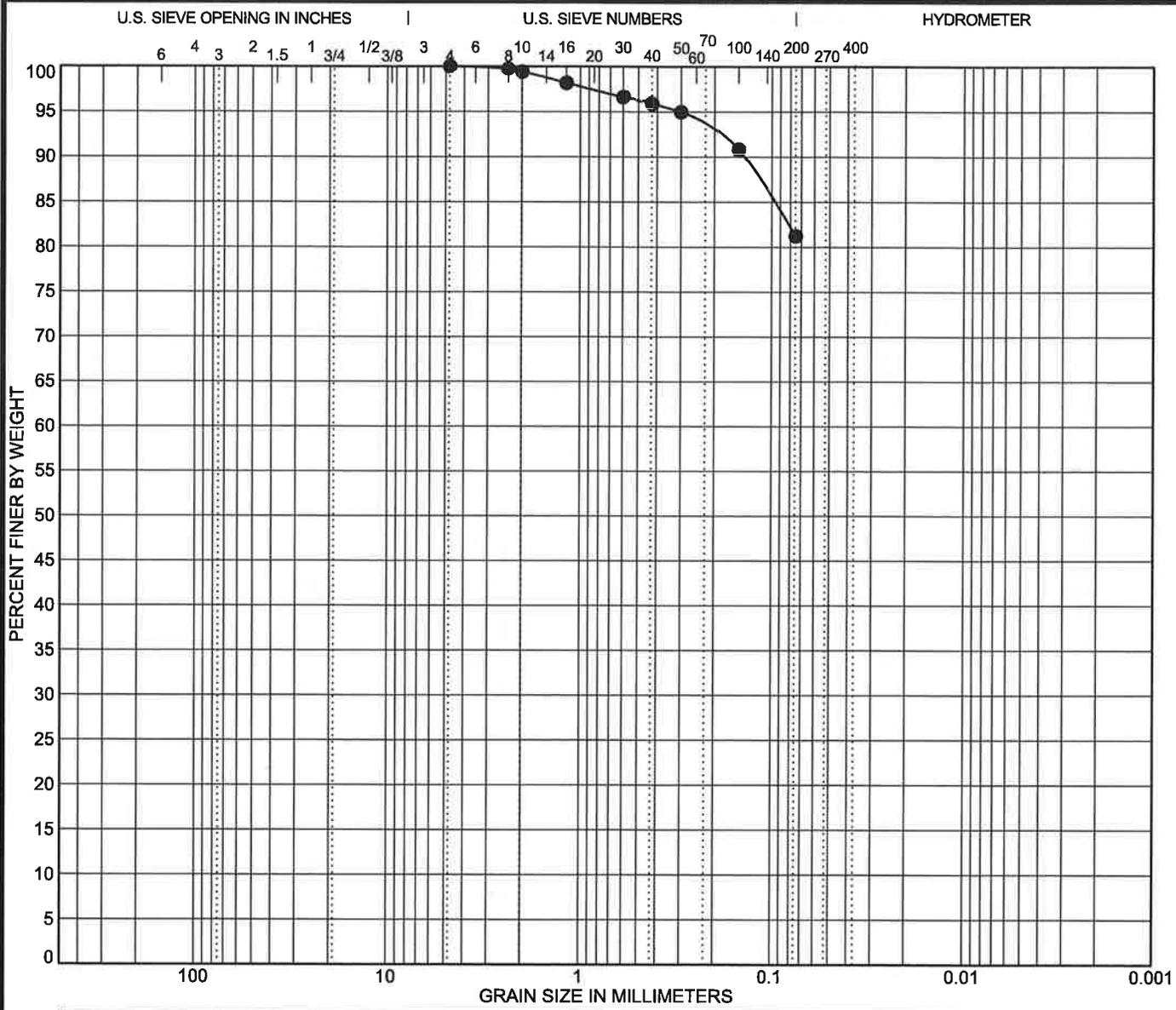
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B-1.8

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016									
● B-06	Classification					LL	PL	PI	Cc	Cu
Depth: 20	Lean CLAY with Sand (CL)					37	21	16		
Sample Location	Boring 6 from 20' - 21'									
USCS	CL									
AASHTO										

Specimen Identification									
● B-06	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
Depth: 20	4.75				0.0	18.8	81.2		
Natural Moisture	32.2 %		S.E.		Absorption %				
R-Value			Durability Index		Soundness				
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear				

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 (775) 883-7077
 Fax: (775) 883-7114
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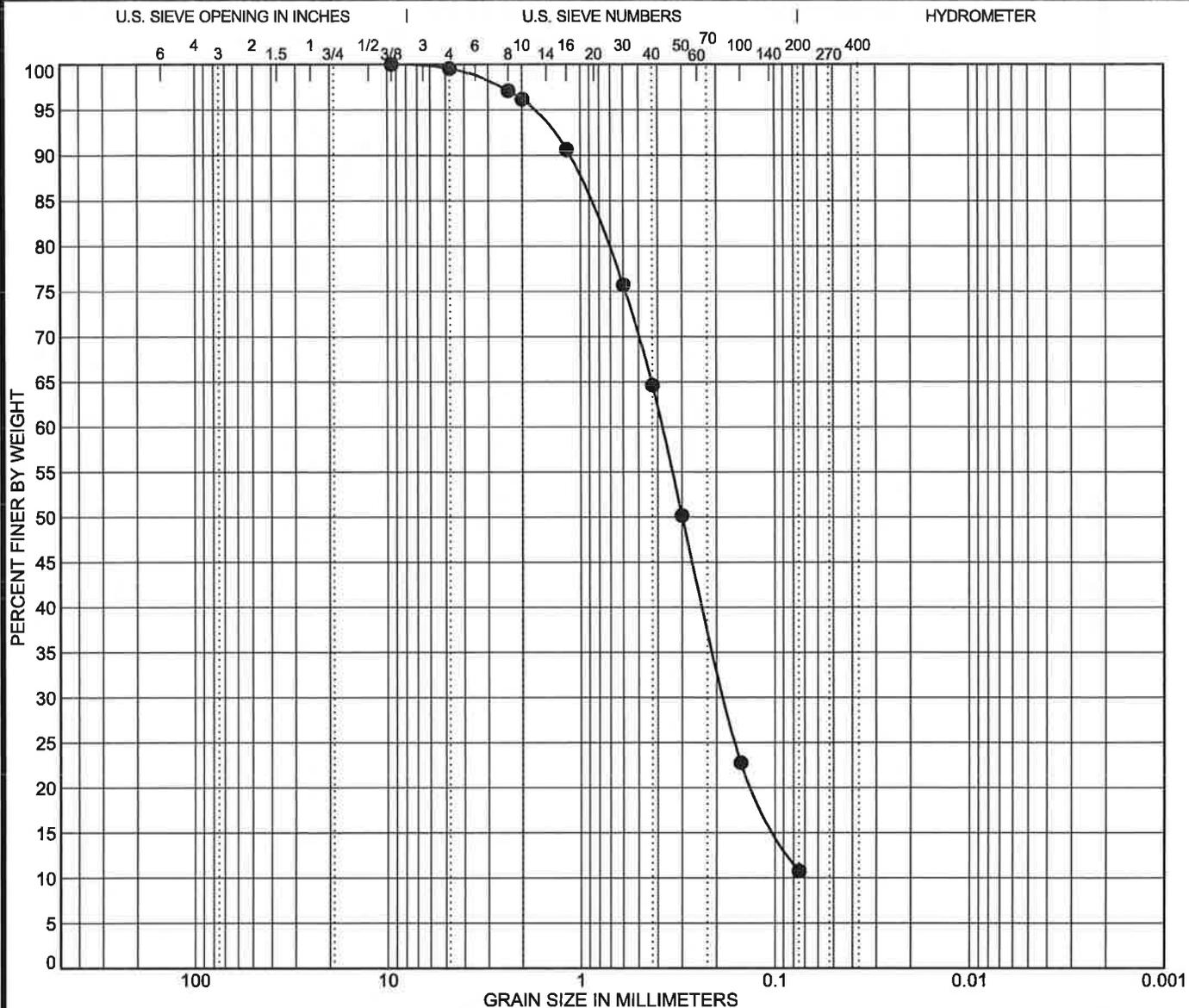
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PLATE

B-1.9



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

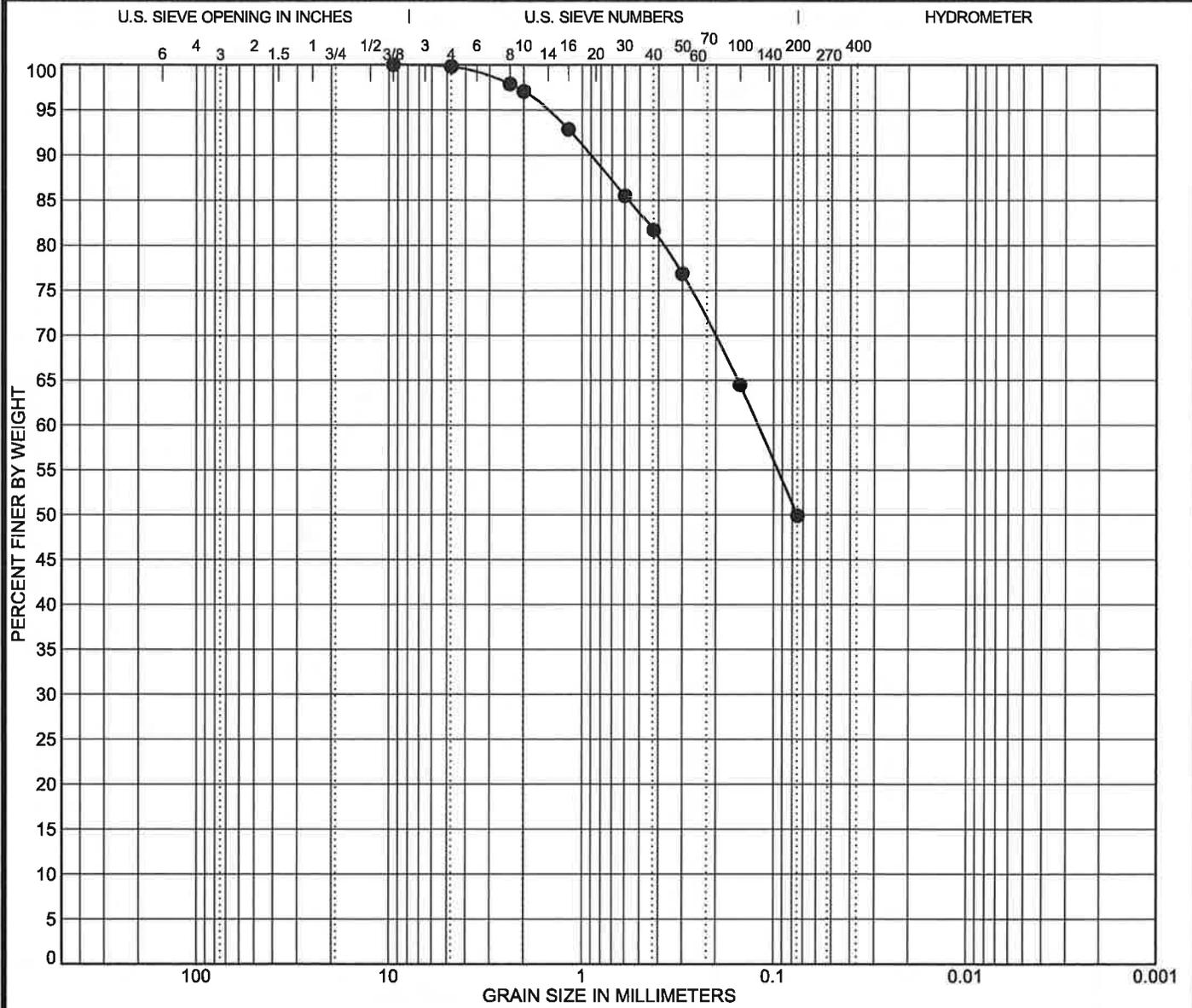
Specimen Identification		Date: 5-2-2016									
●	B-07	Classification					LL	PL	PI	Cc	Cu
	Depth: 11	Poorly Graded SAND w/Silt (SP-SM)					NP	NP	NP	1.2	5.3
Sample Location		Boring 7 from 11' - 11.5'									
USCS		SP-SM									
AASHTO											
Specimen Identification											
●	B-07	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
	Depth: 11	9.5	0.38	0.18		0.5	88.8	10.8			
Natural Moisture		4.4 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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 Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
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PLATE
B-1.10



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016							
●	B-08	Classification			LL	PL	PI	Cc	Cu
	Depth: 5.5	Clayey SAND (SC)			45	21	24		
Sample Location		Boring 8 from 5.5' - 6'							
USCS		SC							
AASHTO									
Specimen Identification									
●	B-08	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	Depth: 5.5	9.5	0.121			0.2	49.9	49.9	
Natural Moisture		13.5%		S.E.		Absorption %			
R-Value				Durability Index		Soundness			
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear			

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Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
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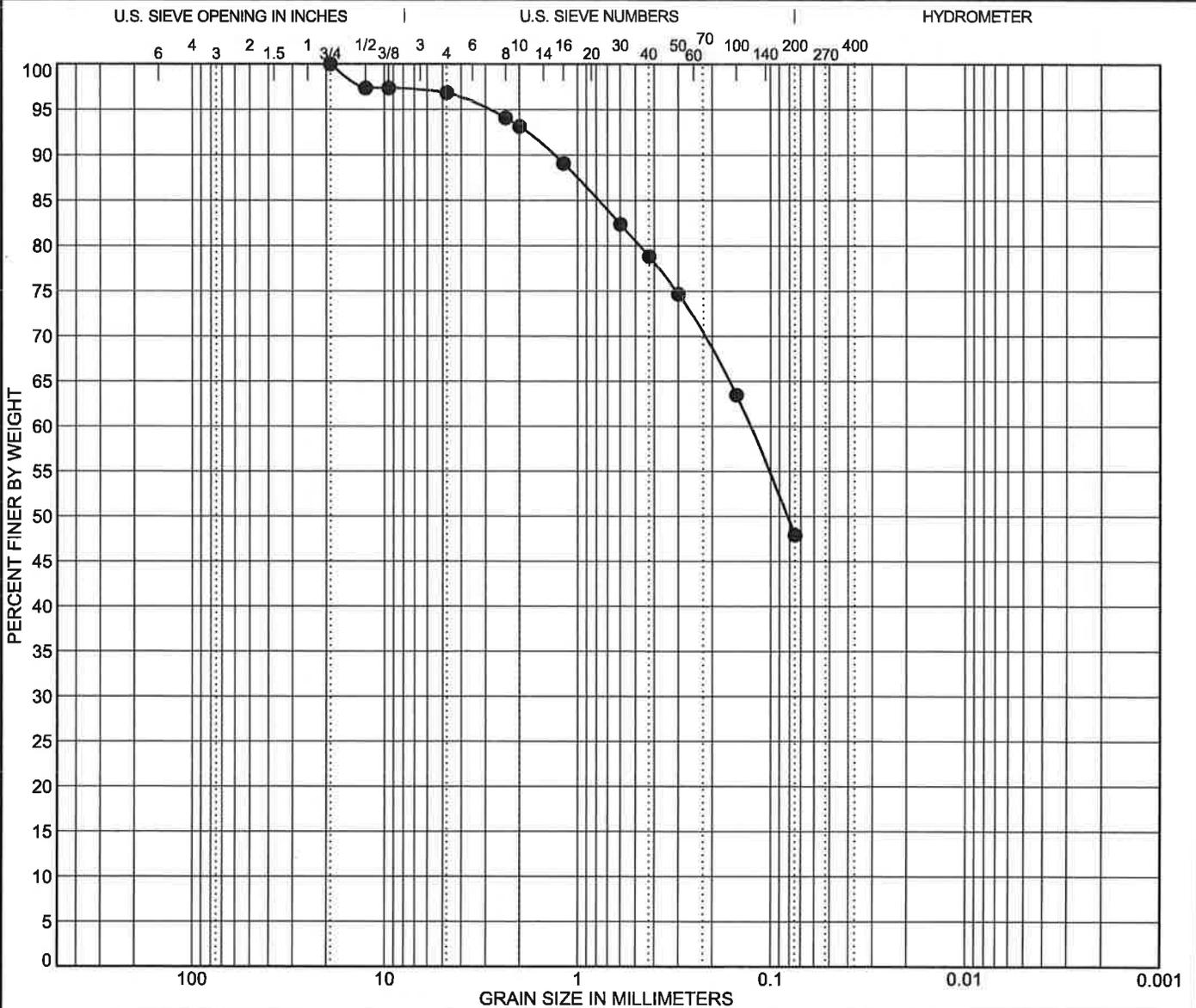
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PLATE

B-1.11



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-09	Classification					LL	PL	PI	Cc	Cu
	Depth: 0	Clayey SAND (SC)					40	16	24		
Sample Location		Boring 9 from 0' - 5'									
USCS		SC									
AASHTO											
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
●	B-09	19	0.128			3.2	48.9	47.9			
	Depth: 0										
Natural Moisture		8.0 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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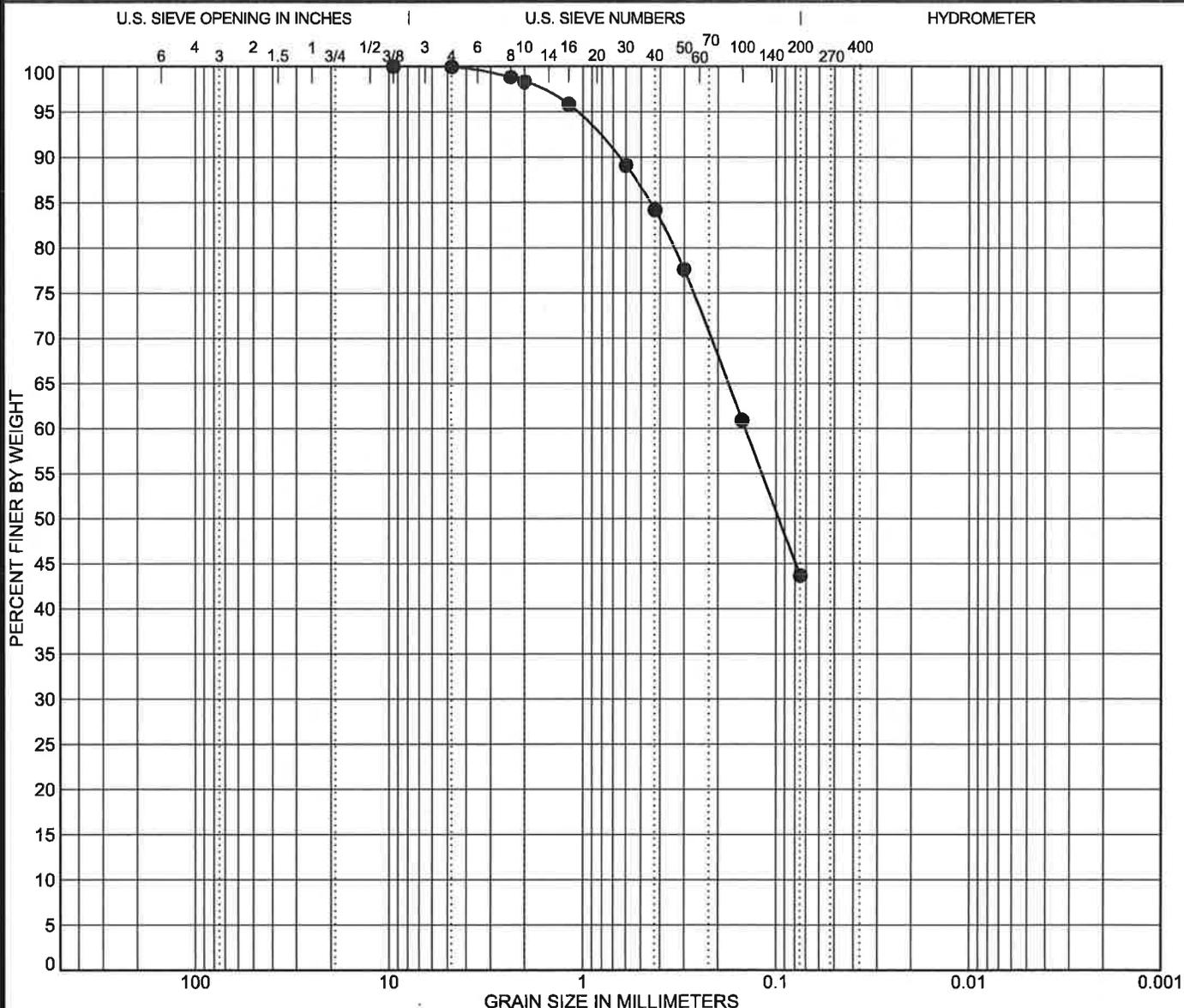
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B-1.12

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016									
● B-10	Classification					LL	PL	PI	Cc	Cu
Depth: 8.5	Clayey SAND (SC)					26	16	10		
Sample Location	Boring 10 from 8.5' - 9'									
USCS	SC									
AASHTO										

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
● B-10									
Depth: 8.5	9.5	0.145			0.1	56.3	43.7		
Natural Moisture	7.9 %		S.E.		Absorption %				
R-Value			Durability Index		Soundness				
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear				

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Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
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Fax: (775) 883-7114
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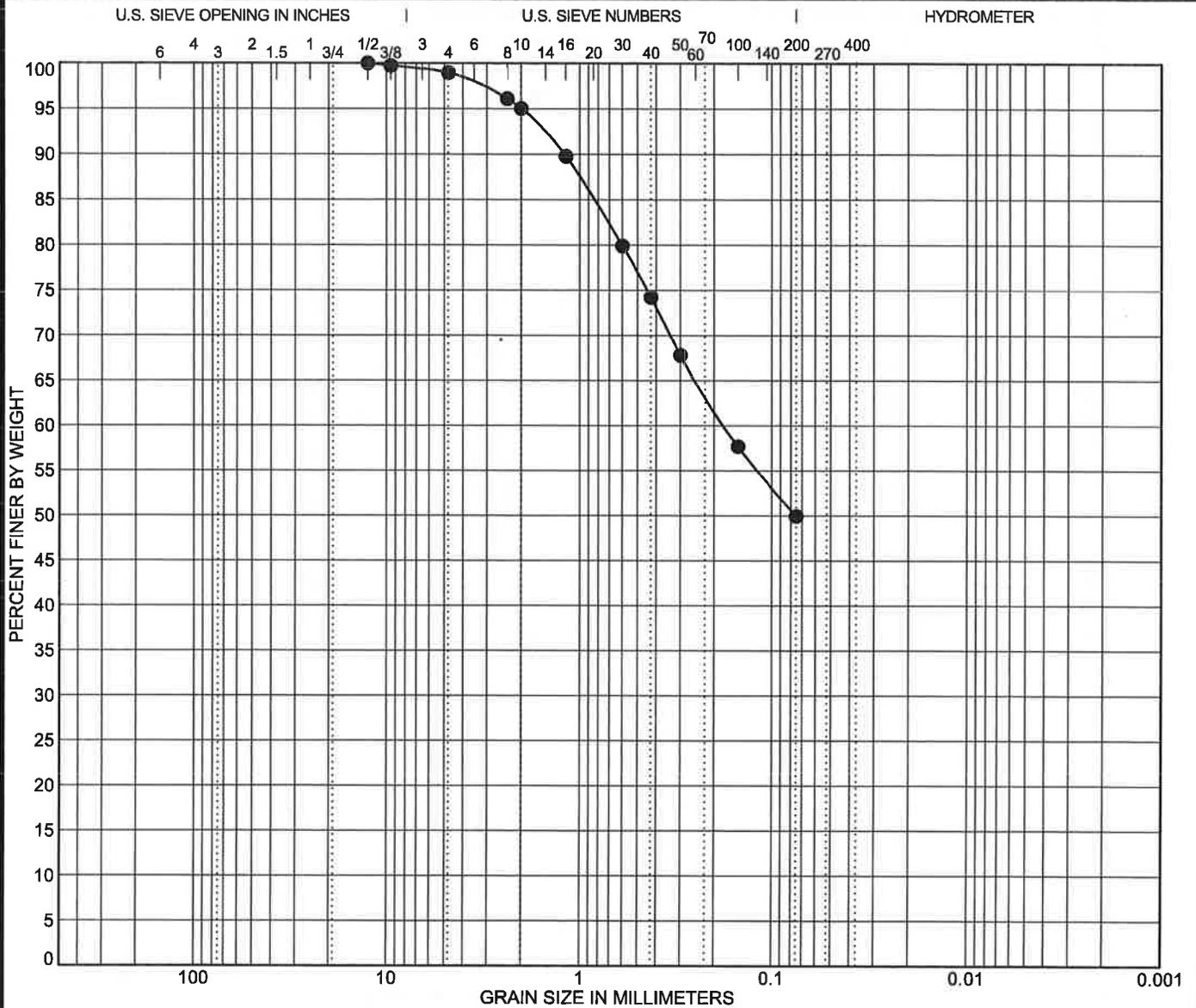
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PLATE

B-1.13

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-11	Classification					LL	PL	PI	Cc	Cu
	Depth: 6	Clayey SAND (SC)					31	19	12		
	Sample Location	Boring 11 from 6' - 6.5'									
	USCS	SC									
	AASHTO										
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
●	B-11	12.5	0.176			1.0	49.0	49.9			
	Depth: 6										
	Natural Moisture	7.6 %		S.E.		Absorption %					
	R-Value			Durability Index		Soundness					
	Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear					

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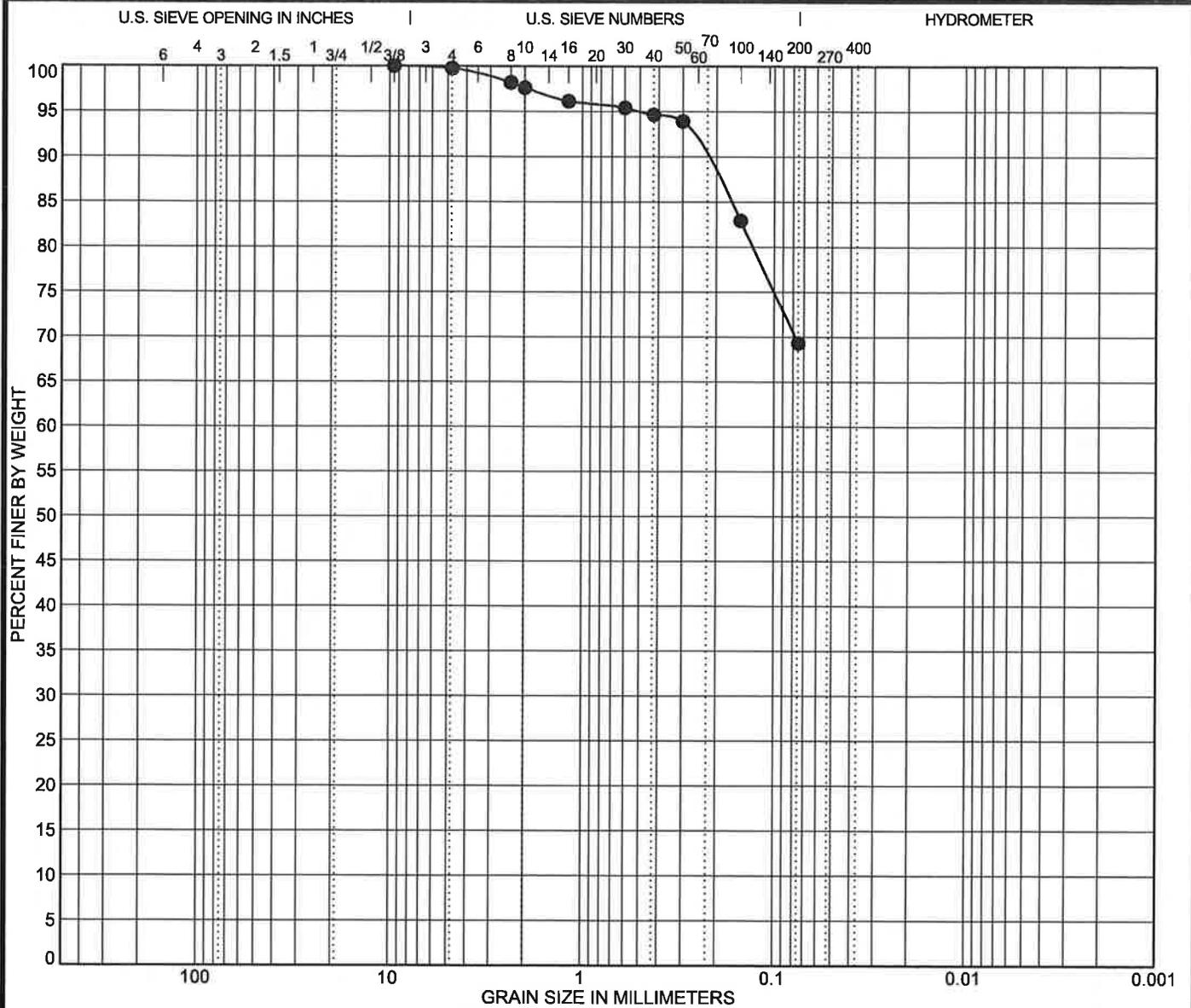
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PLATE
B-1.14

Job Number: 8947.000

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
● B-12		Classification					LL	PL	PI	Cc	Cu
Depth: 8		Sandy SILT (ML)					38	28	10		
Sample Location		Boring 12 from 8' - 8.5'									
USCS		ML									
AASHTO											
Specimen Identification											
● B-12		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
Depth: 8		9.5				0.3	30.4	69.3			
Natural Moisture		6.6 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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 Fax: (775) 883-7114
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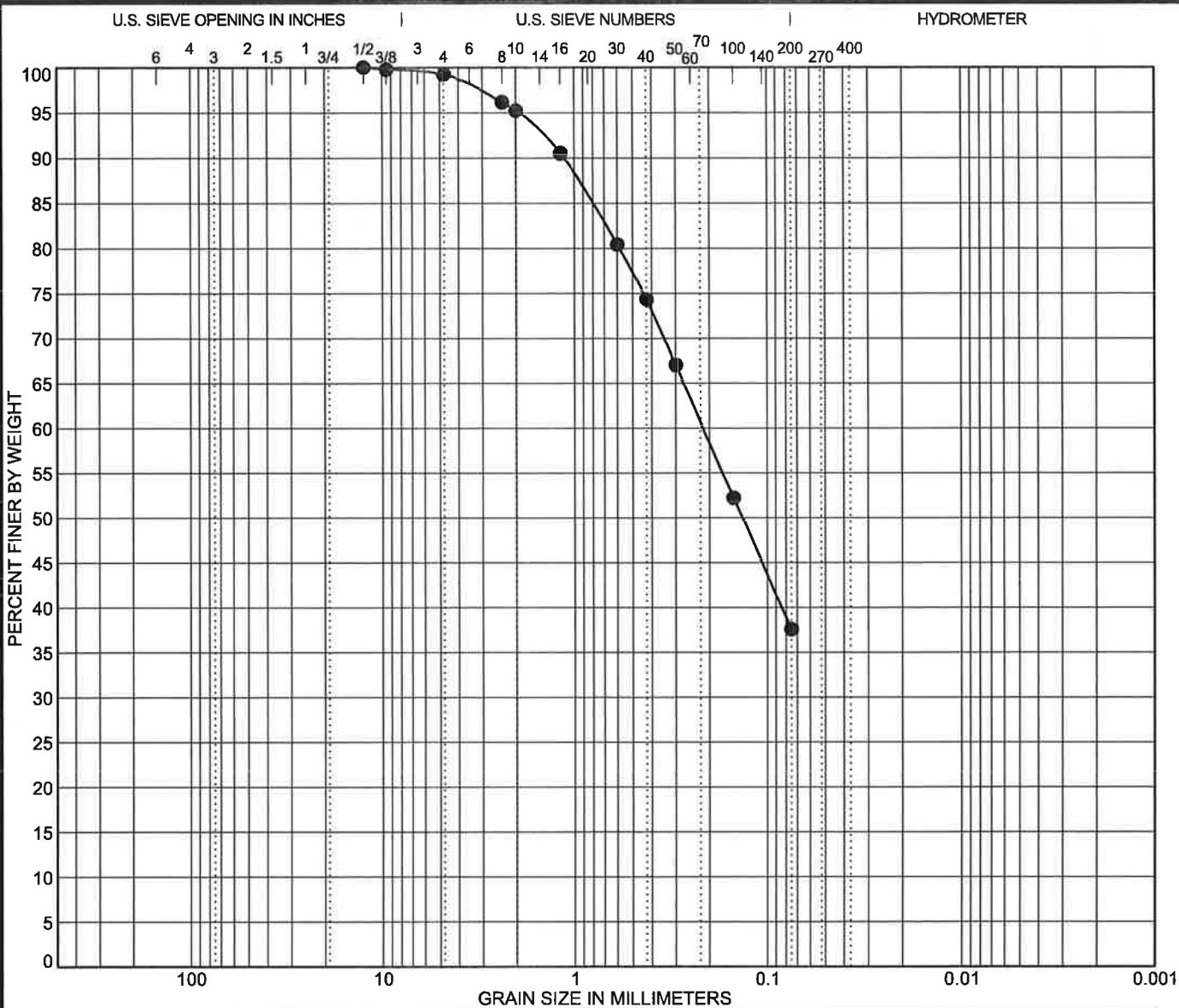
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PLATE
B-1.15



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016									
● B-13	Classification					LL	PL	PI	Cc	Cu
Depth: 5.5	Clayey SAND (SC)					30	19	11		
Sample Location	Boring 13 from 5.5' - 6'									
USCS	SC									
AASHTO										

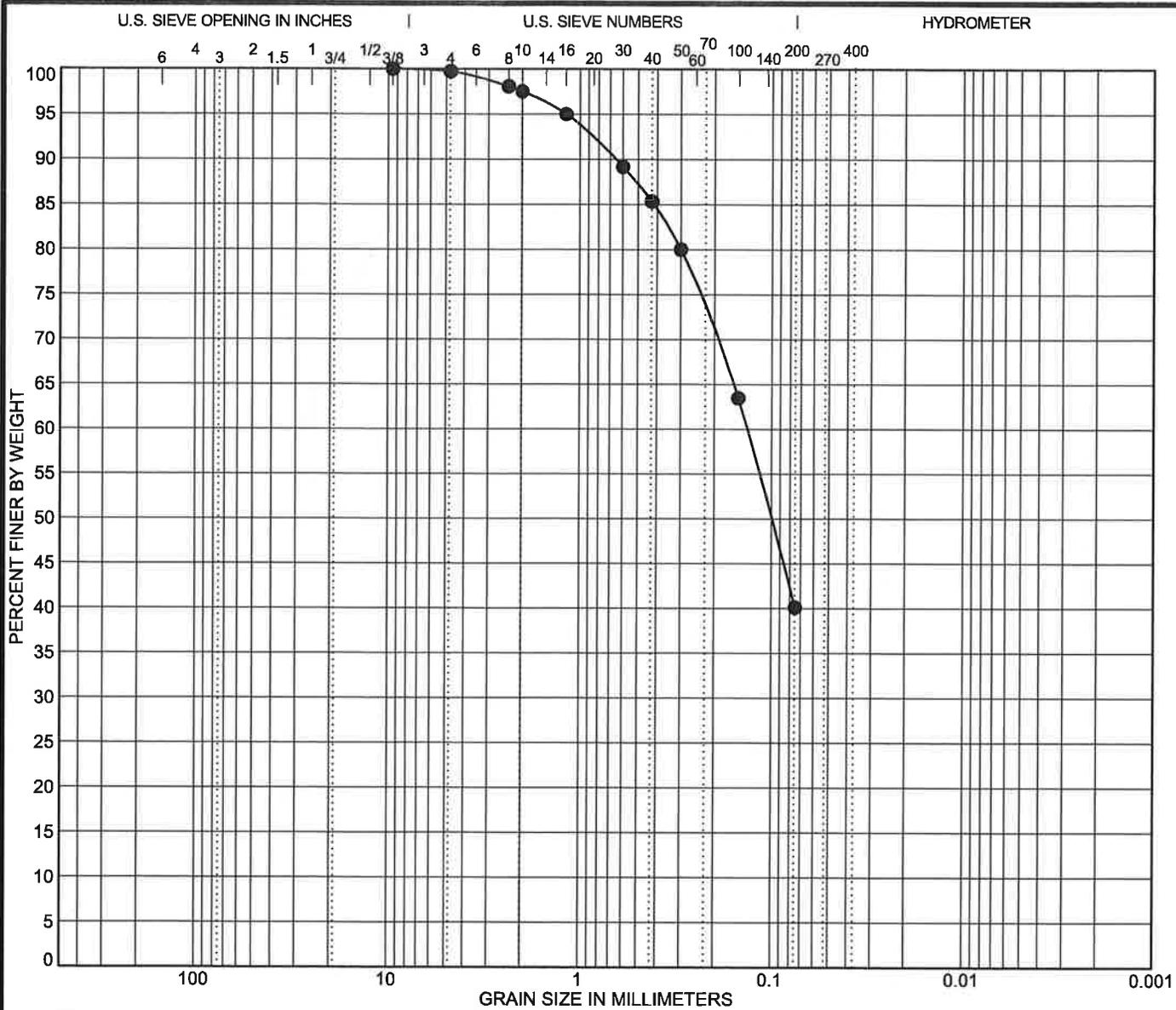
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
● B-13									
Depth: 5.5	12.5	0.216			0.8	61.7	37.6		
Natural Moisture	5.8 %		S.E.		Absorption %				
R-Value			Durability Index		Soundness				
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear				

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 Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
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PLATE
B-1.16

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016									
B-14	Classification					LL	PL	PI	Cc	Cu
Depth: 30	Silty SAND (SM)					NP	NP	NP		
Sample Location	Boring 14 from 30' - 31.5'									
USCS	SM									
AASHTO										

Specimen Identification									
B-14	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
Depth: 30	9.5	0.135			0.3	59.6	40.1		
Natural Moisture	19.8 %		S.E.		Absorption %				
R-Value			Durability Index		Soundness				
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear				

Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
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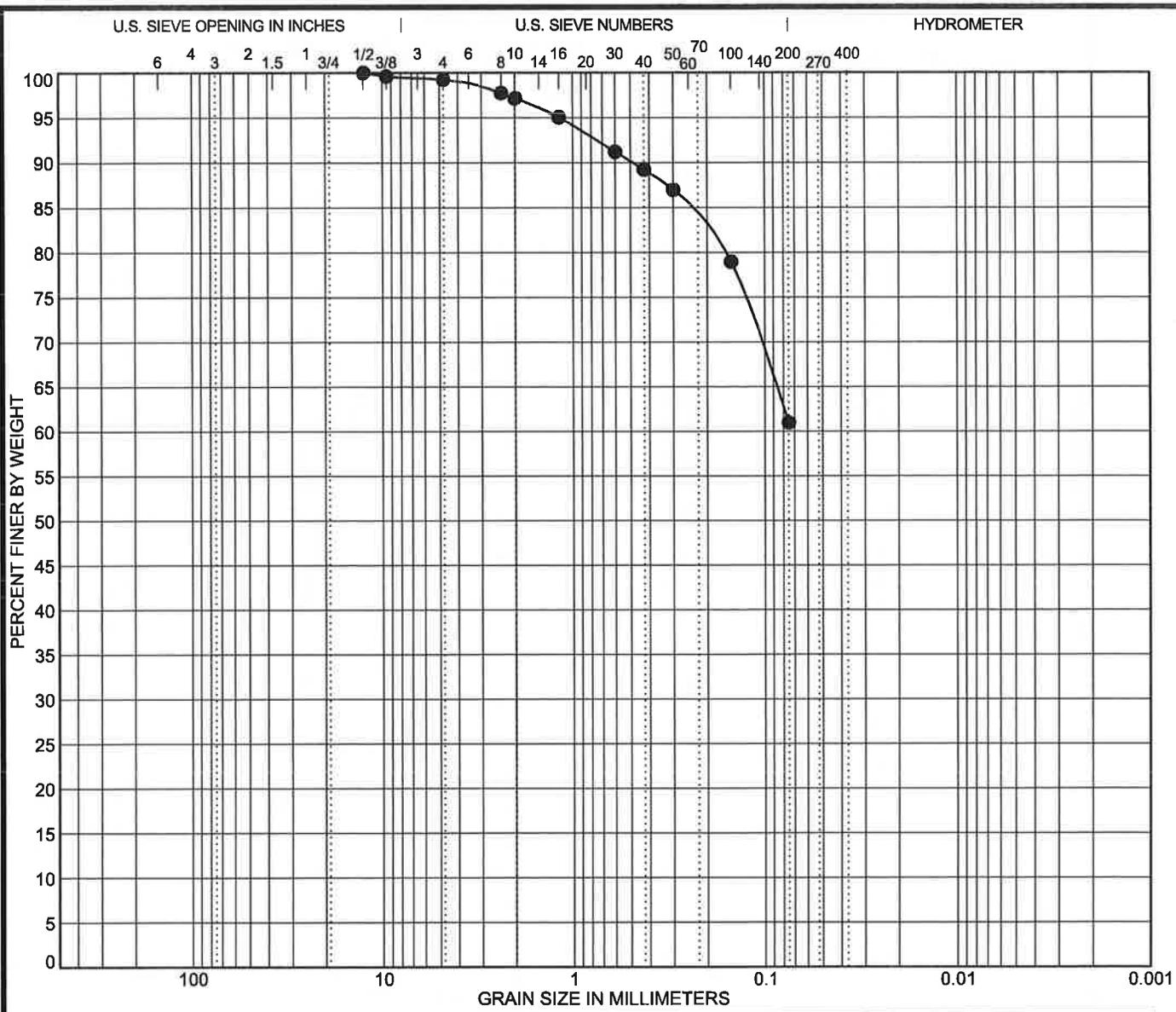
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PLATE

B-1.17

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-15	Classification					LL	PL	PI	Cc	Cu
	Depth: 3	Sandy SILT (ML)					36	29	7		
Sample Location		Boring 15 from 3' - 3.5'									
USCS		ML									
AASHTO											
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
●	B-15	12.5				0.8	38.3	61.0			
	Depth: 3										
Natural Moisture		15.5%		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

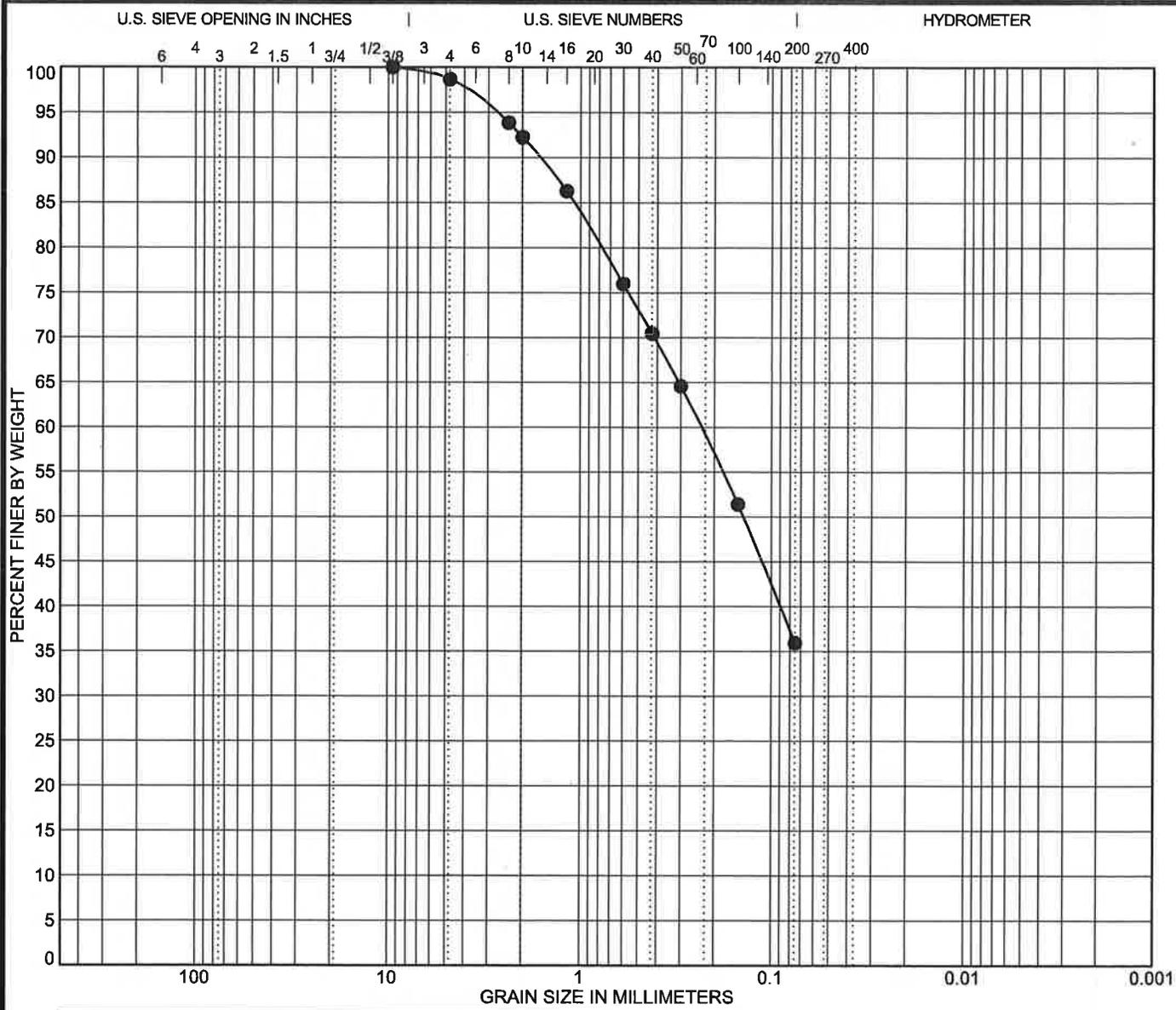
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 800 E. College Parkway
 Carson City, NV 89706
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 Fax: (775) 883-7114
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PLATE
B-1.18



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016	LL	PL	PI	Cc	Cu
B-16	Classification	33	26	7		
Depth: 0	Silty SAND (SM)					
Sample Location	Comb. Samp. B-16, 19, & 22 from 0'-5'					
USCS	SM					
AASHTO						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-16	9.5	0.236			1.4	62.7	35.9	
Depth: 0								
Natural Moisture	6.5 %		S.E.		Absorption %			
R-Value	21		Durability Index		Soundness			
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear	30		

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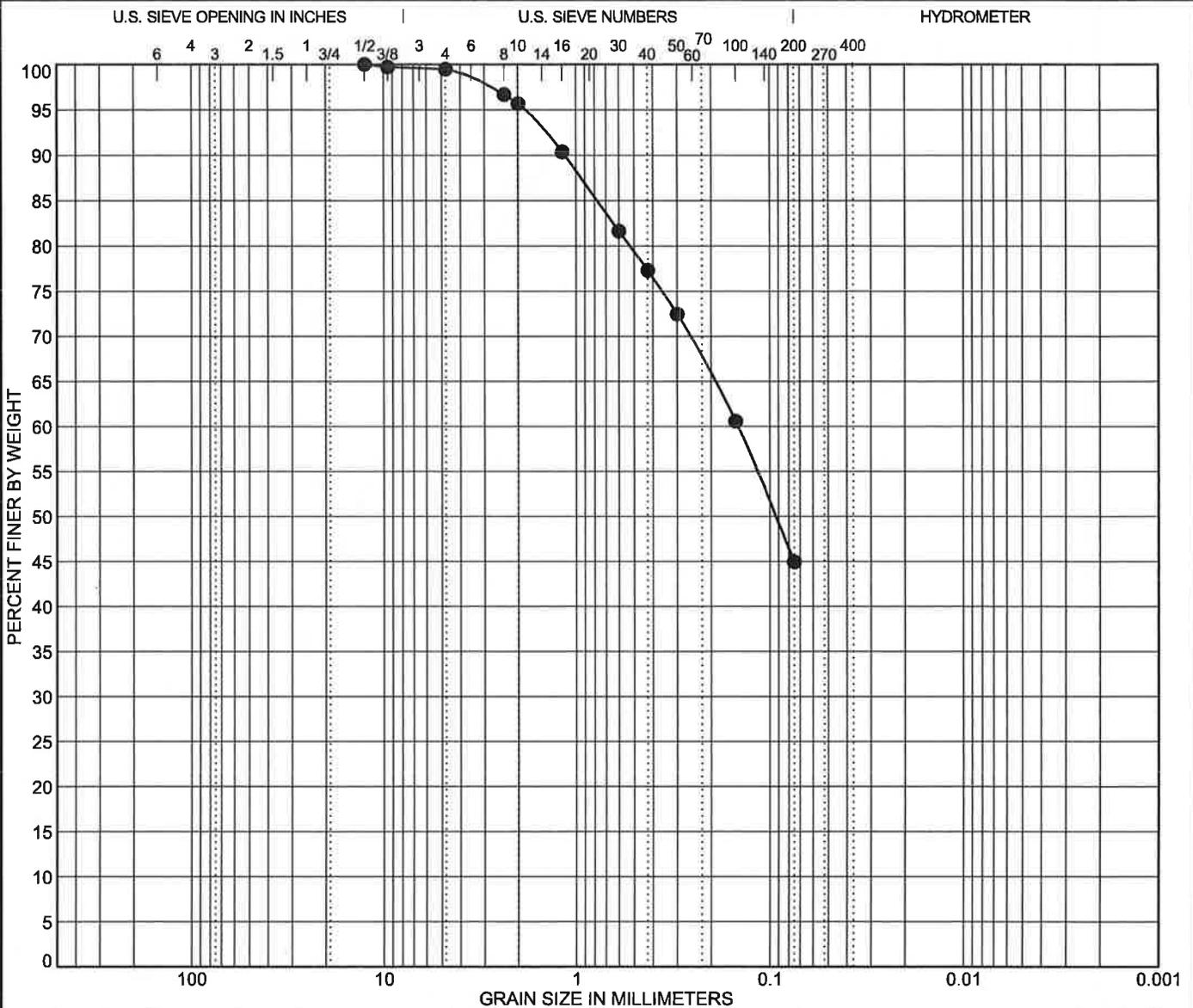
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PLATE
B-1.19

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-17	Classification					LL	PL	PI	Cc	Cu
	Depth: 3	Silty SAND (SM)					30	25	5		
Sample Location		Boring 17 from 3' - 3.5'									
USCS		SM									
AASHTO											
Specimen Identification											
●	B-17	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
	Depth: 3	12.5	0.146			0.5	54.5	44.9			
Natural Moisture		17.5 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					

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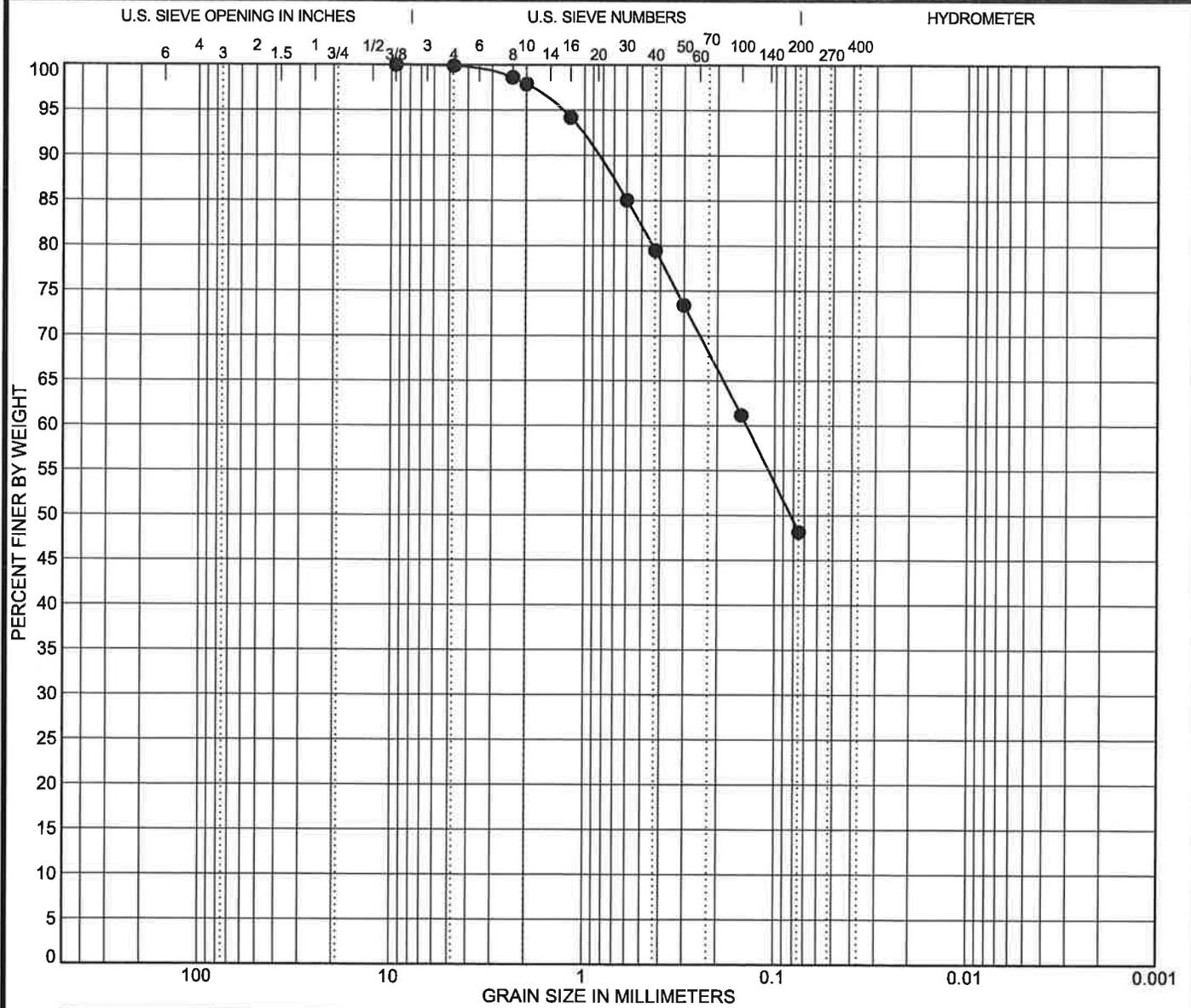
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 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

The Vintage at King's Canyon
GRAIN SIZE DISTRIBUTION

PLATE
B-1.20

Job Number: 8947.000

Date: May 2016



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016		LL	PL	PI	Cc	Cu
● B-18	Classification		29	19	10		
Depth: 11	Clayey SAND (SC)						
Sample Location	Boring 18 from 11' - 11.5'						
USCS	SC						
AASHTO							

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-18	9.5	0.141			0.1	51.7	48.1	
Depth: 11								
Natural Moisture	8.4 %		S.E.		Absorption %			
R-Value			Durability Index		Soundness			
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear			

LUMOS
& ASSOCIATES

Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

The Vintage at King's Canyon

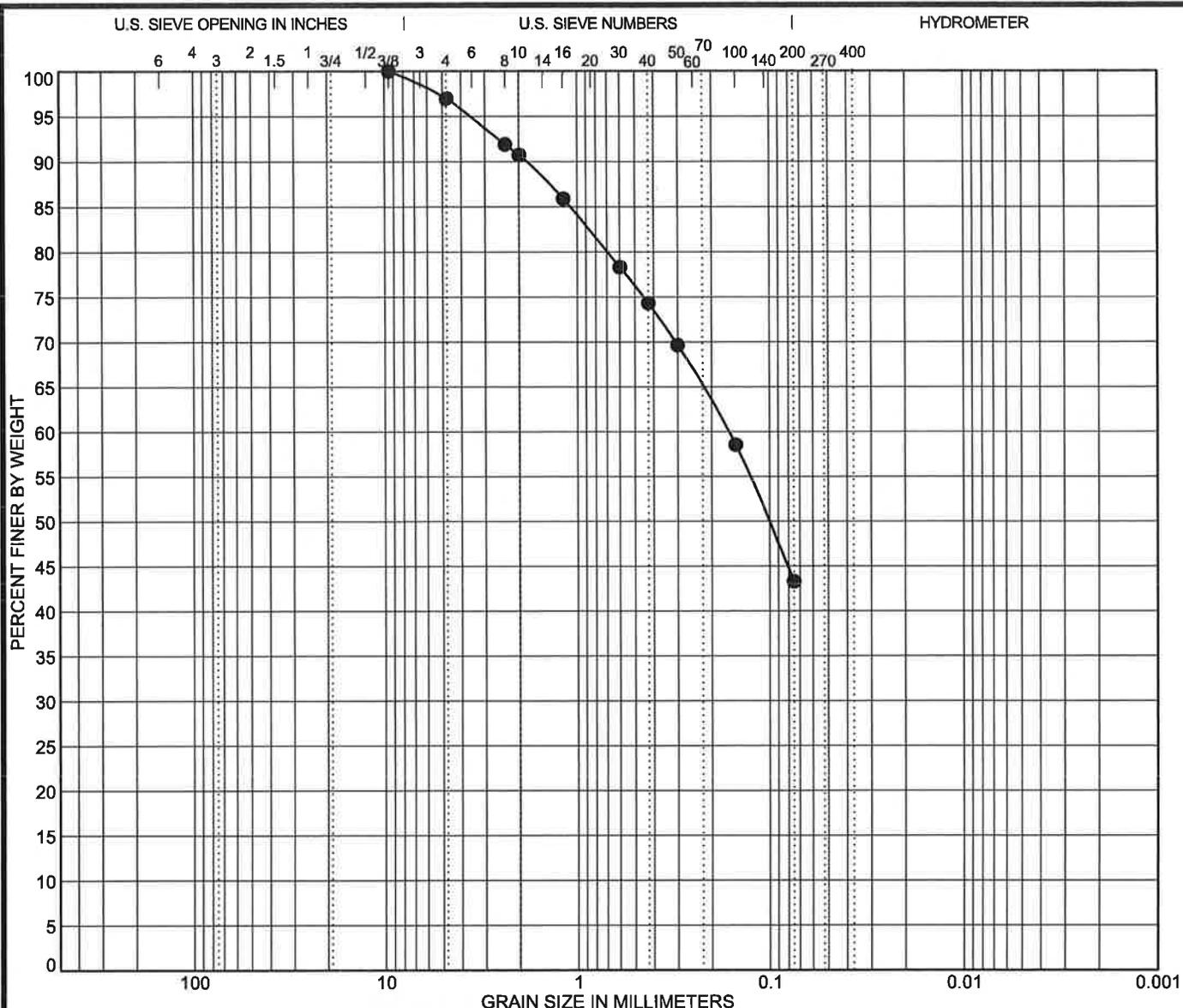
GRAIN SIZE DISTRIBUTION

PLATE
B-1.21

Job Number: 8947.000

Date: May 2016

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-20	Classification					LL	PL	PI	Cc	Cu
	Depth: 15	Clayey SAND (SC)					32	23	9		
	Sample Location	Boring 20 from 15' - 16.5'									
	USCS	SC									
	AASHTO										
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
●	B-20	9.5	0.164			3.1	53.6	43.3			
	Depth: 15										
	Natural Moisture	21.9%		S.E.		Absorption %					
	R-Value			Durability Index		Soundness					
	Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear					

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

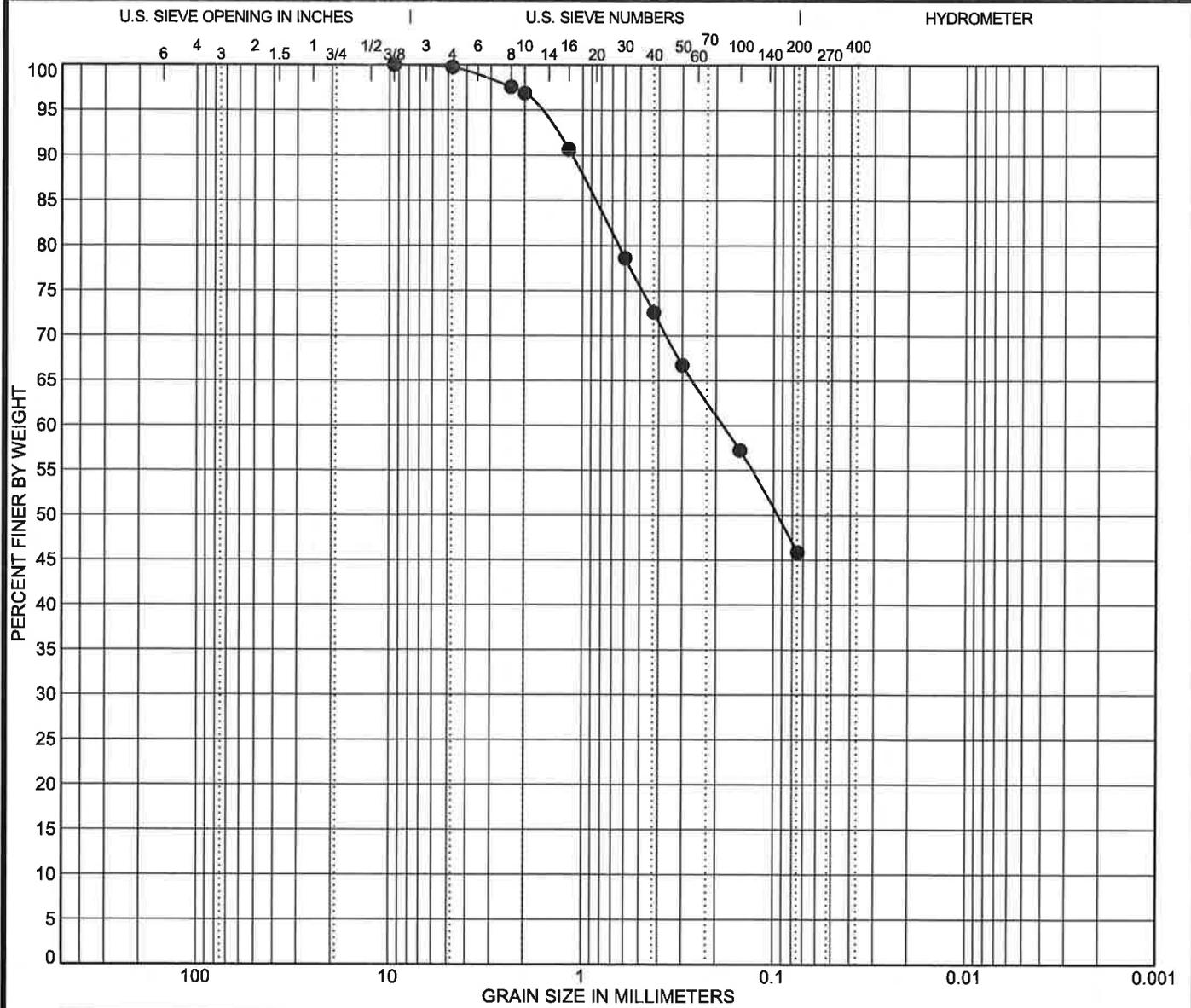
The Vintage at King's Canyon

GRAIN SIZE DISTRIBUTION

Job Number: 8947.000 Date: May 2016

PLATE

B-1.22



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016		LL	PL	PI	Cc	Cu	
●	B-21	Classification		30	22	8			
	Depth: 8.5	Clayey SAND (SC)							
	Sample Location	Boring 21 from 8.5' - 9'							
	USCS	SC							
	AASHTO								
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-21	9.5	0.184			0.3	53.9	45.9	
	Depth: 8.5								
	Natural Moisture	6.6 %	S.E.		Absorption %				
	R-Value		Durability Index		Soundness				
	Percentage of Wear (500 rev)	%	Specific Gravity		Direct Shear				

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16

Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

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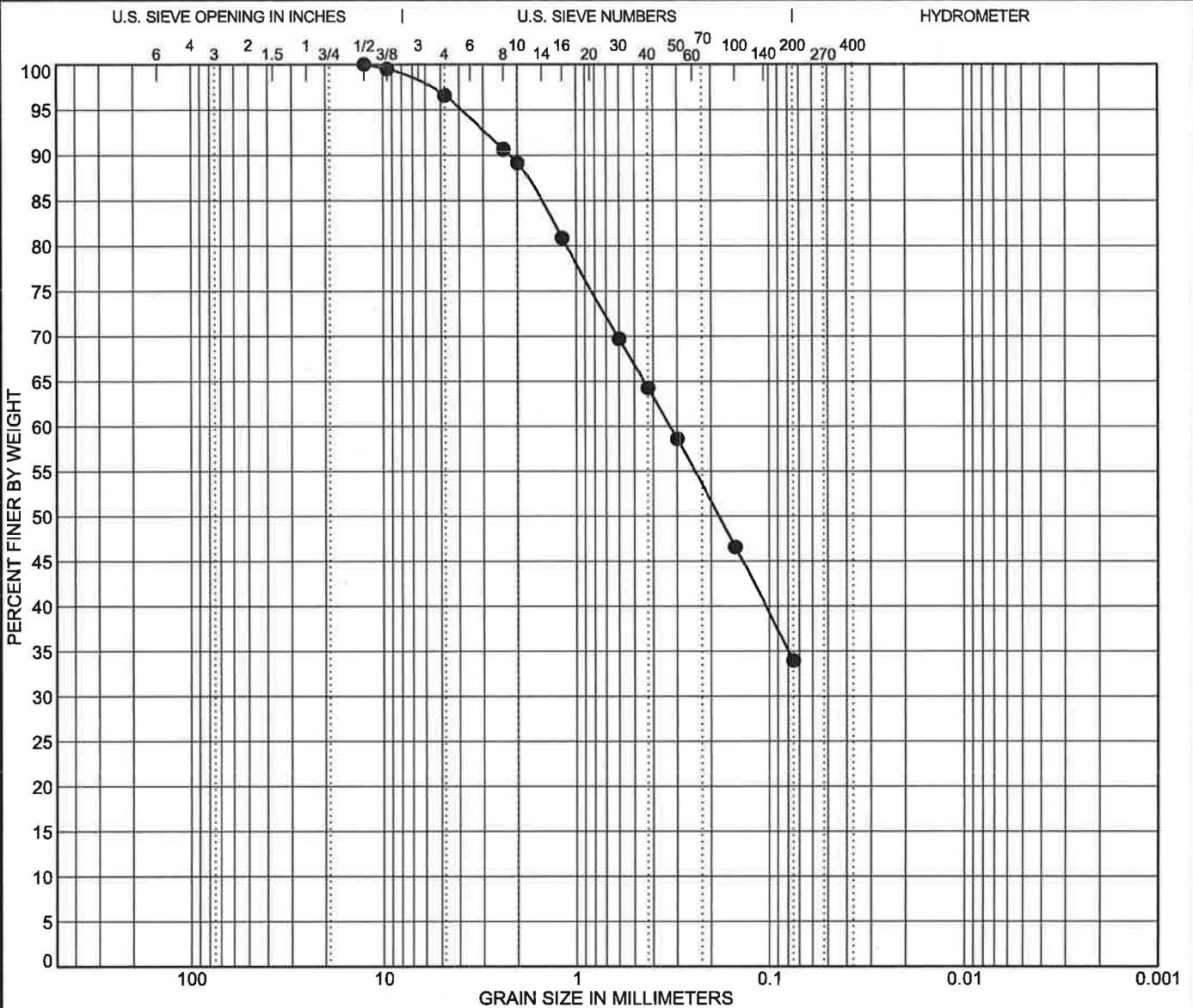
GRAIN SIZE DISTRIBUTION

Job Number: 8947.000

Date: May 2016

PLATE

B-1.23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Date: 5-2-2016									
●	B-23	Classification					LL	PL	PI	Cc	Cu
	Depth: 5	Silty, Clayey SAND (SC-SM)					28	22	6		
Sample Location		Boring 23 from 5' - 5.5'									
USCS		SC-SM									
AASHTO											
Specimen Identification											
●	B-23	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
	Depth: 5	12.5	0.327			3.4	62.6	33.9			
Natural Moisture		8.5 %		S.E.		Absorption %					
R-Value				Durability Index		Soundness					
Percentage of Wear (500 rev)		%		Specific Gravity		Direct Shear					



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

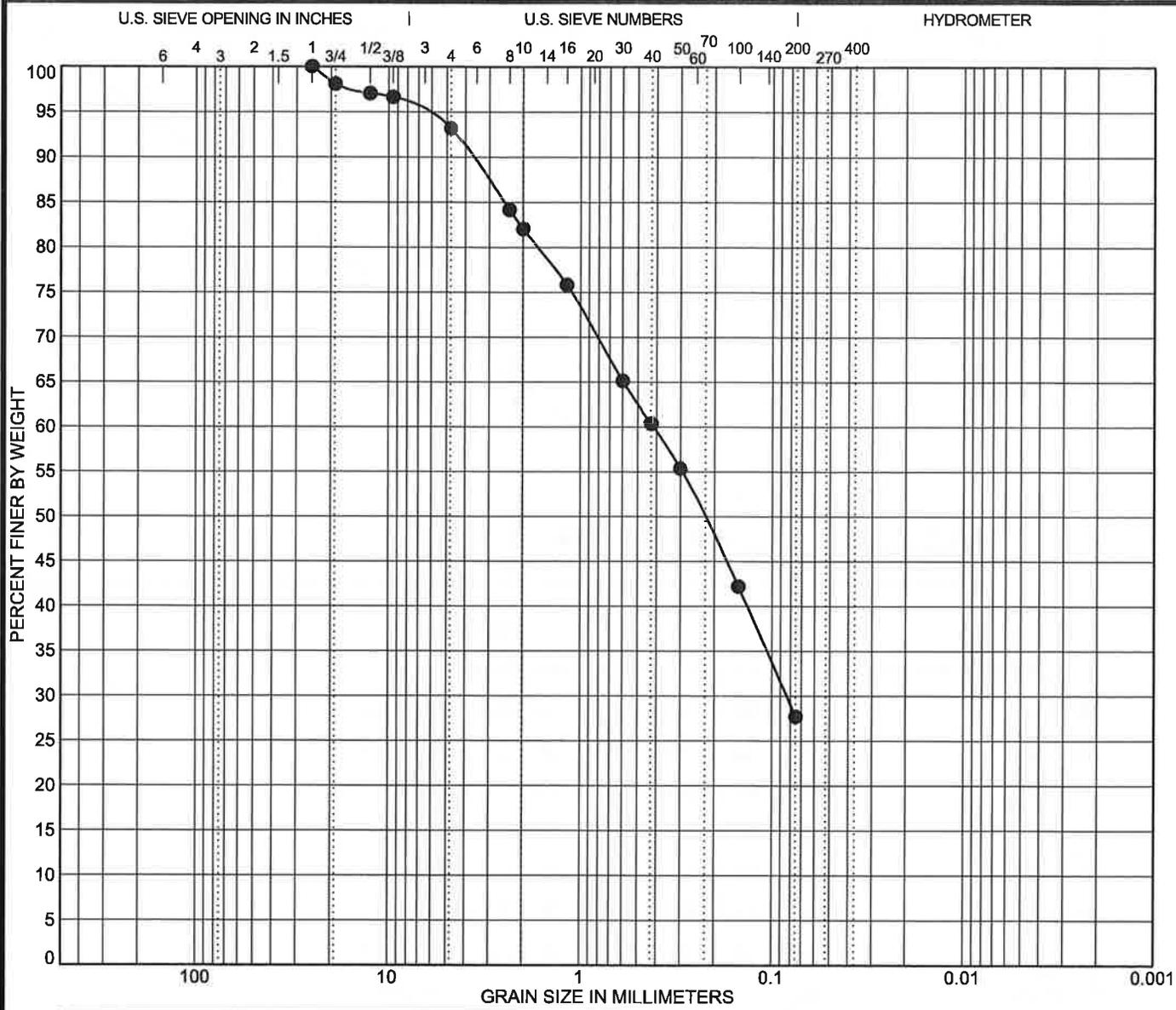
The Vintage at King's Canyon
GRAIN SIZE DISTRIBUTION

PLATE
B-1.24

Job Number: 8947.000

Date: May 2016

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US_LAB.GDT 5/25/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: 5-2-2016									
● B-24	Classification					LL	PL	PI	Cc	Cu
Depth: 3	Silty SAND (SM)					29	23	6		
Sample Location	Boring 24 from 3' - 3.5'									
USCS	SM									
AASHTO										
Specimen Identification										
● B-24	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
Depth: 3	25	0.414	0.084		6.8	65.5	27.7			
Natural Moisture	9.8 %		S.E.		Absorption %					
R-Value			Durability Index		Soundness					
Percentage of Wear (500 rev)	%		Specific Gravity		Direct Shear					

LUMOS
& ASSOCIATES

Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

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GRAIN SIZE DISTRIBUTION

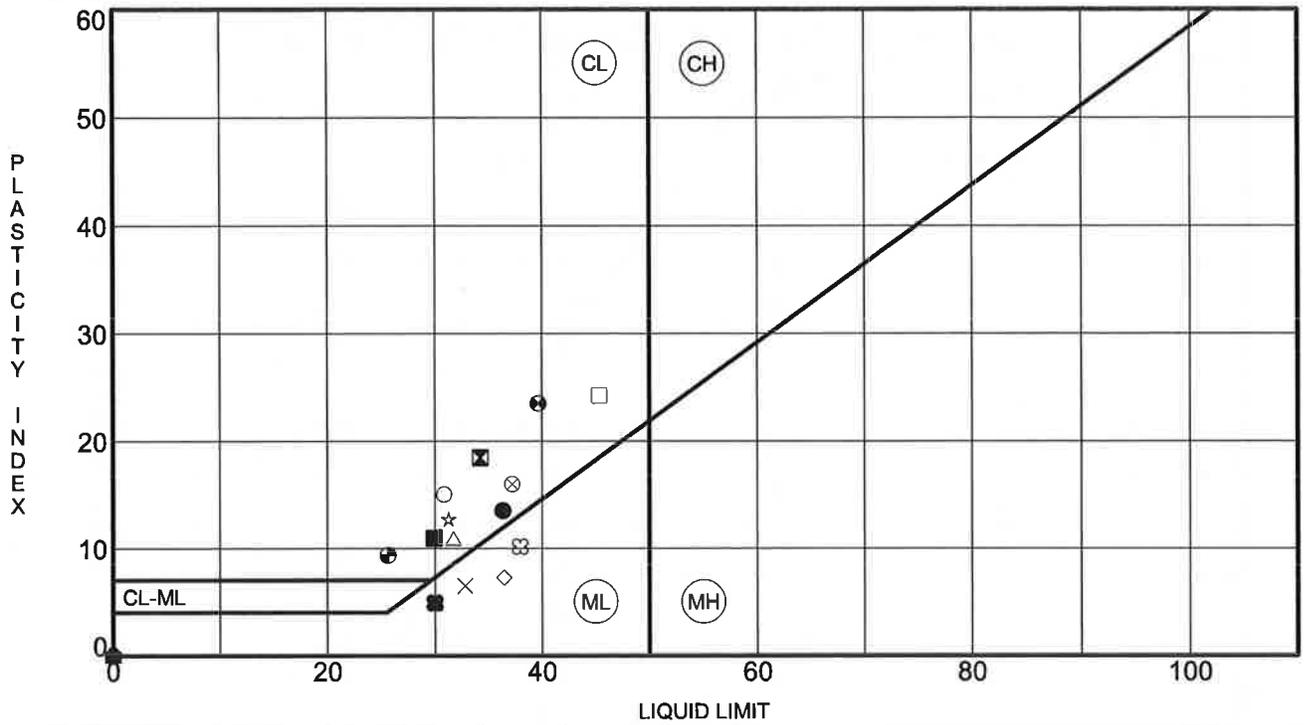
Job Number: 8947.000

Date: May 2016

PLATE

B-1.25

LUMOS GRAIN SIZE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



Specimen Identification	LL	PL	PI	Fines	Classification	
● B-01	0.0	36	23	13	38	Clayey SAND (SC)
⊠ B-01	5.0	34	16	18	29	Clayey SAND (SC)
▲ B-01	21.0	NP	NP	NP	17	Silty SAND (SM)
★ B-02	5.0	NP	NP	NP	15	Silty SAND (SM)
⊙ B-03	30.0	NP	NP	NP	12	Poorly Graded SAND w/Silt (SP-SM)
⊕ B-04	10.0	NP	NP	NP	30	Silty SAND (SM)
○ B-04	16.0	31	16	15	46	Clayey SAND (SC)
△ B-05	3.0	32	21	11	34	Clayey SAND (SC)
⊗ B-06	20.0	37	21	16	81	Lean CLAY with Sand (CL)
⊕ B-07	11.0	NP	NP	NP	11	Poorly Graded SAND w/Silt (SP-SM)
□ B-08	5.5	45	21	24	50	Clayey SAND (SC)
⊕ B-09	0.0	40	16	24	48	Clayey SAND (SC)
⊕ B-10	8.5	26	16	10	44	Clayey SAND (SC)
★ B-11	6.0	31	19	12	50	Clayey SAND (SC)
⊗ B-12	8.0	38	28	10	69	Sandy SILT (ML)
■ B-13	5.5	30	19	11	38	Clayey SAND (SC)
◆ B-14	30.0	NP	NP	NP	40	Silty SAND (SM)
◇ B-15	3.0	36	29	7	61	Sandy SILT (ML)
× B-16	0.0	33	26	7	36	Silty SAND (SM)
■ B-17	3.0	30	25	5	45	Silty SAND (SM)

LUMOS ATTERBERG LIMITS 8947.000 KINGS CANYON GPJ US LAB.GDT 5/25/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

The Vintage at King's Canyon
ATTERBERG LIMITS' RESULTS
 Job Number: 8947.000 Date: May 2016

PLATE
B-2.1

Date: 5-6-2016
 Sample ID: B-01
 Sample Location: Comb. Samp. B-1, 2, 3, & 5 from 0'-3'
 Depth: 0
 Description of Material: Clayey SAND (SC)
 Test Method: ASTM D 1557B

TEST RESULTS

Maximum Dry Density 109.5 PCF
 Optimum Water Content 15.0 %
 Natural Moisture 6.7 %
 R-Value 43

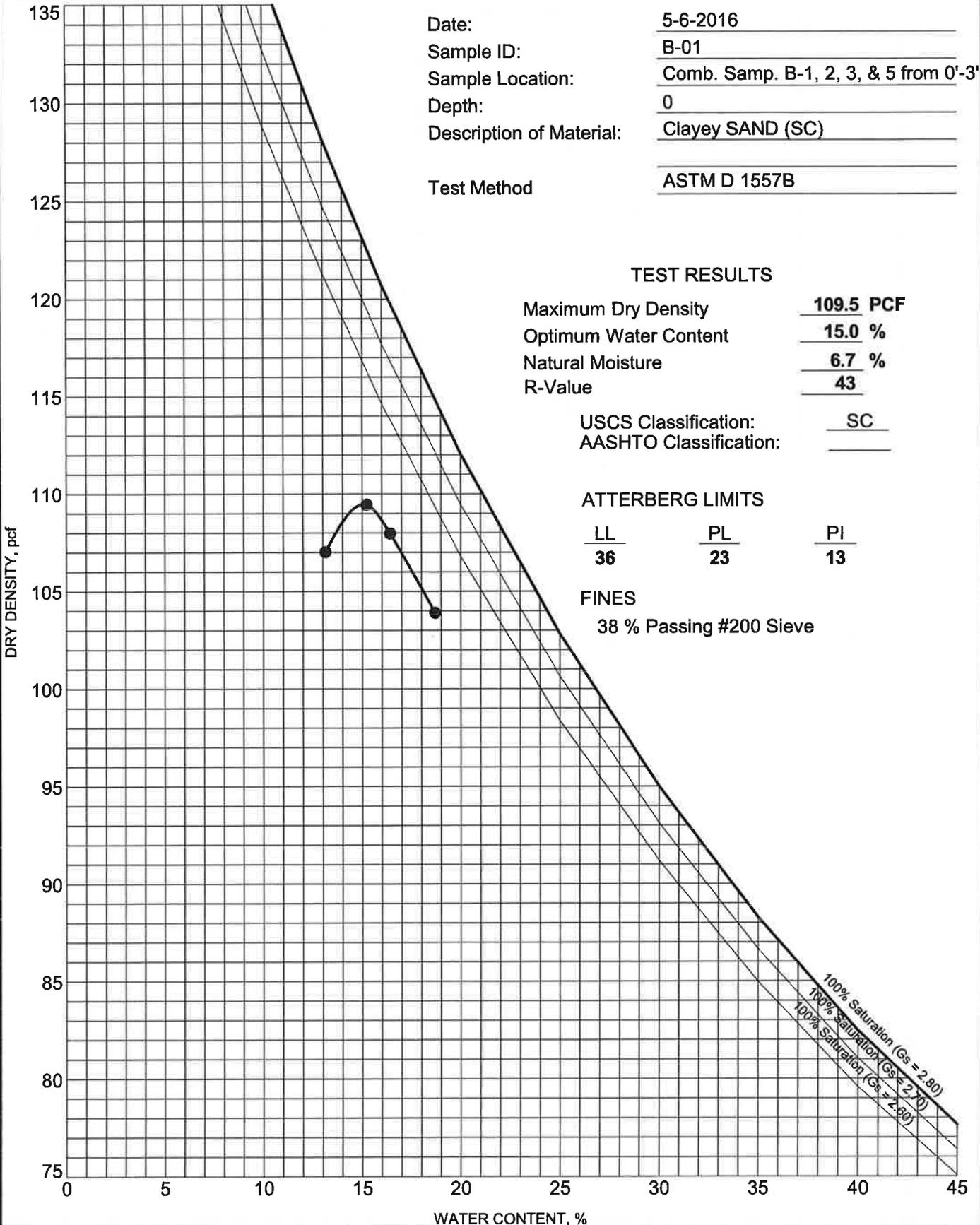
USCS Classification: SC
 AASHTO Classification: _____

ATTERBERG LIMITS

LL	PL	PI
<u>36</u>	<u>23</u>	<u>13</u>

FINES

38 % Passing #200 Sieve



LUMOS COMPACTION 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsxton@lumosinc.com

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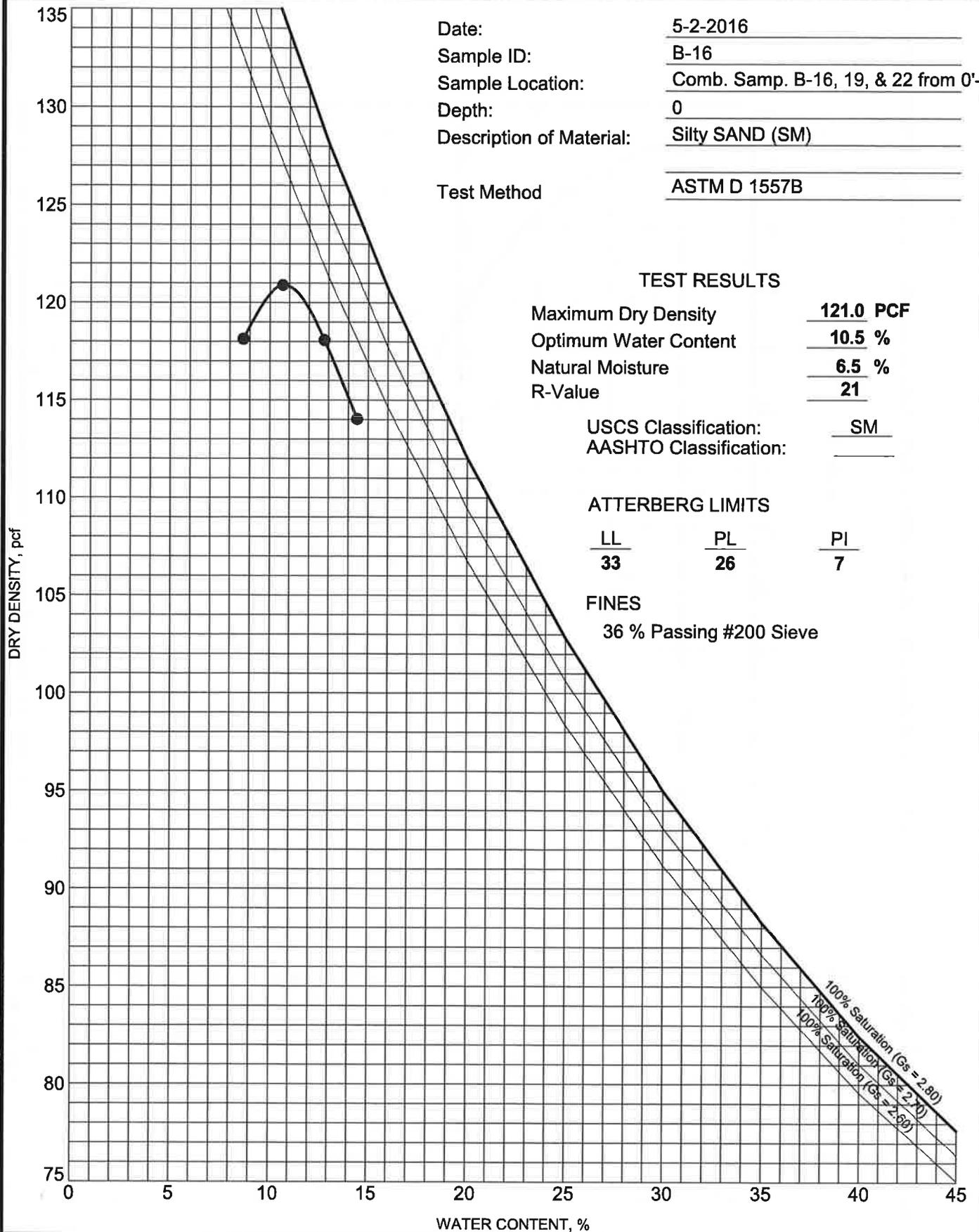
MOISTURE-DENSITY CURVE

Job Number: 8947.000

Date: May 2016

PLATE
B-3.1

Date: 5-2-2016
 Sample ID: B-16
 Sample Location: Comb. Samp. B-16, 19, & 22 from 0'-8"
 Depth: 0
 Description of Material: Silty SAND (SM)
 Test Method: ASTM D 1557B



LUMOS, COMPACTION, 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

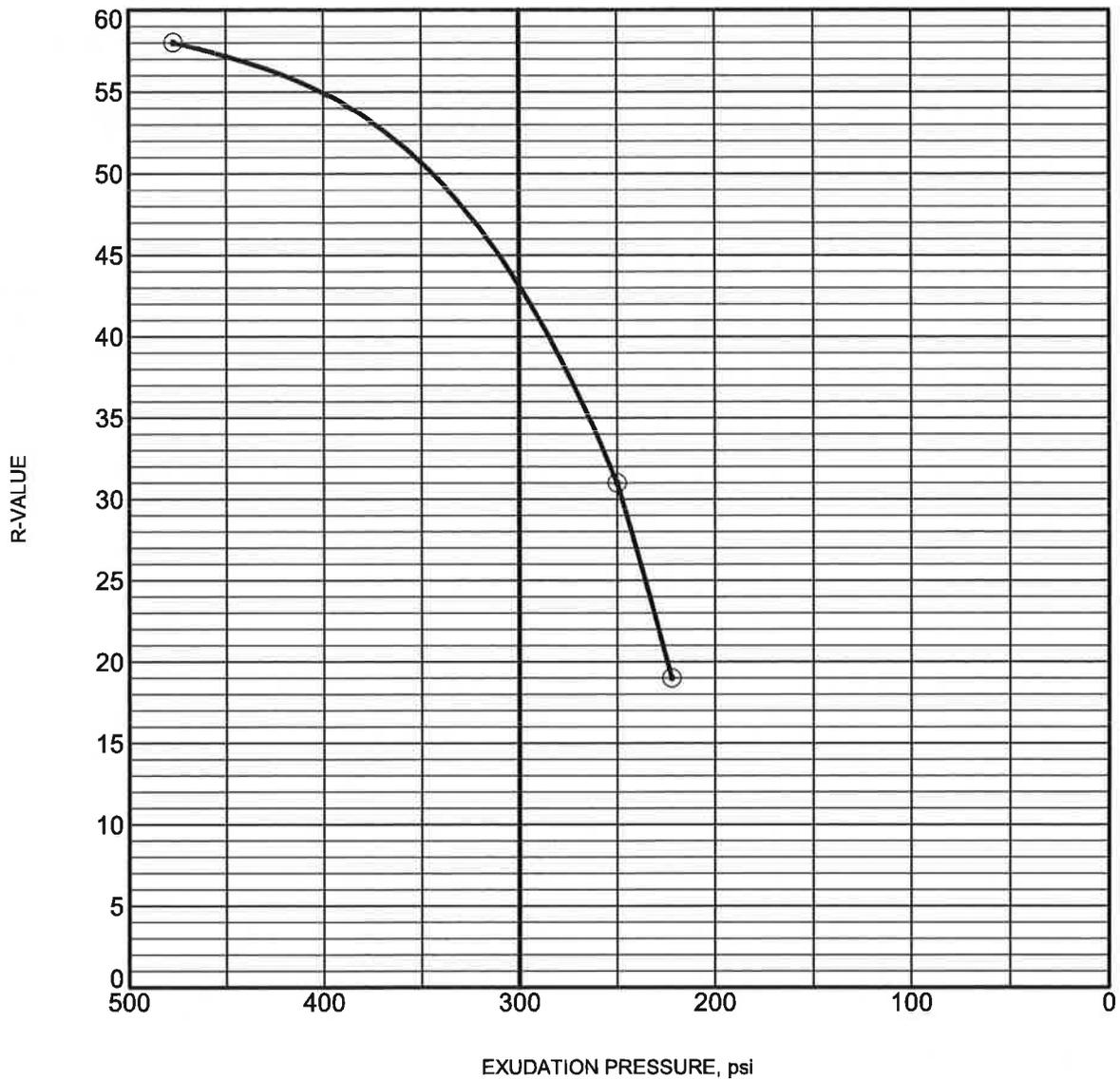
The Vintage at King's Canyon

MOISTURE-DENSITY CURVE

Job Number: 8947.000

Date: May 2016

PLATE
B-3.2



Test Data

Specimen No.	Water Content (%)	Dry Density (pcf)	Expansion (psf)	Exudation (psi)	Test R-Value*
1	14.7	110.7	281.0	477.0	58.0
2	15.7	110.5	139.0	250.0	31.0
3	17.9	108.4	74.0	222.0	19.0

* Reported values have been corrected for sample height, where required.

Test Result

Specimen Identification	Classification	R-Value
B-01	Clayey SAND (SC)	43

R-VALUE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



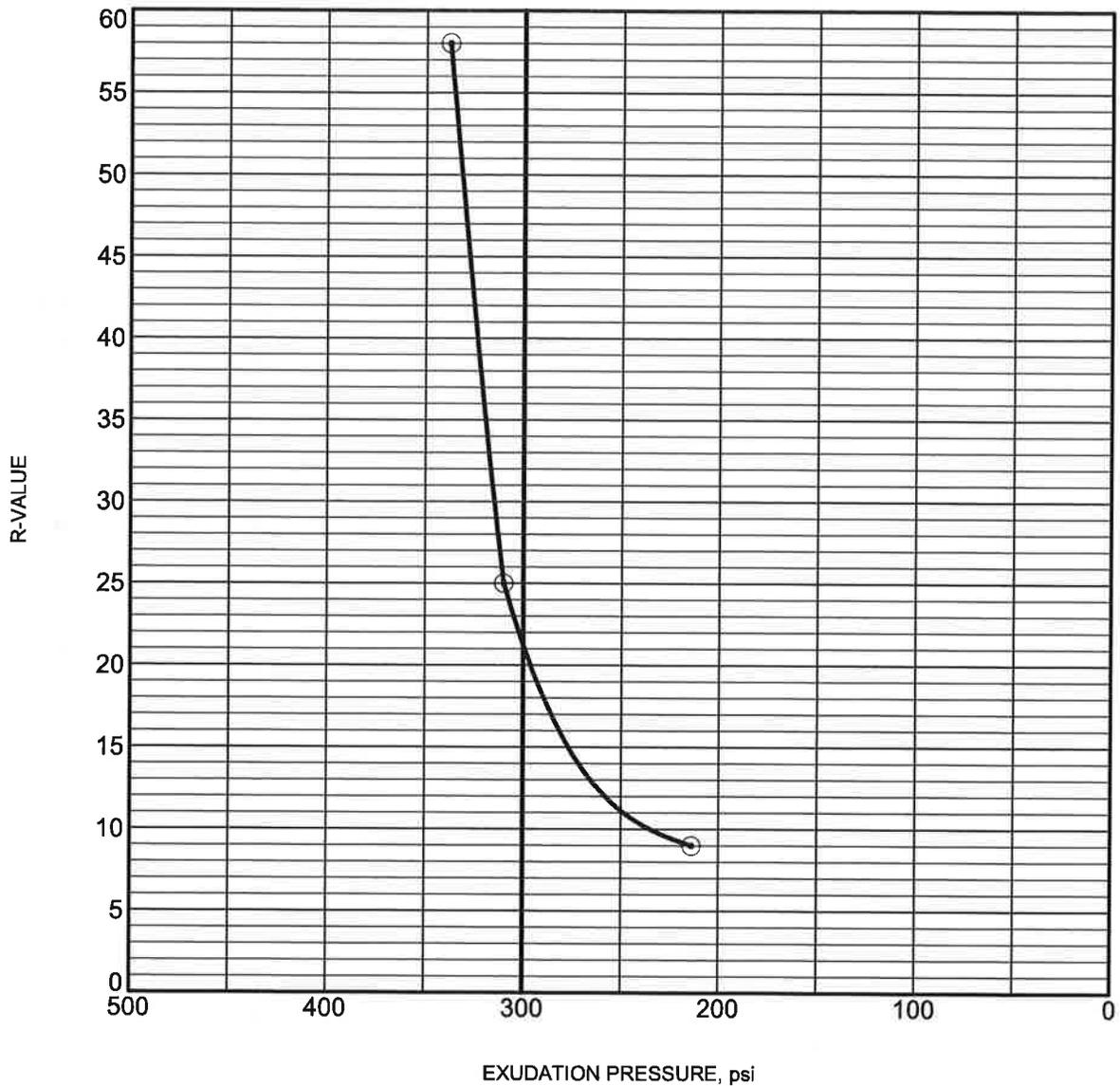
Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

The Vintage at King's Canyon
RESISTANCE VALUE TEST

PLATE
B-4.1

Job Number: 8947.000

Date: May 2016



Test Data

Specimen No.	Water Content (%)	Dry Density (pcf)	Expansion (psf)	Exudation (psi)	Test R-Value*
1	13.5	111.9	100.0	338.0	58.0
2	15.1	119.0	43.0	310.0	25.0
3	16.1	109.3	9.0	214.0	9.0

* Reported values have been corrected for sample height, where required.

Test Result

Specimen Identification	Classification	R-Value
B-16	Silty SAND (SM)	21

R-VALUE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

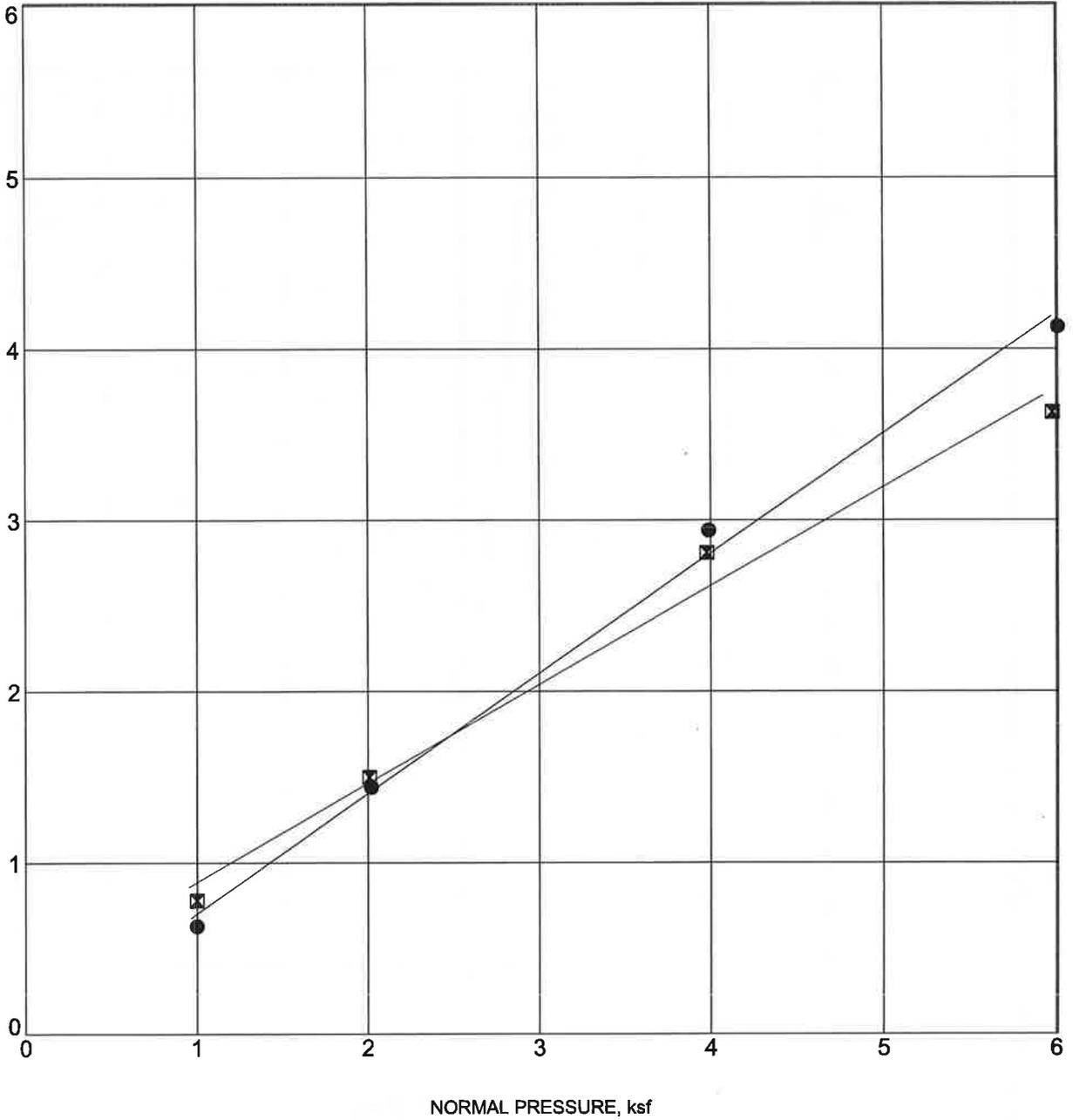
The Vintage at King's Canyon
RESISTANCE VALUE TEST

Job Number: 8947.000

Date: May 2016

PLATE
B-4.2

SHEAR STRENGTH, ksf



Specimen Identification	Classification	γ_d	MC%	c	ϕ
● B-01 0.0	Clayey SAND (SC)	110	15	0.00	35.0
⊠ B-16 0.0	Silty SAND (SM)	121	11	0.31	30.0

LUMOS DIRECT SHEAR 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/25/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

The Vintage at King's Canyon

DIRECT SHEAR TEST

Job Number: 8947.000

Date: May 2016

**PLATE
B-5**



Laboratory Report

Report ID: 147874

Lumos and Associates-C.C.
 Attn: Mitch Burns
 800 E. College Parkway
 Carson City, NV 89706

Date: 5/3/2016
 Client: LUM-517
 Taken by: B. Sexton
 PO #: 8947.000/MB

Analysis Report

Laboratory Accreditation Number: NV-00015

Laboratory Sample ID	Customer Sample ID	Date Sampled	Time Sampled	Date Received
S201604-1235	Comb. B-1,2,3 & 5	4/21/2016	9:00 AM	4/28/2016

Parameter	Method	Result	Units	Reporting Limit	Analyst	Date Analyzed	Data Flag
Chloride - Ion Chromatography	SW-846 9056A	18	mg/Kg	10	Faulstich	4/29/2016	
pH - Saturated Paste	SW-846 9045D	7.84	pH Units		Bergstrom	4/29/2016	
pH - Temperature	SW-846 9045D	21.0	°C		Bergstrom	4/29/2016	
Resistivity AASHTO	AASHTO T288	3316	ohm cm		Bergstrom	5/2/2016	
Sodium ASTM	ASTM D2791	<0.01	%	0.01	Bergstrom	4/29/2016	
Sulfate SM4500	SM 4500 SO4 E	<0.01	%	0.01	Bergstrom	4/29/2016	
Total Sodium Sulfate	Calculation	<0.01	%	0.01	Bergstrom	4/29/2016	

Laboratory Accreditation Number: NV-00015

Laboratory Sample ID	Customer Sample ID	Date Sampled	Time Sampled	Date Received
S201604-1236	B-9 from 0-5	4/20/2016	9:00 AM	4/28/2016

Parameter	Method	Result	Units	Reporting Limit	Analyst	Date Analyzed	Data Flag
Chloride - Ion Chromatography	SW-846 9056A	<10	mg/Kg	10	Faulstich	4/30/2016	
pH - Saturated Paste	SW-846 9045D	6.34	pH Units		Bergstrom	4/29/2016	
pH - Temperature	SW-846 9045D	21.0	°C		Bergstrom	4/29/2016	
Resistivity AASHTO	AASHTO T288	2178	ohm cm		Bergstrom	5/2/2016	
Sodium ASTM	ASTM D2791	<0.01	%	0.01	Bergstrom	4/29/2016	
Sulfate SM4500	SM 4500 SO4 E	<0.01	%	0.01	Bergstrom	4/29/2016	
Total Sodium Sulfate	Calculation	<0.01	%	0.01	Bergstrom	4/29/2016	

SOLUBLE SULFATE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/12/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

The Vintage at King's Canyon

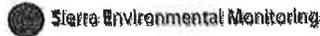
SOLUBLE SULFATE

Job Number: 8947.000

Date: May 2016

PLATE

B-6.1



Laboratory Report

Report ID: 147874

Lumos and Associates-C.C.
 Attn: Mitch Burns
 800 E. College Parkway
 Carson City, NV 89706

Date: 5/3/2016
Client: LUM-517
Taken by: B. Sexton
PO #: 8947.000/MB

Analysis Report

Laboratory Accreditation Number: NV-00015

Laboratory Sample ID	Customer Sample ID	Date Sampled	Time Sampled	Date Received
S201604-1237	B-20 from 5-6.5'	4/19/2016	9:00 AM	4/28/2016

Parameter	Method	Result	Units	Reporting Limit	Analyst	Date Analyzed	Data Flag
Chloride - Ion Chromatography	SW-846 9056A	<10	mg/Kg	10	Faulstich	4/30/2016	
pH - Saturated Paste	SW-846 9045D	7.05	pH Units		Bergstrom	4/29/2016	
pH - Temperature	SW-846 9045D	21.1	°C		Bergstrom	4/29/2016	
Resistivity AASHTO	AASHTO T288	6398	ohm cm		Bergstrom	5/2/2016	
Sodium ASTM	ASTM D2791	<0.01	%	0.01	Bergstrom	4/29/2016	
Sulfate SM4500	SM 4500 SO4 E	<0.01	%	0.01	Bergstrom	4/29/2016	
Total Sodium Sulfate	Calculation	<0.01	%	0.01	Bergstrom	4/29/2016	

Data Flag Legend:

SOLUBLE SULFATE 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/12/16



Lumos and Associates
 800 E. College Parkway
 Carson City, NV 89706
 (775) 883-7077
 Fax: (775) 883-7114
 bsexton@lumosinc.com

The Vintage at King's Canyon

SOLUBLE SULFATE

PLATE
B-6.2

Job Number: 8947.000

Date: May 2016

APPENDIX C

Job # 8947.000
Client: Divinni NV, LLC
Description: Pavement Calculations
By: B. Sexton

R-Value for Native Silty Sand = 21
R-Value for Gravel (Type II, Class B) = 70

T.I. = 5
 $G_f = 2.50$
 $GE = 0.0032(TI)(100-R)$
 $t_{layer} = GE/G_f$

$GE_{AC} = 0.0032(5)(100-70) = 0.48'$
 $t_{AC} = .48/(2.50)*(12") = 2.3" \Rightarrow$ **use 3" asphalt**
 $t_{AC(actual)} = (3)(2.50)/12" = .63'$

$GE_{AB} = 0.0032(5)(100-21) = 1.26'$
 $t_{AB} = (1.26 - 0.63)(12")/1.1 = 6.9" \Rightarrow$ **use 8" aggregate base**

Therefore, use 3" of Asphalt Concrete (AC) underlain by a minimum of 8" of Type 2 Class B Aggregate Base and underlain by a minimum of 12 inches of properly prepared subgrade soils.

PAVEMENT DESIGN 8947.000 KINGS CANYON.GPJ US_LAB.GDT 5/12/16



Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

The Vintage at King's Canyon

PAVEMENT DESIGN

Job Number: 8947.000

Date: May 2016

PLATE

C-1

APPENDIX D

USGS Design Maps Summary Report

User-Specified Input

Report Title The Vintage at King's Canyon
Tue May 10, 2016 20:33:13 UTC

Building Code Reference Document 2012 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 39.1723°N, 119.7777°W

Site Soil Classification Site Class D – "Stiff Soil"

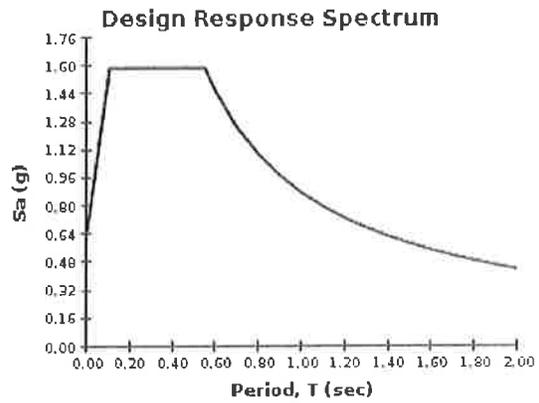
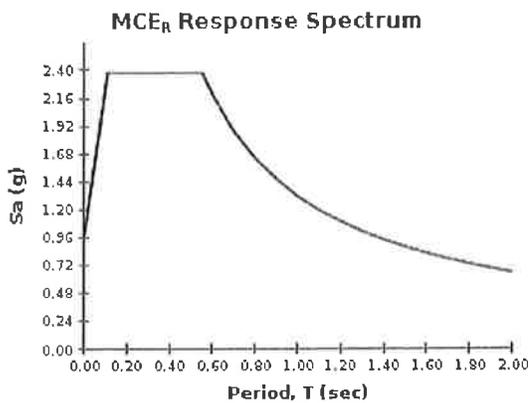
Risk Category I/II/III



USGS-Provided Output

$S_s = 2.377 \text{ g}$	$S_{MS} = 2.377 \text{ g}$	$S_{DS} = 1.585 \text{ g}$
$S_1 = 0.875 \text{ g}$	$S_{M1} = 1.312 \text{ g}$	$S_{D1} = 0.875 \text{ g}$

For information on how the S_s and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

DESIGN RESPONSE SPECTRUM 8947.000 KINGS CANYON.GPJ US LAB.GDT 5/12/16



Lumos and Associates
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

The Vintage at King's Canyon

DESIGN RESPONSE SPECTRUM

Job Number: 8947.000

Date: May 2016

PLATE
D-1

APPENDIX E

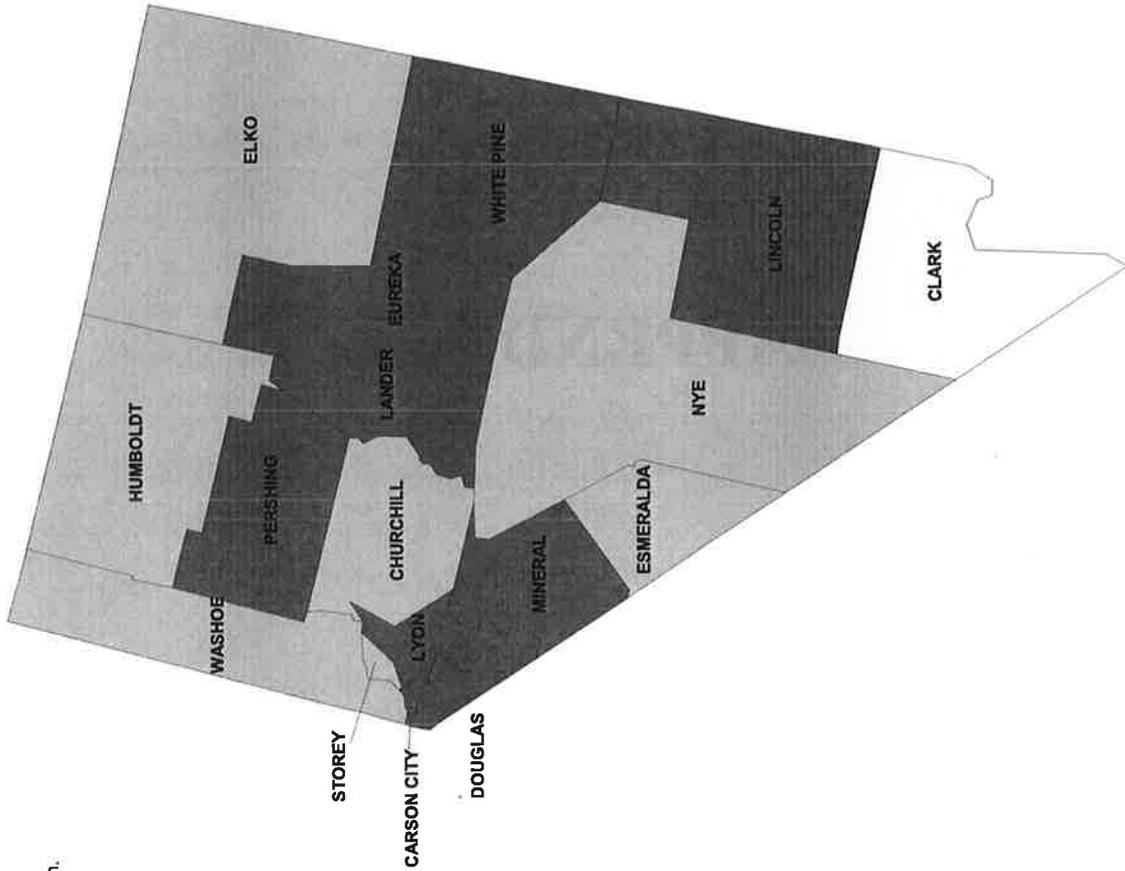
NEVADA - EPA Map of Radon Zones

<http://www.epa.gov/radon/zonemap.html>

The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.

This map is not intended to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones.

All homes should be tested, regardless of zone designation.



IMPORTANT: Consult the publication entitled "Preliminary Geologic Radon Potential Assessment of Nevada" (USGS Open-file Report 93-292-1) before using this map. See <http://energy.cr.usgs.gov/radon/grpinfo.html>. This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area.



**CONCEPTUAL DRAINAGE STUDY
for the**

***The Vintage at Kings Canyon
Carson City, Nevada***

Prepared For:

The Vintage at Kings Canyon LLP

9130 Double Diamond Parkway
Reno, NV 89521

Prepared By:

LUMOS & ASSOCIATES, INC.

800 East College Parkway
Carson City, Nevada 89706
Phone: (775) 883-7077
FAX: (775) 883-7114

August, 2016
Job No. 8947.000



8-24-16

I. Introduction

A. Description of Project

This conceptual drainage report presents the finding of the preliminary drainage study for the Tentative Map Application for APNs 009-012-02 (80.66AC), 007-573-04 (23.93AC), 007-573-05 (16AC) and 001-131-01 (7.83AC) located within a portion of the South ½ of Section 7 and the North ½ of Section 18, Township 15N, Range 20E of the Mount Diablo Meridian. It identifies the existing and proposed site conditions, and the potential drainage improvements. This study has been conducted in accordance to the Carson City Municipal Code and Carson City Development Standards.

The Vintage at Kings Canyon is a Planned Unit Development that provides for a mix of housing types, including large, medium and small lot single family homes. Also included are assisted living units and extended care facilities for aging residents which are 36,000 and 18,000 square feet respectively. Two mixed use buildings of roughly 13,000 square feet are also included near the assisted living/extended care facility. The single family residential component of the project includes a clubhouse and outdoor recreation area. The project also includes a substantial open space/public amenity element that includes extension of the existing trail system, additional landscaped open areas between smaller units and the preservation of a historic farmhouse.

B. Existing Site Conditions

The project site of the Vintage at Kings Canyon PUD is 78.2 acres. APN 009-012-02 is 80.66 acres and bound on the South by W King St, on the North half to the East by N Ormsby Blvd. The remaining boundaries are by multiple single family residences to the West, the North and the Southern portion to the East. The proposed project is only going to encompass the portion of APN 009-012-02 to the north of Ash Canyon Creek which is 30.4 acres. The remaining project site is on the East side of N Ormsby Blvd and is comprised of 3 different APNs. These three APNs comprise 47.76 acres and are bound by N Ormsby Blvd on the West and Mountain St on the East. The remaining boundaries are by multiple single family residences and some open space farmland. Vicee Canyon Creek runs through the Eastern portion of the site. The site is currently covered in short grass and is used as pasture for animal grazing. The site generally slopes from the West to East with the average slope across the project being 2% to 3%.

This Conceptual Drainage Report is to accompany the PUD Tentative Map application for submittal of The Vintage at Kings Canyon PUD. The proposed PUD consists of 212 single family residences, a 10,000 square foot clubhouse, a 13,000 square foot retail space, 36,000 square foot assisted living facility and a 18,000 square foot extended care facility. The land use is as follows:

Table 1 – Proposed Land Use

Land Use	Acres	Percentage
Open Space	25.8	33.0%
Right of Way	15.94	20.4%

Single Family Lot Area	32.74	41.9%
Building Area (Non-SF Houses)	2.0	2.5%
Parking Areas	1.75	2.2%
Total	78.2	100%

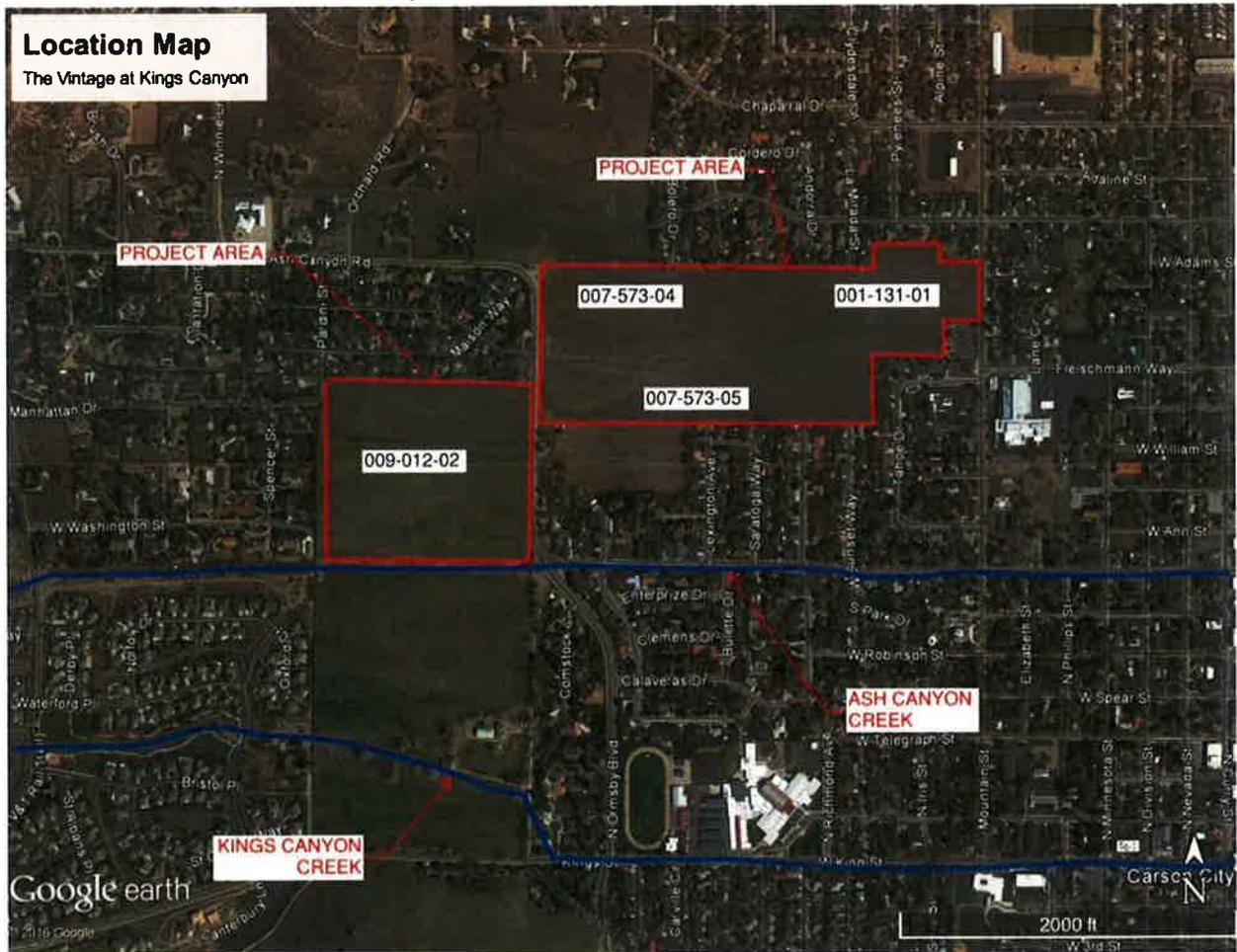
C. Other Previous Studies

The project site of The Vintage at Kings Canyon is located within the Kings Canyons Creek, Ash Canyon Creek and the Vicee Canyon Creek watersheds and has been addressed in the various studies in this area. Four major studies that performed in this area include:

1. The Hydraulic analysis US 395 Bypass Freeway Carson City, Nevada by WRC (April 1997)
2. The effective FEMA Flood Insurance Study Report by FEMA (January 16, 2009)
3. The SW Carson City Regional Hydrologic Analysis Final Report by Manhard (March 2010)
4. Hydrologic Analysis for Carson City Restudy, Flood Insurance Study by HDR (June 2010)

The Hydrologic Analysis for Carson City Restudy, Flood Insurance Study performed by HDR in June of 2010 was intended to review the hydrologic data provided to Carson City in the previous studies, make adjustments necessary and select peak discharges for 10-, 50-, 100-, and 500-year storm events to be used in the hydraulic analysis of the study reaches. This study is the most comprehensive of the four and will be used in this study for offsite baseline flows into the project area.

D. General Location Map



II. Existing and Proposed Hydrology

A. Existing and Proposed Drainage Basin Boundaries

There are three offsite drainage basins that flow onto the project area:

Table 2 – Drainage Basins and Areas (Manhard 2010)

Basin	Area (mi ²)
Vicee Canyon	1.57
Ash Canyon	5.48
Kings Canyon	4.99

A reservoir built for Vicee Canyon Creek contains all of the runoff for a 100-year storm event with approximately 9 feet of freeboard (HDR 2010). The reservoir is

upstream of the Project site. The drainage basin that actually drains onto the project area is much smaller, approximately 0.18mi². The basin map from the HDR 2010 report is provided in Appendix B.

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

Offsite flows onto the project site are:

Table 3 – Existing Off-Site Flow (HDR 2010)

Watershed	Peak Flows (cfs)		
	10% Annual Chance	2% Annual Chance	1% Annual Chance
Vicee Canyon Creek (into retention basin)	96	265	370
Vicee Canyon Creek (outflow from retention basin)	0	0	0
Vicee Canyon Creek (from sub-basin VC03C)	12.65	12.55	12.55
Ash Canyon Creek (AC08C)	269	762	1,065
Kings Canyon Creek (KC14C2)	280	816	1,071

The nodes for the Ash Canyon and Kings Canyon offsite flows were chosen from the sub-basins directly upstream from the project site.

The 5-year, 24-hour and 100-year, 24-hour onsite storm flows are as follows:

Table 4 – On-Site Flow Pre and Post-Development

Basin	Pre-Development		Post-Development	
	5-year	100-year	5-year	100-year
West	2.6	6.9	11.0	24.1
East	4.4	11.6	18.4	40.2

The design period for the project per Carson City Ordinance is a 5-year, 24-hour duration. This results in an increase of 22.4 cfs and a volume of 4.6 acre-feet.

For onsite flows, HEC-HMS version 4.1 was used to determine the existing and post development runoff conditions. The rainfall data was obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14. Retrieved from the Hydrometeorological Design Studies Center – Precipitation Frequency Data Server. The Design Storm events considered were 5 and 100-year storm events (see Appendix A). Onsite pre-development and post-development storm runoff

C. Existing Drainage Problems

There are no known existing drainage problems

D. On-site and Downstream Drainage

Currently on-site flows drain into the two creeks that transverse the project site. The Eastern portion of the project site drains to the Southeast and discharges from the site into the neighborhood to the East. The Western portion of the project area is divided into three different basins. The Southern basin discharges from the Southeast corner onto King St. and then flows onto N Ormsby Blvd to 5th St. and then towards Carson St. The middle basin discharges onto Glenbrook Cir. and then joins the flow from the Southern basin on N Ormsby Blvd. The Northern basin discharges into Ash Canyon Creek which discharges from the project site onto E Washinton St. and flows Easterly towards Carson St.

E. Floodplain

According to FEMA Flood Insurance Rate Maps (FIRM) for the project location the western portion of the project is located entirely in FEMA zone AE with flood depths of less than 1 foot. The eastern portion of the project is approximately ¼ in FEMA zone AO with depths of 1'. However, Lumos has looked at the HEC-RAS modeling that was performed for the FIRM map and we believe the model has compounds which need to be explored with Carson City in order to ensure the model utilized going forward is as accurate as possible. The HEC-RAS model for Ash Canyon Creek has a lateral weir on the south side of it that crosses N. Ormsby Blvd. This lateral weir appears to be artificially raising the base flood elevation (BFE) for the area to the west of N. Ormsby Blvd. and skewing the floodplain on the east side.

The cross section for the Ash Canyon Creek near N. Ormsby Blvd. (cross section A on FIRM panel 3200010091F) show that the lateral weir is holding back almost 1.5 feet of water. Additionally, the topography outside of the cross section to the south shows that some of the runoff will most likely flow south into the neighborhood and onto N. Ormsby Blvd. instead of crossing it. This reduced flow that does cross N. Ormsby will reduce the footprint of the BFE on the east side. We propose to coordinate these items with Carson City staff as part of future flood modeling efforts.

F. Existing Irrigation

There is periodic existing irrigation on the project site from the creeks with existing surface water. This irrigation will cease with the development.

G. Tributary Exhibit

The tributary exhibit is shown on the basin map provided by HDR, located in Appendix B.

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

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

On-Site Flow

Onsite flow will be routed via curb and gutter and underground storm drainage into retention basins located around the project location. The retention basins will be sized in order to contain the difference between the pre-development and post-development 5-year, 24-hour storm runoff as required by Carson City Code.

Off-Site Flow

Off-site flow that enters the project location will also be collected and routed to retention basins via an underground storm drainage system. The retention basins will be sized so that the discharge from the project location will not exceed the existing discharge flow.

B. Mitigation Measures

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

C. Floodplain Modifications

The Vintage at Kings Canyon PUD will be constructed as to not impact the floodplain volume by adhering to 1:1 cut/fill grading required for floodplain. The housing pads will be placed at 2' above the BFE while streets and open space areas will be lowered.

D. Exhibit

A copy of the PUD tentative map showing proposed retention basin locations and the FEMA Firmettes for the project location are provided in Appendix C.

IV. Conclusions

The Vintage at Kings Canyon PUD will be designed in accordance with Carson City Municipal Code and Carson City Development Standards. The project will not have a detrimental effect on surrounding properties. There will be on-site retention that will mitigate any increase in storm runoff and help control on and off-site flows.

Appendix A

Project: Vintage at Kings Canyon Simulation Run: 5-year, 24-hour Pre
 Start of Run: 01Jan2016, 00:00 Basin Model: Vintage Pre
 End of Run: 02Jan2016, 00:00 Meteorologic Model: 5 Year
 Compute Time: 25Aug2016, 14:16:31 Control Specifications: 24-Hour

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
West Basin	0.046	2.6	01Jan2016, 12:34	0.31
East Basin	0.074	4.4	01Jan2016, 12:32	0.31

Project: Vintage at Kings Canyon Simulation Run: 5-year, 24-hour Post

Start of Run: 01Jan2016, 00:00 Basin Model: Vintage Post
 End of Run: 02Jan2016, 00:00 Meteorologic Model: 5 Year
 Compute Time: 25Aug2016, 14:16:14 Control Specifications: 24-Hour

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
West Basin	0.046	11.0	01Jan2016, 12:30	1.01
East Basin	0.074	18.4	01Jan2016, 12:28	1.01

Project: Vintage at Kings Canyon Simulation Run: 100-year. 24-hour Pre

Start of Run: 01Jan2016, 00:00 Basin Model: Vintage Pre

End of Run: 02Jan2016, 00:00 Meteorologic Model: 100 Year

Compute Time: 25Aug2016, 14:16:03 Control Specifications: 24-Hour

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
West Basin	0.046	6.9	01Jan2016, 08:32	0.46
East Basin	0.074	11.6	01Jan2016, 08:30	0.46

Project: Vintage at Kings Canyon Simulation Run: 100-year, 24-hour post

Start of Run: 01Jan2016, 00:00 Basin Model: Vintage Post
 End of Run: 02Jan2016, 00:00 Meteorologic Model: 100 Year
 Compute Time: 25Aug2016, 14:14:32 Control Specifications: 24-Hour

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
West Basin	0.046	24.1	01Jan2016, 08:26	3.1
East Basin	0.074	40.2	01Jan2016, 08:24	5.0



NOAA Atlas 14, Volume 1, Version 5
Location name: Carson City, Nevada, US*
Latitude: 39.1656°, Longitude: -119.7820°
Elevation: 4755 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 & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.18 (0.774-1.39)	1.46 (1.27-1.74)	1.96 (1.68-2.32)	2.42 (2.06-2.87)	3.19 (2.63-3.78)	3.90 (3.11-4.64)	4.73 (3.65-5.70)	5.74 (4.25-7.02)	7.33 (5.12-9.18)	8.77 (5.84-11.2)
10-min	0.900 (0.774-1.06)	1.12 (0.972-1.32)	1.49 (1.28-1.76)	1.85 (1.57-2.18)	2.43 (2.00-2.88)	2.96 (2.36-3.53)	3.60 (2.78-4.34)	4.36 (3.23-5.35)	5.57 (3.90-6.98)	6.68 (4.45-8.51)
15-min	0.744 (0.640-0.876)	0.924 (0.800-1.09)	1.23 (1.06-1.46)	1.53 (1.30-1.80)	2.01 (1.66-2.38)	2.45 (1.96-2.92)	2.98 (2.30-3.59)	3.60 (2.67-4.42)	4.61 (3.22-5.77)	5.52 (3.68-7.04)
30-min	0.500 (0.430-0.588)	0.622 (0.538-0.736)	0.828 (0.710-0.982)	1.03 (0.874-1.22)	1.35 (1.12-1.60)	1.65 (1.32-1.97)	2.00 (1.55-2.42)	2.43 (1.80-2.98)	3.10 (2.17-3.89)	3.72 (2.47-4.74)
60-min	0.309 (0.266-0.364)	0.384 (0.334-0.455)	0.513 (0.440-0.608)	0.636 (0.541-0.752)	0.837 (0.690-0.992)	1.02 (0.815-1.22)	1.24 (0.957-1.50)	1.50 (1.11-1.84)	1.92 (1.34-2.40)	2.30 (1.53-2.93)
2-hr	0.210 (0.188-0.240)	0.261 (0.232-0.298)	0.332 (0.294-0.378)	0.395 (0.346-0.450)	0.490 (0.418-0.560)	0.574 (0.478-0.664)	0.670 (0.544-0.785)	0.787 (0.617-0.934)	0.988 (0.740-1.21)	1.17 (0.850-1.48)
3-hr	0.168 (0.151-0.189)	0.210 (0.189-0.236)	0.262 (0.235-0.295)	0.305 (0.271-0.343)	0.366 (0.320-0.414)	0.419 (0.359-0.478)	0.478 (0.401-0.550)	0.553 (0.455-0.646)	0.676 (0.539-0.815)	0.794 (0.616-0.996)
6-hr	0.119 (0.107-0.132)	0.148 (0.133-0.166)	0.183 (0.164-0.204)	0.211 (0.188-0.235)	0.249 (0.218-0.279)	0.278 (0.241-0.314)	0.308 (0.262-0.351)	0.342 (0.286-0.395)	0.393 (0.319-0.461)	0.437 (0.348-0.522)
12-hr	0.079 (0.070-0.088)	0.099 (0.088-0.111)	0.124 (0.110-0.139)	0.144 (0.127-0.162)	0.171 (0.149-0.193)	0.191 (0.165-0.217)	0.212 (0.180-0.244)	0.234 (0.194-0.272)	0.262 (0.213-0.311)	0.285 (0.226-0.343)
24-hr	0.053 (0.048-0.058)	0.066 (0.060-0.073)	0.083 (0.076-0.092)	0.097 (0.088-0.107)	0.117 (0.105-0.129)	0.132 (0.118-0.146)	0.148 (0.131-0.165)	0.165 (0.145-0.184)	0.188 (0.163-0.211)	0.206 (0.176-0.233)
2-day	0.032 (0.028-0.036)	0.040 (0.036-0.045)	0.051 (0.046-0.057)	0.060 (0.054-0.068)	0.073 (0.064-0.082)	0.083 (0.073-0.094)	0.093 (0.081-0.106)	0.105 (0.090-0.120)	0.120 (0.102-0.139)	0.133 (0.111-0.155)
3-day	0.023 (0.021-0.026)	0.030 (0.026-0.033)	0.038 (0.034-0.043)	0.045 (0.040-0.051)	0.055 (0.048-0.062)	0.062 (0.054-0.071)	0.071 (0.061-0.081)	0.080 (0.068-0.091)	0.092 (0.077-0.106)	0.102 (0.084-0.119)
4-day	0.019 (0.017-0.022)	0.024 (0.022-0.028)	0.031 (0.028-0.036)	0.037 (0.033-0.042)	0.046 (0.040-0.052)	0.052 (0.045-0.060)	0.059 (0.051-0.068)	0.067 (0.057-0.077)	0.078 (0.065-0.090)	0.086 (0.071-0.101)
7-day	0.013 (0.011-0.015)	0.016 (0.014-0.018)	0.021 (0.019-0.024)	0.025 (0.022-0.028)	0.031 (0.027-0.035)	0.035 (0.030-0.040)	0.040 (0.034-0.045)	0.045 (0.038-0.051)	0.051 (0.043-0.059)	0.057 (0.047-0.066)
10-day	0.010 (0.009-0.011)	0.013 (0.011-0.014)	0.017 (0.015-0.019)	0.020 (0.017-0.022)	0.024 (0.021-0.027)	0.027 (0.023-0.031)	0.030 (0.026-0.035)	0.034 (0.029-0.039)	0.039 (0.033-0.045)	0.042 (0.035-0.049)
20-day	0.006 (0.006-0.007)	0.008 (0.007-0.009)	0.010 (0.009-0.011)	0.012 (0.011-0.013)	0.014 (0.013-0.016)	0.016 (0.014-0.018)	0.018 (0.016-0.020)	0.020 (0.017-0.023)	0.022 (0.019-0.026)	0.024 (0.021-0.028)
30-day	0.005 (0.004-0.005)	0.006 (0.005-0.007)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.011 (0.010-0.012)	0.012 (0.011-0.014)	0.014 (0.012-0.015)	0.015 (0.013-0.017)	0.017 (0.014-0.019)	0.018 (0.016-0.021)
45-day	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.006 (0.006-0.007)	0.007 (0.006-0.008)	0.009 (0.008-0.009)	0.010 (0.008-0.011)	0.011 (0.009-0.012)	0.011 (0.010-0.013)	0.013 (0.011-0.014)	0.014 (0.012-0.015)
60-day	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.009 (0.008-0.011)	0.010 (0.009-0.012)	0.011 (0.010-0.012)

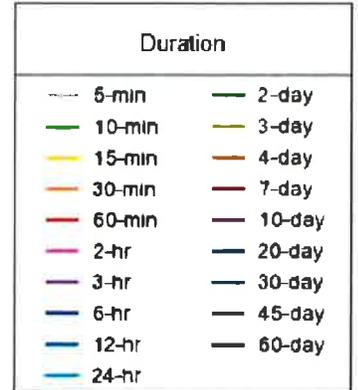
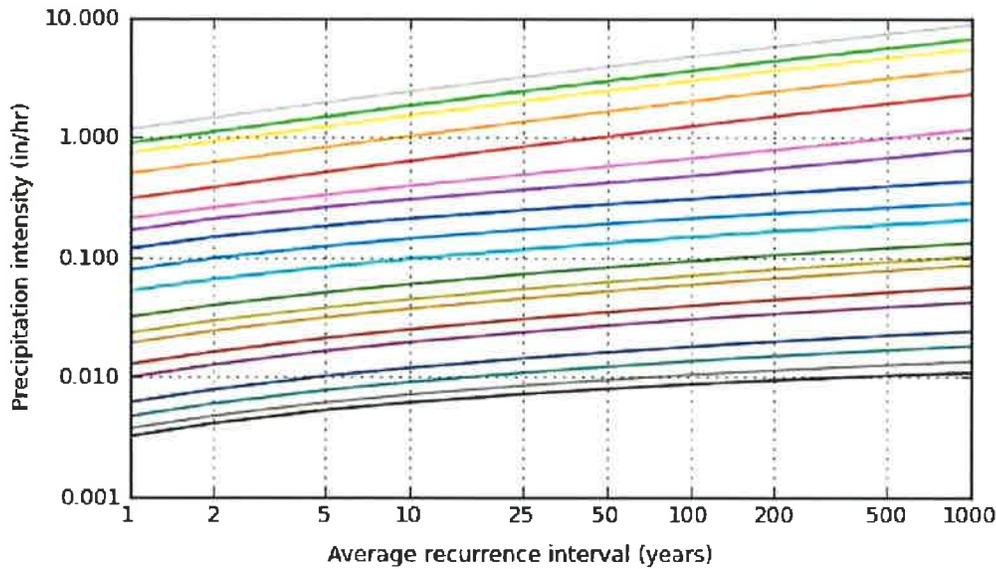
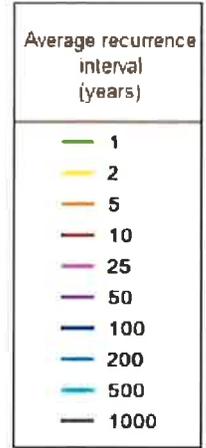
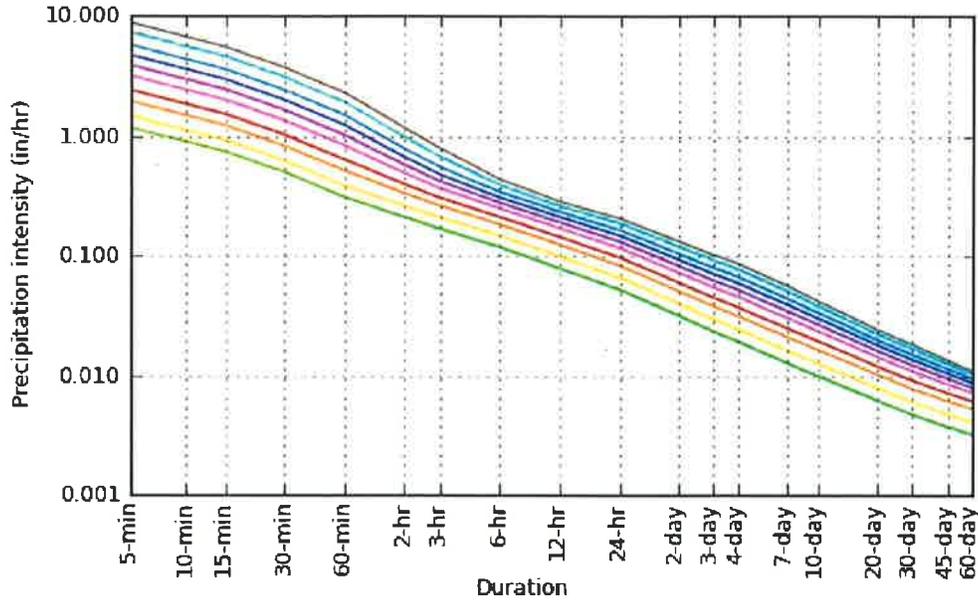
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average 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.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 39.1656°, Longitude: -119.7820°



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Maps & aerials

Small scale terrain

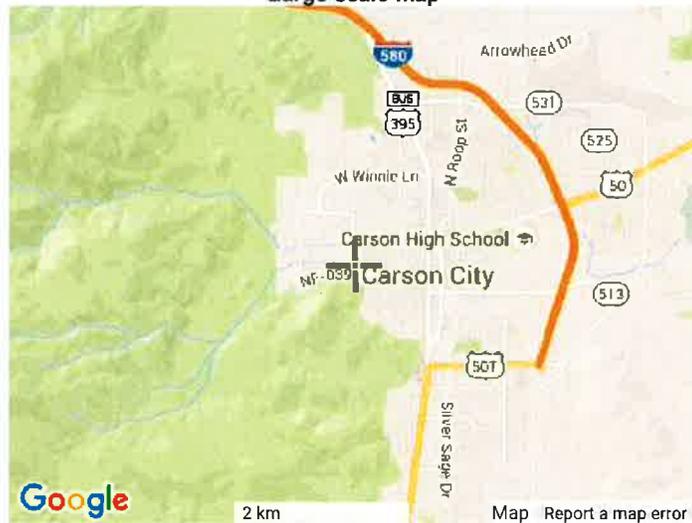




Large scale terrain



Large scale map



Large scale aerial





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1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)



NOAA Atlas 14, Volume 1, Version 5
Location name: Carson City, Nevada, US*
Latitude: 39.1656°, Longitude: -119.7820°
Elevation: 4755 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	0.098 (0.085-0.116)	0.122 (0.106-0.145)	0.163 (0.140-0.193)	0.202 (0.172-0.239)	0.266 (0.219-0.315)	0.325 (0.259-0.387)	0.394 (0.304-0.475)	0.478 (0.354-0.585)	0.611 (0.427-0.765)	0.731 (0.487-0.932)
10-min	0.150 (0.129-0.176)	0.186 (0.162-0.220)	0.248 (0.213-0.294)	0.308 (0.262-0.364)	0.405 (0.334-0.480)	0.494 (0.394-0.589)	0.600 (0.463-0.724)	0.727 (0.539-0.892)	0.929 (0.650-1.16)	1.11 (0.741-1.42)
15-min	0.186 (0.160-0.219)	0.231 (0.200-0.273)	0.308 (0.264-0.365)	0.382 (0.324-0.451)	0.502 (0.414-0.595)	0.613 (0.489-0.731)	0.744 (0.574-0.897)	0.901 (0.668-1.10)	1.15 (0.806-1.44)	1.38 (0.919-1.76)
30-min	0.250 (0.215-0.294)	0.311 (0.269-0.368)	0.414 (0.355-0.491)	0.514 (0.437-0.608)	0.676 (0.558-0.801)	0.825 (0.659-0.984)	1.00 (0.773-1.21)	1.21 (0.900-1.49)	1.55 (1.08-1.94)	1.86 (1.24-2.37)
60-min	0.309 (0.266-0.364)	0.384 (0.334-0.455)	0.513 (0.440-0.608)	0.636 (0.541-0.752)	0.837 (0.690-0.992)	1.02 (0.815-1.22)	1.24 (0.957-1.50)	1.50 (1.11-1.84)	1.92 (1.34-2.40)	2.30 (1.53-2.93)
2-hr	0.421 (0.376-0.481)	0.522 (0.464-0.597)	0.664 (0.587-0.757)	0.790 (0.691-0.900)	0.979 (0.835-1.12)	1.15 (0.957-1.33)	1.34 (1.09-1.57)	1.57 (1.23-1.87)	1.98 (1.48-2.42)	2.35 (1.70-2.96)
3-hr	0.506 (0.454-0.569)	0.630 (0.569-0.710)	0.788 (0.705-0.886)	0.917 (0.814-1.03)	1.10 (0.961-1.24)	1.26 (1.08-1.43)	1.43 (1.20-1.65)	1.66 (1.36-1.94)	2.03 (1.62-2.45)	2.38 (1.85-2.99)
6-hr	0.711 (0.639-0.792)	0.886 (0.797-0.992)	1.10 (0.982-1.22)	1.26 (1.13-1.41)	1.49 (1.31-1.67)	1.67 (1.44-1.88)	1.84 (1.57-2.10)	2.05 (1.71-2.37)	2.35 (1.91-2.76)	2.62 (2.08-3.12)
12-hr	0.949 (0.847-1.06)	1.19 (1.06-1.34)	1.50 (1.33-1.68)	1.74 (1.53-1.95)	2.06 (1.79-2.32)	2.30 (1.99-2.62)	2.56 (2.17-2.94)	2.81 (2.34-3.27)	3.16 (2.56-3.75)	3.43 (2.73-4.13)
24-hr	1.26 (1.14-1.39)	1.58 (1.44-1.75)	2.00 (1.81-2.21)	2.34 (2.11-2.58)	2.80 (2.52-3.10)	3.18 (2.83-3.50)	3.56 (3.15-3.95)	3.96 (3.48-4.41)	4.52 (3.90-5.06)	4.95 (4.22-5.60)
2-day	1.53 (1.37-1.72)	1.92 (1.72-2.16)	2.45 (2.19-2.76)	2.88 (2.57-3.24)	3.49 (3.09-3.94)	3.98 (3.49-4.50)	4.49 (3.91-5.10)	5.03 (4.33-5.76)	5.78 (4.90-6.68)	6.38 (5.33-7.45)
3-day	1.69 (1.50-1.91)	2.13 (1.90-2.41)	2.74 (2.43-3.10)	3.23 (2.87-3.66)	3.94 (3.46-4.47)	4.50 (3.92-5.12)	5.10 (4.41-5.82)	5.73 (4.90-6.58)	6.62 (5.56-7.67)	7.34 (6.08-8.58)
4-day	1.85 (1.64-2.10)	2.34 (2.07-2.65)	3.02 (2.67-3.44)	3.59 (3.16-4.08)	4.38 (3.83-4.99)	5.02 (4.35-5.73)	5.71 (4.90-6.54)	6.44 (5.46-7.39)	7.47 (6.23-8.65)	8.30 (6.82-9.71)
7-day	2.16 (1.92-2.44)	2.74 (2.43-3.10)	3.56 (3.15-4.03)	4.21 (3.72-4.78)	5.14 (4.51-5.84)	5.88 (5.12-6.69)	6.66 (5.74-7.61)	7.48 (6.40-8.57)	8.62 (7.26-9.98)	9.54 (7.92-11.1)
10-day	2.40 (2.13-2.71)	3.06 (2.71-3.46)	3.98 (3.52-4.50)	4.70 (4.14-5.32)	5.69 (4.99-6.45)	6.47 (5.64-7.35)	7.29 (6.29-8.29)	8.13 (6.96-9.28)	9.28 (7.85-10.7)	10.2 (8.51-11.8)
20-day	2.98 (2.66-3.34)	3.79 (3.38-4.26)	4.91 (4.38-5.50)	5.76 (5.12-6.45)	6.90 (6.10-7.74)	7.77 (6.82-8.72)	8.66 (7.55-9.76)	9.54 (8.27-10.8)	10.7 (9.19-12.3)	11.6 (9.85-13.4)
30-day	3.42 (3.06-3.82)	4.35 (3.89-4.86)	5.62 (5.03-6.28)	6.58 (5.87-7.34)	7.87 (6.98-8.79)	8.85 (7.79-9.90)	9.85 (8.61-11.1)	10.8 (9.40-12.2)	12.2 (10.4-13.9)	13.2 (11.2-15.1)
45-day	4.04 (3.63-4.50)	5.16 (4.62-5.74)	6.66 (5.96-7.40)	7.77 (6.95-8.63)	9.21 (8.20-10.3)	10.3 (9.11-11.5)	11.3 (10.0-12.7)	12.4 (10.9-13.9)	13.7 (11.9-15.5)	14.7 (12.7-16.7)
60-day	4.66 (4.17-5.19)	5.95 (5.33-6.64)	7.67 (6.87-8.54)	8.90 (7.96-9.91)	10.4 (9.30-11.6)	11.6 (10.3-12.9)	12.6 (11.2-14.2)	13.7 (12.0-15.3)	14.9 (13.1-16.8)	15.8 (13.8-17.9)

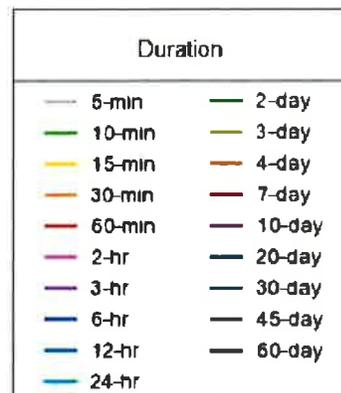
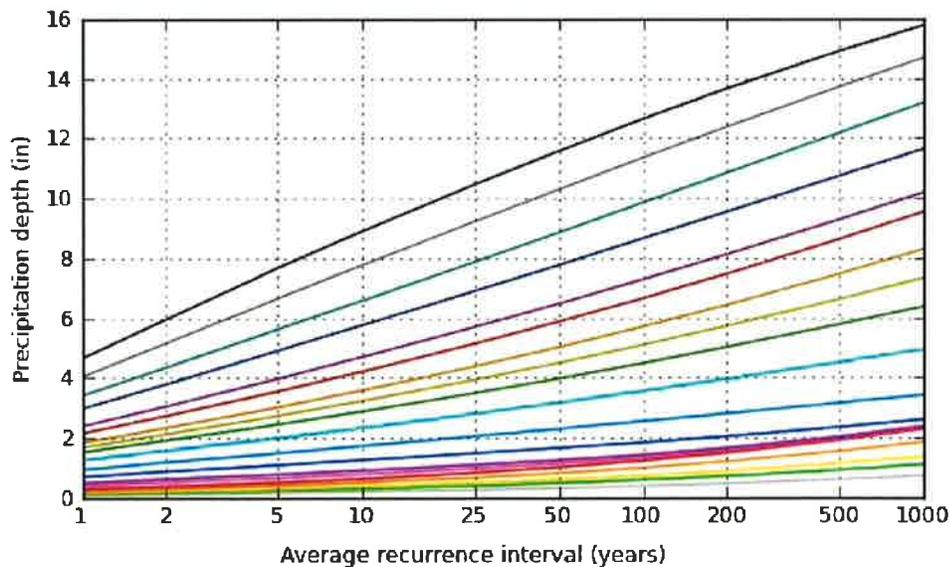
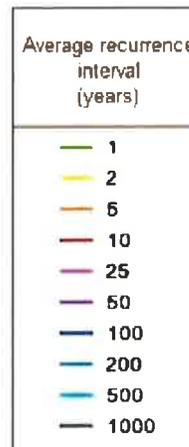
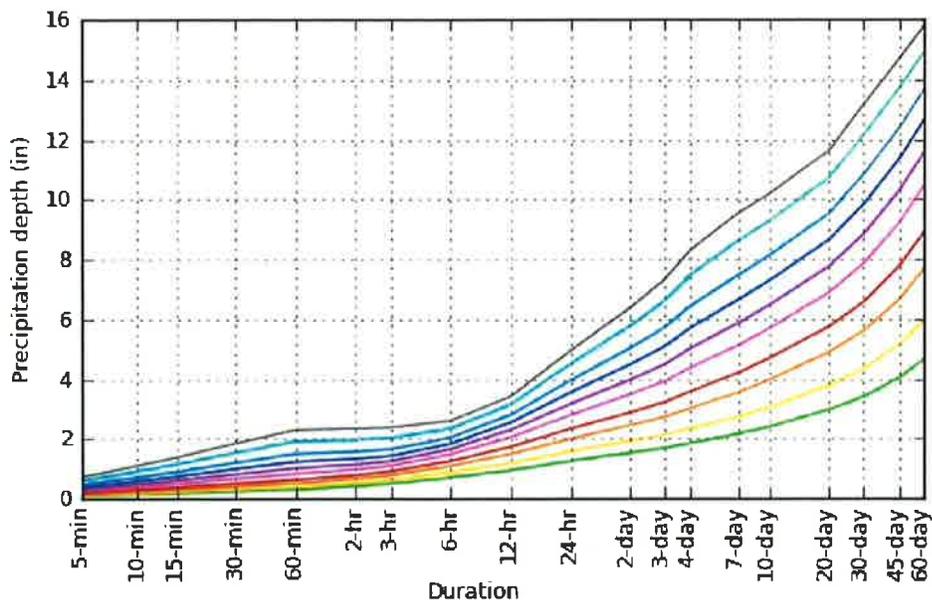
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average 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.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

Latitude: 39.1656°, Longitude: -119.7820°



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Maps & aerials

Small scale terrain





Large scale terrain



Large scale map



Large scale aerial





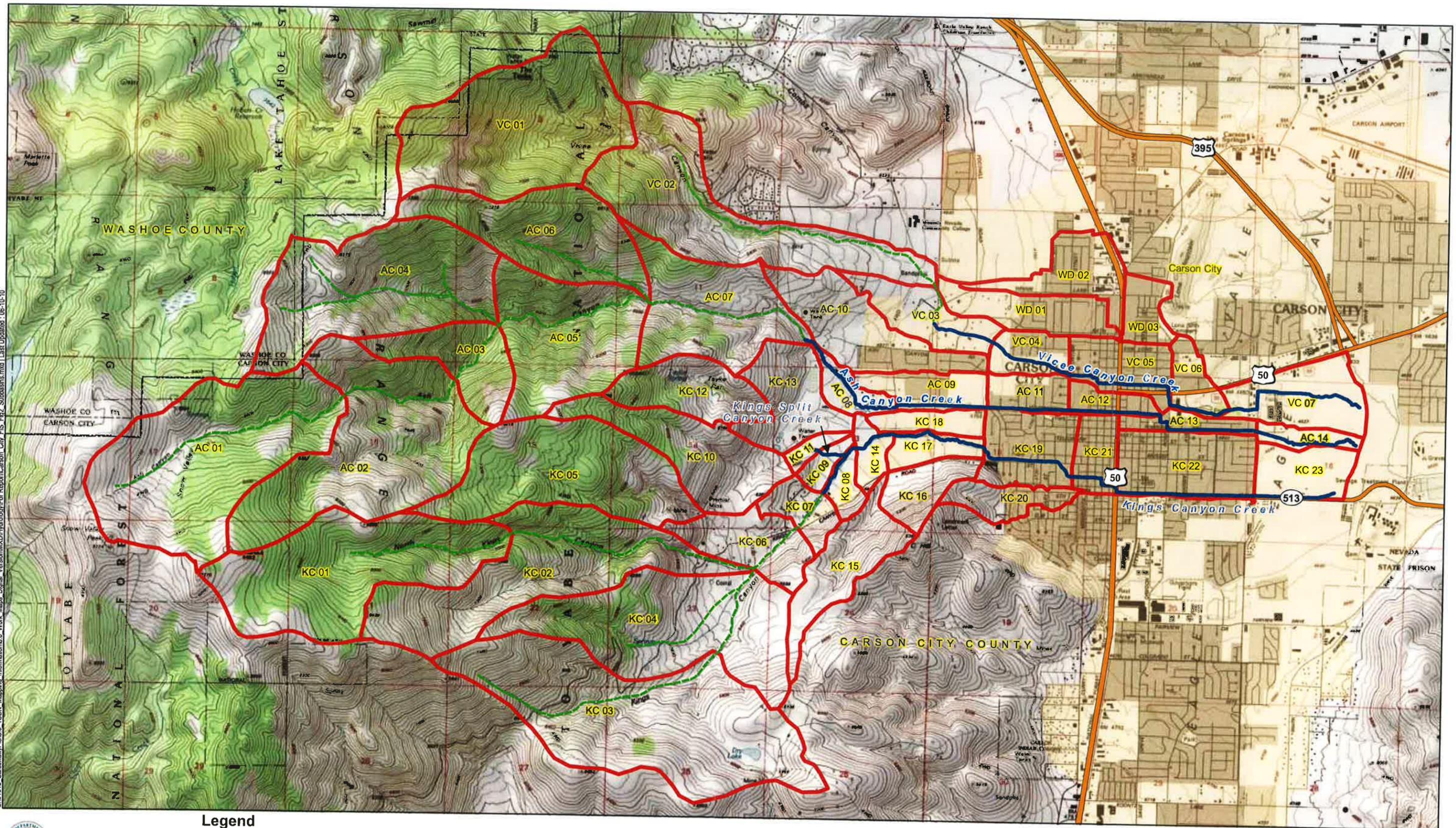
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[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

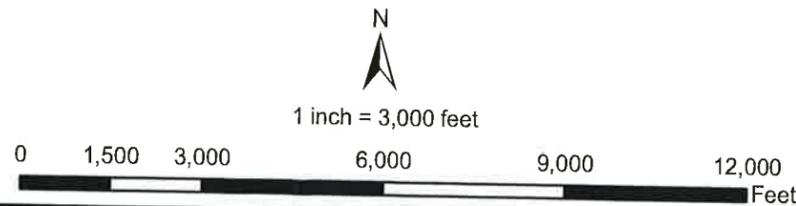
Appendix B

G:\91913 CarsonCity\FIS6.0_TSDN_Mapping_Information\8.6_Work_Maps_Digital_Version\MXD\Hydro\For Report\Carson_City_FIS2_Subbasins.mxd | Last Updated: 06-10-10



Legend

- Sub-basins
 - Stream Reaches Study Area
 - Stream Reaches (Non Study)
 - Major Roads
 - Urbanized Area
 - Counties *
- * Carson City County and City boundaries coincide

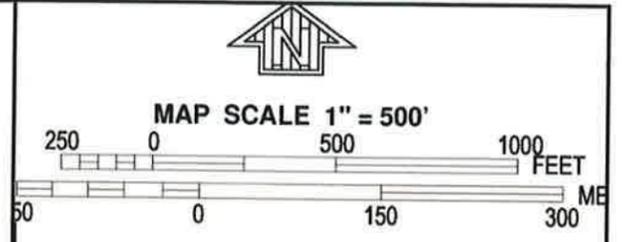
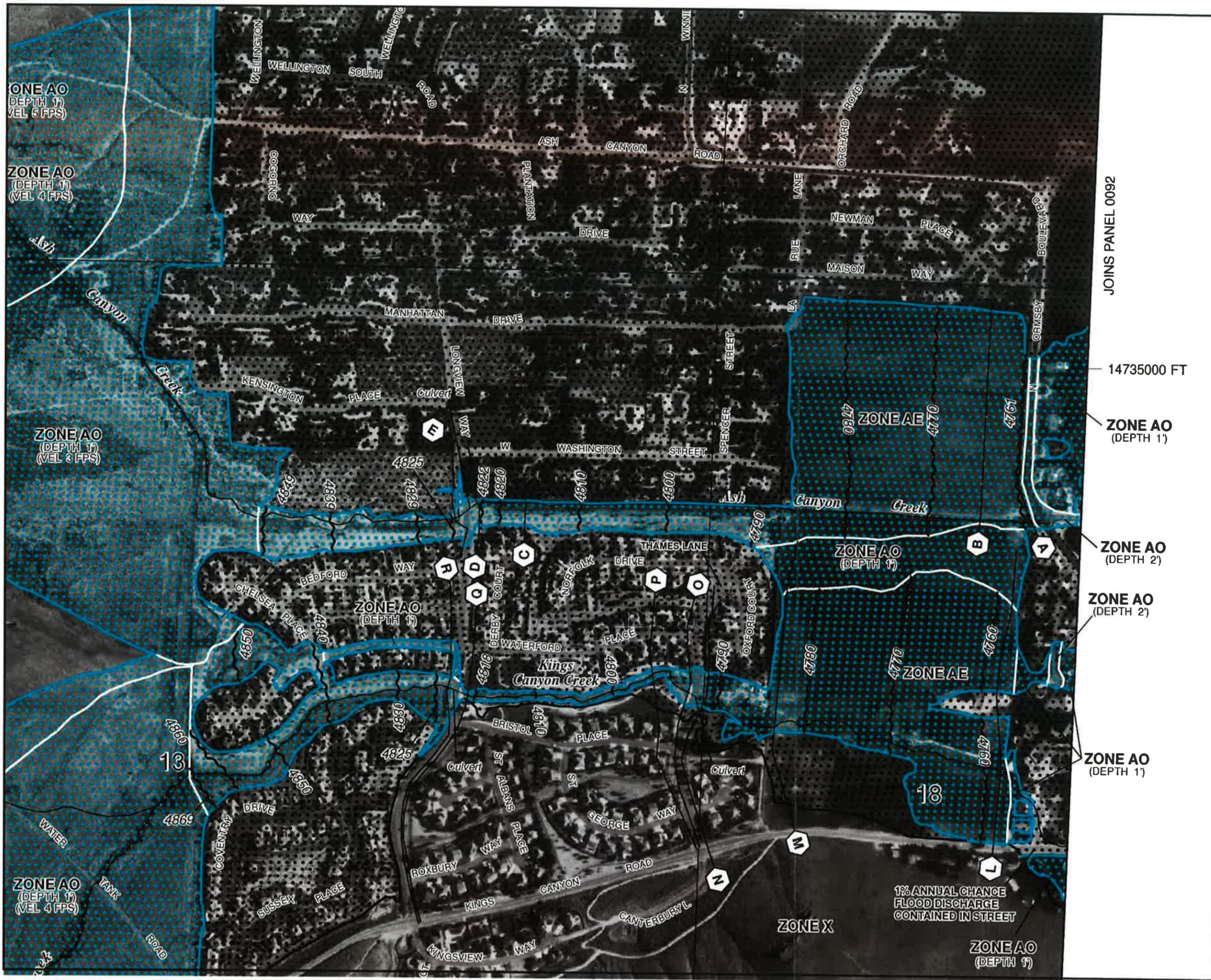


Carson City Restudy - Sub-basins

Figure 2

Image Source: NGS_Topo_US_2D, 2009
 Horizontal Datum: NAD 1983
 Vertical Datum: NAVD 1988
 Date: 06-10-10

Appendix C



NFIP PANEL 0091F

**FIRM
FLOOD INSURANCE RATE MAP**

**CARSON CITY,
NEVADA
INDEPENDENT CITY**

PANEL 91 OF 275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CARSON CITY	320001	0091	F

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



MAP NUMBER
3200010091F

MAP REVISED
FEBRUARY 19, 2014

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



August 18, 2016

Mr. Lee Plemel, Director
Carson City Community Development
108 E. Proctor Street
Carson City, NV 89703

RE: The Vintage at Kings Canyon

Dear Lee:

Pursuant to the Carson City requirements, Lumos and Associates has prepared the following water and sewer impact report to support the Tentative Map submittal. The proposed project is PUD with 212 active senior single family residences and 96 assisted living/independent living units. The units are apartment type units without individual kitchens. The PUD is located on approximately 78.2 acres and is split by N. Ormsby Blvd. in Carson City.

WATER

There are three components to the water demand analysis for the proposed project. There are the single family (SF) residences, the assisted living facility and the open space irrigation. The SF demand per 10 State Standards is 0.6 ac-ft/yr per unit under 12,000 square feet or 535 gallons per day. That translates into an average demand of .37 gpm per SF unit or 78.76 gpm for all 212 SF units. The assisted living facility falls under the Commercial/Industrial standard for the 10 State Standards and demand is estimated at 1 ac-ft/yr per acre. The entire assisted living facility encompasses approximately 5.6 acres. This translates into a demand of 5,000 gallons per day or 3.47 gpm. This flow is in accordance with historical demand for similar facility types in the area. Lastly, the landscaping demand can be estimated at 4 ac-ft/yr per acre. Current estimates for landscaped area that will be irrigated is approximately 11.8 acres. This results in a demand of 42,137 gallons per day or 29.3 gpm.

Based on discussions with Tom Grundy at Carson City Public Works, the existing water system has the capacity to serve this development. Looping will be required to the south per the conceptual map review letter prepared by Carson City Staff.

FIRE FLOW ANALYSIS

Fire flow analysis was also performed by Mr. Grundy. His fire flow analysis is attached. Fire hydrant testing near the west side on N. Ormsby St. determined an available fire flow of 4,800 gpm. Fire hydrant testing on N. Mountain St. on the east side determined an available fire flow of 4,300 gpm.

In summary, it is Mr. Grundy's and our opinions that the project will have no appreciable impact on the performance of the water system.

SANITARY SEWER CAPACITY

The proposed project will connect to the City's sewer system for collection and treatment. The developer is proposing a gravity system that will include expanded use of the existing connections to the existing gravity mains in N. Ormsby Blvd. and N. Mountain St.

The west side of the project will connect to the existing main in N. Ormsby Blvd. which is an 8" ACP which runs south and then turns east along Washington St. During field investigations during peak flow hours it was determined that the southernmost pipe along Ormsby Blvd before turning down Washington Street was flowing at 0.20 cfs and 23.5% capacity. The average daily residential EDU rate is 250 gallons per day, which equates to .0004 cfs average. Using a peaking factor of 3.0, the peak flow per household would be .0012 cfs. With 59 homes planned on the west side, the increase in flow is .07 cfs, putting the 8" main in Mountain Street around 32% of its capacity.

The east side of the project will connect to the existing main in N. Mountain St. which is an 8" PCV that was recently installed. The main that runs from north to south on N. Mountain St. turns east and connects to the existing main located in Fleischman St. Field investigations during peak flow hours on the southernmost section of main before turning down Fleischman determined that the peak flow in the pipe was approximately 0.07 cfs and 5.4% of capacity. Using the same estimated flows and peaking factor the increase in peak flow is 0.13 cfs for the 153 homes on the east side. The assisted living/independent living based on approximate water usage discussed about would add an additional 0.024 cfs peak flow. The total east side of the development is estimated at 0.16 cfs putting the 8" main in Mountain Street around 23% of its capacity.

The proposed project overall usage is in accordance with the master plan for which the sewer mains were analyzed. Since the proposed project is within these tolerances, it is assumed that the sewer system as design has the available capacity to convey the sewage for the proposed infrastructure.

In summary, we feel that the proposed project has a nominal impact on the existing flow capacity for the sewer mains within the direct area of the proposed development, however, the sewer mains were designed in order to support the proposed project.

If you have any questions, do not hesitate to give me a call at 883-7077.

Sincerely,

Rebecca Bernier, P.E.
Project Manager



8-24-16



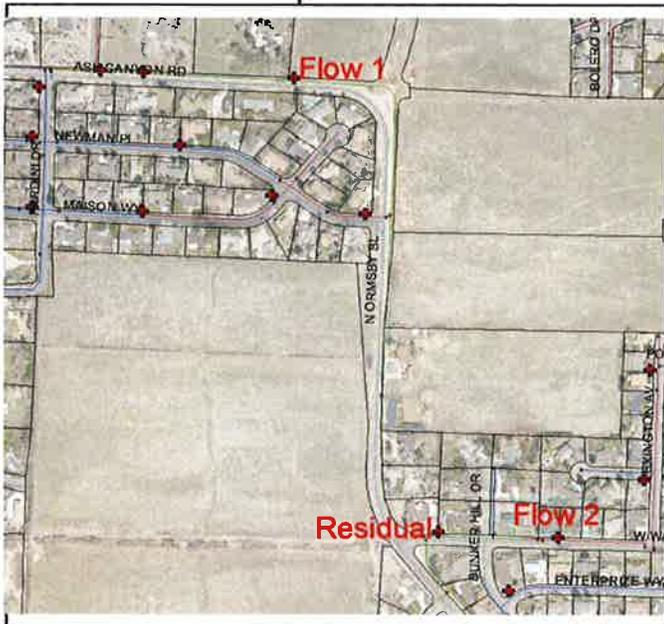
Fire Flow Test Data Sheet

Location of Test (Street and Cross Street): Ormsby Blvd. and W. Washington St.
 Address Nearest Residual Hydrant: 1600 W. Washington
 Test Date: 8/17/2016 Test Time: 0900
 Testing Personnel: KA, KJR,, LE
 Pressure Zone: 4880 Main Size: 12"
 Comments: _____

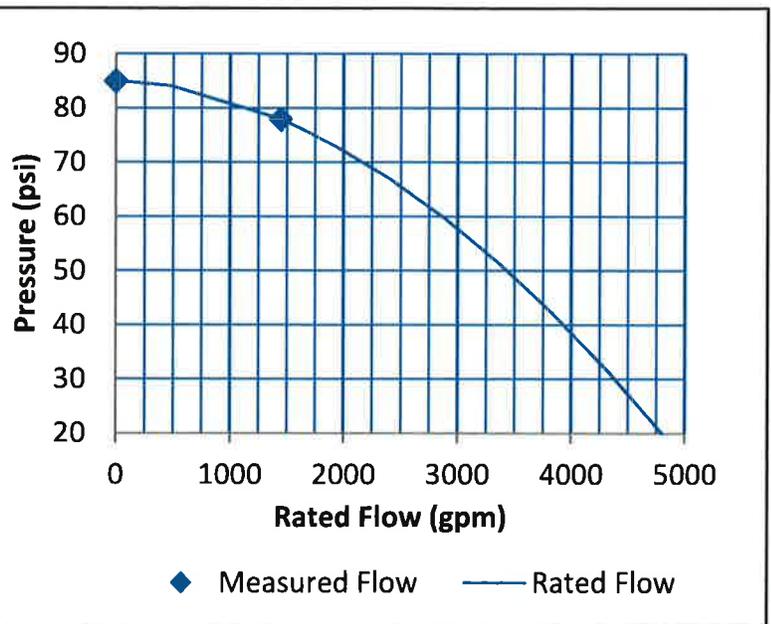
Test Results:

Residual Hydrant		Flow Hydrant(s)						
Static:	85 psi		Hydrant Tester	Pitot Pressure (psi)	Discharge Diameter (in)	Outlet Coeff. (c)	Pitot Flow (gpm)	
Residual:	78 psi							
Pressure Drop:	7 psi	Flow 1	HM1	24	2	1.307	764	
	8 %	Flow 2	HM2	19	2	1.307	680	
		Flow 3						
							Total	1444

Area Map



Rated Flow



Rated Pressure (for Rated Capacity Calculation) **20 psi**
Rated Capacity at 20 psi residual pressure. 4,800 gpm

Based on NFPA 291 - 2016 Edition and APWA Manual 17 - Fourth Edition
 Pursuant to NFPA 291, fire flow test data over five years old should not be used.

Hydrant OBJECTID: 2184 FD Runbook Page: 108X00
 Data Sheet File Name: Ormsby-Washington.pdf



Fire Flow Test Data Sheet

Location of Test (Street and Cross Street): Mountain St. and Fleischmann St.

Address Nearest Residual Hydrant: 1319 Mountain St.

Test Date: 8/17/2016

Test Time: 0925

Testing Personnel: KA, KJR, LE

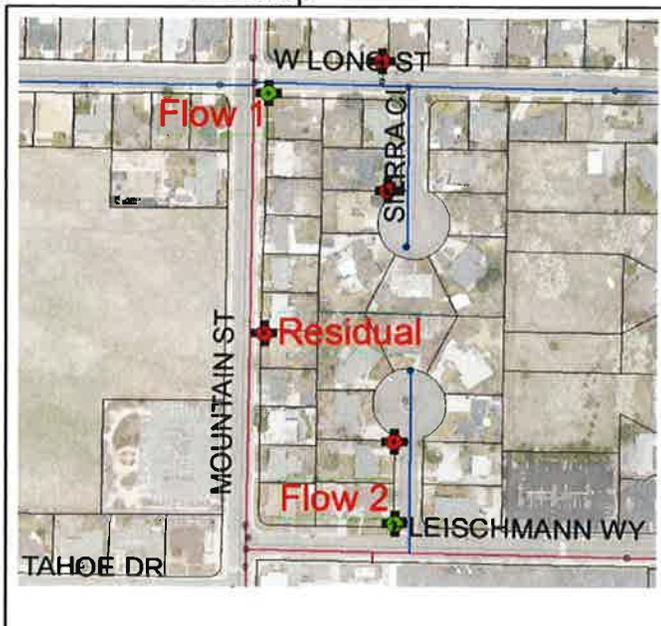
Pressure Zone: 4880 Main Size: 8"

Comments: _____

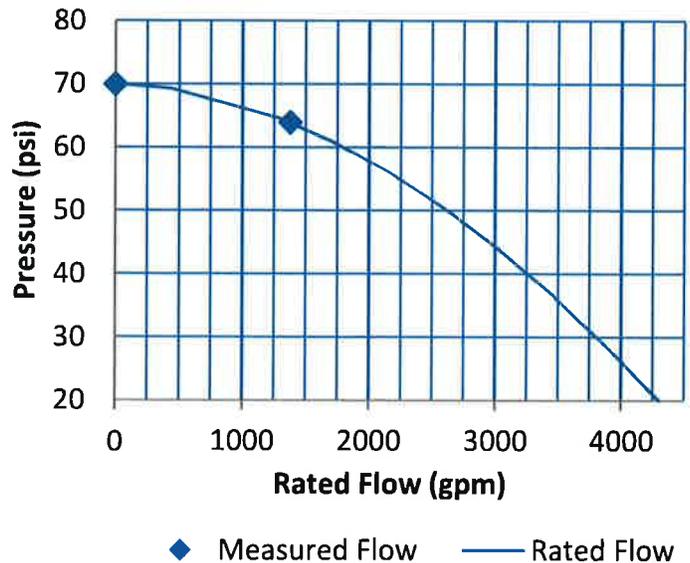
Test Results:

Residual Hydrant		Flow Hydrant(s)						
Static:	70 psi		Hydrant Tester	Pitot Pressure (psi)	Discharge Diameter (in)	Outlet Coeff. (c)	Pitot Flow (gpm)	
Residual:	64 psi							
Pressure Drop:	6 psi	Flow 1	HM1	20	2	1.307	698	
	9 %	Flow 2	HM2	19	2	1.307	680	
		Flow 3						
							Total	1378

Area Map



Rated Flow



Rated Pressure (for Rated Capacity Calculation) 20 psi

Rated Capacity at 20 psi residual pressure. 4,300 gpm

Based on NFPA 291 - 2016 Edition and APWA Manual 17 - Fourth Edition

Pursuant to NFPA 291, fire flow test data over five years old should not be used.

Hydrant OBJECTID: 3262

FD Runbook Page: 109X00

Data Sheet File Name: Mountain-Fleischmann.pdf

Worksheet for Mountain Street Existing

Project Description

Friction Method Manning Formula
Solve For Discharge

Input Data

Roughness Coefficient 0.010
Channel Slope 0.00807 ft/ft
Normal Depth 0.10 ft
Diameter 0.67 ft

Results

Discharge 0.07 ft³/s
Flow Area 0.03 ft²
Wetted Perimeter 0.53 ft
Hydraulic Radius 0.06 ft
Top Width 0.48 ft
Critical Depth 0.12 ft
Percent Full 15.0 %
Critical Slope 0.00400 ft/ft
Velocity 2.09 ft/s
Velocity Head 0.07 ft
Specific Energy 0.17 ft
Froude Number 1.40
Maximum Discharge 1.52 ft³/s
Discharge Full 1.41 ft³/s
Slope Full 0.00002 ft/ft
Flow Type SuperCritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Average End Depth Over Rise 0.00 %
Normal Depth Over Rise 14.99 %
Downstream Velocity Infinity ft/s

Worksheet for Mountain Street Existing

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.10	ft
Critical Depth	0.12	ft
Channel Slope	0.00807	ft/ft
Critical Slope	0.00400	ft/ft

Worksheet for Mountain Street D=.75D

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.00807	ft/ft
Normal Depth	0.50	ft
Diameter	0.67	ft

Results

Discharge	1.29	ft ³ /s
Flow Area	0.28	ft ²
Wetted Perimeter	1.40	ft
Hydraulic Radius	0.20	ft
Top Width	0.58	ft
Critical Depth	0.54	ft
Percent Full	75.0	%
Critical Slope	0.00695	ft/ft
Velocity	4.58	ft/s
Velocity Head	0.33	ft
Specific Energy	0.83	ft
Froude Number	1.16	
Maximum Discharge	1.52	ft ³ /s
Discharge Full	1.41	ft ³ /s
Slope Full	0.00670	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	74.96	%
Downstream Velocity	Infinity	ft/s

Worksheet for Mountain Street D=.75D

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.50	ft
Critical Depth	0.54	ft
Channel Slope	0.00807	ft/ft
Critical Slope	0.00695	ft/ft

Worksheet for N. Ormsby Existing

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00570	ft/ft
Normal Depth	0.21	ft
Diameter	0.67	ft

Results

Discharge	0.20	ft ³ /s
Flow Area	0.09	ft ²
Wetted Perimeter	0.79	ft
Hydraulic Radius	0.12	ft
Top Width	0.62	ft
Critical Depth	0.20	ft
Percent Full	31.5	%
Critical Slope	0.00642	ft/ft
Velocity	2.08	ft/s
Velocity Head	0.07	ft
Specific Energy	0.28	ft
Froude Number	0.94	
Maximum Discharge	0.98	ft ³ /s
Discharge Full	0.91	ft ³ /s
Slope Full	0.00026	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	31.48	%
Downstream Velocity	Infinity	ft/s

Worksheet for N. Ormsby Existing

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.21	ft
Critical Depth	0.20	ft
Channel Slope	0.00570	ft/ft
Critical Slope	0.00642	ft/ft

Worksheet for N. Ormsby Blvd D=.75D

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00570	ft/ft
Normal Depth	0.51	ft
Diameter	0.67	ft

Results

Discharge	0.85	ft ³ /s
Flow Area	0.29	ft ²
Wetted Perimeter	1.42	ft
Hydraulic Radius	0.20	ft
Top Width	0.57	ft
Critical Depth	0.44	ft
Percent Full	76.5	%
Critical Slope	0.00846	ft/ft
Velocity	2.97	ft/s
Velocity Head	0.14	ft
Specific Energy	0.65	ft
Froude Number	0.74	
Maximum Discharge	0.98	ft ³ /s
Discharge Full	0.91	ft ³ /s
Slope Full	0.00495	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	76.46	%
Downstream Velocity	Infinity	ft/s

Worksheet for N. Ormsby Blvd D=.75D

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.51	ft
Critical Depth	0.44	ft
Channel Slope	0.00570	ft/ft
Critical Slope	0.00846	ft/ft