TECHNICAL STUDIES - SUMMARY

RINCON DEL RIO

Nevada County APN's 57,240-17; -18; -19; & 57-130-13 (215± acres)

Several technical studies have been prepared for the Rincon Del Rio project. A summary of the various reports are as follows:

ACOUSTICAL CONSTRAINTS EVALUATION – Prepared by LSA, August 2007

The existing ambient noise levels during a short-term (20 minute) monitoring on July 31, 2007 ranges from 45.8 dBA – 47.1 dBA, which is less than Noise Range I (Normally Acceptable) per the Land Use Compatibility for Exterior Community Noise (Table 5).

Highway traffic from State Route 49 was not audible due to the distance and existing terrain. Although occasional small engine aircraft can be heard on the project site, it does not significantly affect the ambient noise levels on the project site. The project does not lie within the 55 dBA noise contours of any airport nor is it located within any airport land use plan.

Based on the noise analysis, the noise environment is acceptable for the proposed land uses associated with a Senior Housing development.

GEOTECHNICAL FEASIBILITY STUDY – Prepared by Lumos & Associates, Oct. 2007

Lumos & Associates evaluated the existing Site Conditions, Regional Geology, Site Geology and web based USDA-NRCS soil survey. The site is located in the central eastern area of the Sierra Nevada Geomorphic Province of northern California. Onsite material is dominated by Paleozoic to Mesozoic age mafic metavolcanic rocks. The analysis also reviewed the web based USDA-NRCS soil survey. The soil survey indicates the project site is underlain by Boomer Loam, Boomer Rock Outcrop and Sobrante Loam (as shown on the soils map – Plate 3 included within the study). Much of the site is composed of shallow soils underlain by hard fractured bedrock.

General recommendations were given pertaining to grading, foundations and development suitability. Based on the results of the site visit, literature, and map research, the study concluded that the site is generally suitable for the proposed development. A final geotechnical study should be conducted for a specific project after Tentative Map approval which should include logs of exploratory test pits, excavation characteristics of onsite material, laboratory test data, discussion of soil bearing capacities, foundation recommendations, slope stability analysis, and general grading requirements. The final geotechnical study should also include a detailed site investigation and field reports for the design and construction of any proposed improvements.

AIR QUALITY CONSTRAINTS EVALUATION – Prepared by LSA, August 2007

This Air Quality Constraints Analysis was prepared using methodologies and assumptions recommended by the Northern Sierra Air Quality Management District (NSAQMD) and CEQA guidelines. The proposed project is under the jurisdiction of the NSAQMD and is located within the Mountain Counties Air Basin (MCAB).

The project area is located approximately 4 miles north of Auburn on the southern border of Nevada County. Based on the ambient air quality in the area, development of the proposed project is not expected to expose sensitive receptors to substantial pollutant concentrations. The proposed project will be required to comply with rules, regulations and mitigation measures imposed by NSAQMD to properly mitigate any potential impacts related to construction and operational emissions.

ARCHAEOLOGICAL INVENTORY SURVEY – Prepared by Genesis Society, Dec. 2006

Prior to conducting a pedestrian field survey, Sean Jensen (Genesis Society) evaluated records information including soil types & geomorphological features, records maintained by North Central Information Center at CSU-Sacramento, consultation with the Native American Heritage Commission and documents relevant to regional prehistory, ethnography & early historic developments.

The pedestrian survey was performed by transecting the entire 215 acre property at 10-30 meter intervals between December 19-22, 2006. The purposed of this field survey was to ensure that any previously recorded sites identified during the records search were re-located and existing evaluations updated based on current site and field conditions. This survey, along with the above-mentioned records evaluation(s) resulted in the identification of three (3) sites within the subject property. The three sites consisted of the following:

1. **Site Rincon #1** - This site consists of the remains (rock foundation, deteriorated lumber and fence wire) of a small ranch complex. The size was approximately 155' x 135'. The "remains" included a livestock corral and loading chute.

2. **Site Rincon #2** - This site consists of the Magnolia Ditch, constructed between 1938-1949. The ditch is currently maintained by Nevada Irrigation District (NID). Numerous fully contemporary modifications have been made to the ditch including gunnite lining, concrete "box" linings, welded pipe sections and siphons, concrete and steel gates, and additional modifications to the levee system associated with ongoing maintenance.

3. **Site Rincon #3** - This site consists of a small ditch which trends east-west along the approximate 1380 foot contour for roughly 7,800 feet through the project area. The ditch has been substantially disturbed by on-going ranching, neglect and lack of use, and most recently by extensive residential development of portions of the property.

All three sites were analyzed under CEQA criteria. Based on several considerations for each site, including but not limited to lack of integrity, origin, contemporary updates, lack of artistic value & distinctive characteristics, etc., all three sites are recommended as "not significant" under CEQA.

The study concluded that archaeological clearance for the project site is recommended with two general provisions: 1) County Coroner must be informed and consulted in the event of inadvertent discovery of human remains; and 2) Archaeological consultation should be sought immediately in the event of inadvertent discovery of cultural material.

BIOLOGICAL INVENTORY – Prepared by EcoSynthesis, March 2009

The entire site was surveyed and studied on foot and was mapped & recorded with the aid of aerial photography and GPS between December 2008 and February 2009. A map of habitats and biological resources was prepared and is included within the report, including Upland Habitats, Wetlands & Riparian Areas, Landmark Oaks & Groves, and Special Status Species.

The project is proposed to be a clustered development in the western half of the site where the woodlands support lesser habitat values and the impacts are significantly less. Although the project has been designed to substantially avoid sensitive biological resources, the proposed project may result in some significant impacts under CEQA guidelines. However, Mitigation Measures have been recommended for each impact which will reduce each impact to a "less-than-significant" level. The specific impact(s) and Mitigation Measure(s) for each impact are as follows:

Impact #1 - *The project may result in small areas of wetland or non-wetland tributary fills for culverted crossings that are required to construct or improve roads to the necessary standard. This would be an unavoidable significant impact under applicable CEQA guidelines.*

Mitigation Measure #1 - *In the event that any fills of wetlands or other waters of the US are required, the project shall submit pre-construction notification for use of a nationwide Section 404 permit to US Army Corps of Engineers. The project shall also obtain Section 401 water quality certification from the Regional Water Quality Control Board and, if applicable, a Section 1602 streambed alteration agreement from the Department of Fish and Game prior to construction. The project shall implement mitigation as approved by the agencies. Mitigation actions shall included appropriate temporary and permanent BMP's to protect water quality, as well as compensatory mitigation for loss of habitat by means of payment of in-lieu fees, construction or enhancement of habitat, or a combination of these actions.*

Impact #2 - *It is likely that a portion of the secondary access road will be constructed within 100 feet of a long-seasonal tributary and/or adjacent riparian area. Other project elements will probably also be located closer than 100 feet from wetlands (ie/ portions of road where it approaches the culverted crossing). This could result in indirect degredation of habitat values*

due to sedimentation and/or disturbance of wildlife habitat during construction or during project operation. This would be an unavoidable significant impact under applicable CEQA guidelines.

Mitigation Measure #2 - *For all project elements that must unavoidably be constructed within 100 feet of riparian or wetland areas, the project shall prepare and implement a habitat management plan addressing the following subject areas:*

- *During-construction BMP's to prevent sediment delivery to downslope wetlands, riparian areas, or water bodies.*
- *Permanent stabilization of disturbed soil surfaces to minimize the generation and transport of sediment, relying to the extent that is compatible with civil engineering practice, on enhanced infiltration and biotechnical/vegetation based means of stabilization.*
- *Minimization of operational impacts on wildlife habitat by ensuring that lighting, if any, shall be directed and shielded to prevent bulbs/illuminators from being directly visible from any portion of wetland or riparian habitat within 100 feet.*

Impact #3 - *If tree removal and initiation of grading is to occur within the nesting season for Cooper's hawk or yellow warbler (April 1-July 15) and if equipment operation will occur within 300 feet of suitable nesting habitat for either species (which includes a large portion of the site in the case of Cooper's hawk), nesting activity could be disturbed or disrupted, leading to loss of individual eggs or young, which would be a significant impact under applicable CEQA guidelines.*

Mitigation Measure #3 - *If tree removal and initiation of grading is to occur within the nesting season for Cooper's hawk or yellow warbler (April 1-July 15), the project shall carry out surveys for active nests of these two species in all suitable habitat areas within 300 feet of the limits of tree removal or grading. If active nests of either species are found, construction activity shall be temporarily delayed within 300 feet of a Cooper's hawk nest or 100 feet of a yellow warbler nest until July 15 or until young have fledged, whichever is sooner.*

Impact #4 - *Project construction in open oak woodlands or flats, or within any woodland areas that are sufficiently open to support understory or herbaceous-stratum vegetation, could result in loss of individuals of Jepson's onion and/or Butte County fritillary. This would be potentially significant impact under applicable CEQA guidelines.*

Mitigation Measure #4 - *The project shall carry out a floristic plant survey for the presence of Jepson's onion and Butte County fritillary within all woodland, open woodland, or savanna areas that may be affected by project construction or by post-construction fuel management. Survey report including description of methods, map of area surveyed and all project construction, staging, and laydown areas, results, and a complete list of all plant taxa found during the survey shall be provided to County staff prior to initiation of any grading or*

equipment operation. If no occurrences of either species are found, no further mitigation is required. If any occurrences of either species are found, the project design shall be modified to avoid direct and indirect impacts, or the plants shall be marked and their occurrences avoided until their leaves are dry and the plants are dormant (sometime between July and September), at which time the bulbs shall be excavated and transplanted to suitable habitat elsewhere within the site which will not be disturbed during project construction or operation. All phases of the survey, marking of plants, selection of receiving sites, and transplantation shall be carried out by a qualified field botanist who also has experience in the salvage and establishment of native California Liliaceae.

Impact #5 - *The project will result in construction within the limits of some areas of landmark oak grove (canopy cover > 33%). CEQA guidelines do not address this resource, but the Nevada County General Plan determined that direct impacts within the limits of such oak woodlands constitutes a significant impact.*

The estimated area of impact on the landmark oak groves is approximately 1.35 acres (less than 3.5% of the oak groves on site).

Mitigation Measure #5 - *Prior to project approval, a Habitat Management Plan for high canopy coverage (landmark) oak woodlands shall be submitted and approved by County staff. Implementation schedule shall be specified in the project approval conditions and shall reflect reasonable timelines for achievement of the habitat management provisions. Specifications of the Habitat Management Plan shall be adjusted during project review to be feasible and effective and not in conflict with provisions of fire protection plans, but shall include one or more of the following compensatory mitigation and habitat protection actions:*

- *Restoration of oak woodland within the project site, at a ratio of at least 2:1 for all acreage of landmark oak grove that is removed to construct the project. Restoration shall be implemented in areas of existing non-native grassland that are suitable for the regeneration of high-canopy-coverage oak woodland, and that are selected to be appropriate to enhance the overall ecological values of the adjoining habitats. The majority of the restoration areas shall be selected with a preference for regeneration of valley oak and blue oak woodland.*

- *Establishment of a conservation easement for permanent protection of some of the important oak woodland areas within the eastern (undeveloped) portion of the site.*

- *Implementation of habitat management actions that will minimize the likelihood that wildfire will completely destroy the protected oak stands and preclude rapid natural regeneration. The purpose of active management (fuel reduction) is to reduce ground-level, understory, and lower canopy fuels sufficiently that the intensity of an inevitable wildfire is sufficiently reduced that the post-fire regeneration is relatively rapid. This shall be achieved without removal of all smaller trees, which would prevent recruitment*

of new trees to the canopy and would ultimately eliminate the desired values for which the area is being preserved.

TRAFFIC IMPACT ANALYSIS REPORT – Prepared by RTE, December 2008

The traffic analysis for this project was performed in December, 2008. The study included existing & proposed conditions, traffic data, capacity and safety analysis in accordance with Nevada County requirements. Both existing (2009) and future (2029) PM peak hour level of service analyses was conducted as part of this study. Trip generation estimates were prepared for this proposed project using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 7th Edition (ITE Land Use Code 255).

The findings & recommendations are as follows:

1. The main intersection, State Route 49/Rincon Way, operates at an overall LOS A with or without the project (existing & future).

2. The worst leg (westbound approach) drops from a LOS E without the project to LOS F with the project. However, signal warrants for that intersection are **not** met under existing or future conditions with or without the project.

3. Some striping at the intersection is recommended to create an clear delineation for the left and right turn lane off of Rincon Way. The paint or thermoplastic striping is recommended to extend a minimum of 50 feet in length.

4. The internal roadways were not reviewed as part of this study.

5. Sight distance of the internal roadways could not be measured in the field at this time. Nevada County should verify the site distance with the final plans.

6. A secondary emergency access is proposed for the project.

7. Overall, traffic generated by this development (based on 335 units designed in a campus environment for seniors) was determined to **not** have a significant impact on the adjacent roadways.