

SERRANO VILLAGE J5 & J6

PROPOSED ZONE EXHIBIT
EL DORADO COUNTY CALIFORNIA

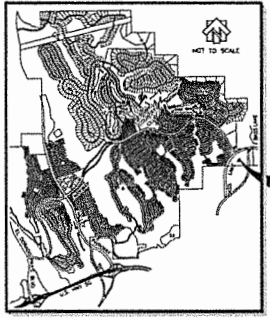
March 6, 2017



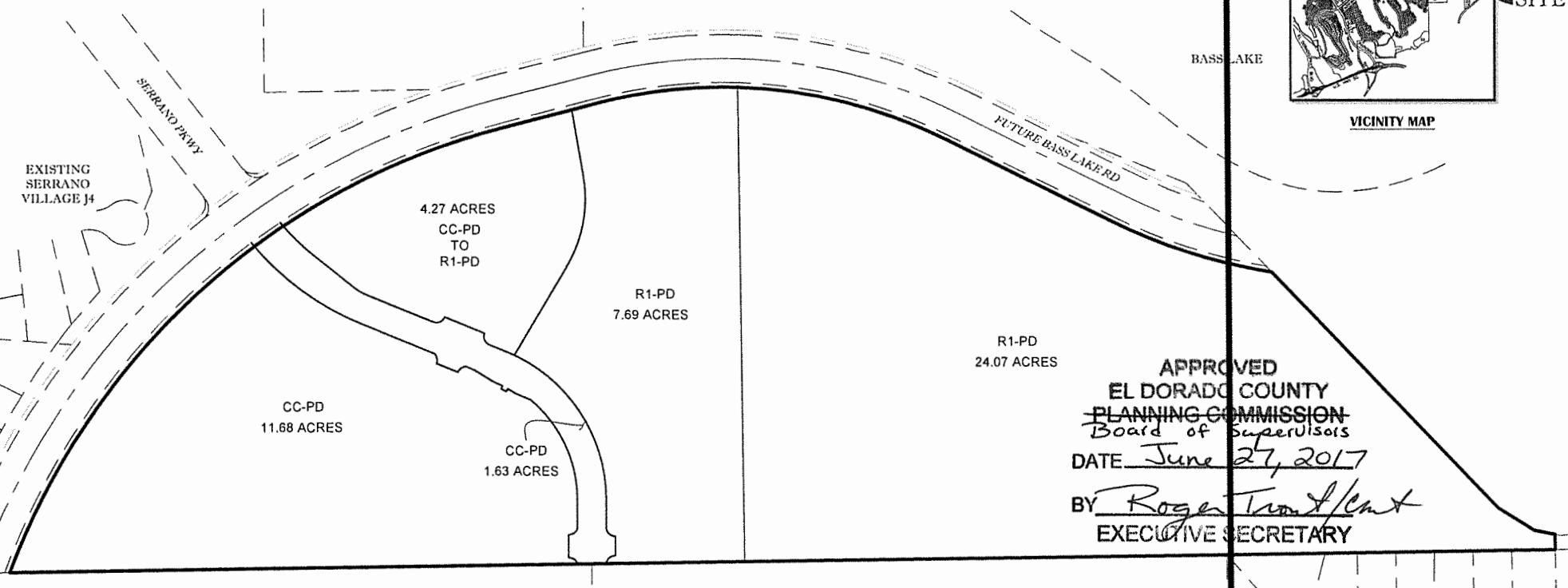
0 100' 200' 400'
SCALE IN FEET

LEGEND

| | |
|--------------|--------------------|
| CC | 17.58 ACRES |
| R1-PD | 31.76 ACRES |
| TOTAL | 49.34 ACRES |



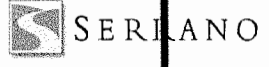
VICINITY MAP



APPROVED
EL DORADO COUNTY
~~PLANNING COMMISSION~~
Board of Supervisors
DATE June 27, 2017
BY Roger Trout
EXECUTIVE SECRETARY

Note: Calculated parcel areas are based on future Bass Lake Road right-of-way.

EXHIBIT K



105 Green Street, Suite 200, El Dorado, CA 95701
916-780-8432 / Fax: 916-780-1475
R.E.Y. ENGINEERS, Inc.
Civil Engineers / Land Surveyors



F:\2671192 - 05 8 - 06 tentative map\2671192 - ZONING EXHIBIT 2017-03-06.dwg, Mar 06, 2017 - 2:43pm, etagen

OWNER/APPLICANT
 SERRANO ASSOCIATES, LLC
 4525 SERRANO PARKWAY
 EL DORADO HILLS, CA 95762

ENGINEER
 R.E.V. ENGINEERS, INC.
 905 SUTTER STREET, SUITE 200
 FOLSOM, CA 95630

MAP SCALE:
 1"=60'

CONTOUR INTERVAL
 MINOR CONTOUR INTERVAL = 1'
 MAJOR CONTOUR INTERVAL = 5'
SOURCE OF TOPOGRAPHY
 AERIAL PHOTOGRAPHY

SECTION TOWNSHIP & RANGE
 POR OF SEC. 31 & 32, T.10N., R.9E., M.D.M

ASSESSOR'S PARCEL NUMBERS
 123-570-03 & 123-570-04

EXISTING/PROPOSED ZONING
 CP-PD, R1-PDR1-PD

PROPOSED USE
 148 - SINGLE FAMILY RESIDENTIAL
 9 - LANDSCAPE (LOTS A - I)
 1 - PASSIVE PARK

LOT SIZES
 MINIMUM LOT SIZE - 5,003 SF
 AVERAGE LOT SIZE - 6,369 SF
 MAXIMUM LOT SIZE - 12,565 SF

WATER, RECYCLED WATER SUPPLY & SEWAGE DISPOSAL
 EL DORADO IRRIGATION DISTRICT

FIRE PROTECTION
 EL DORADO HILLS COUNTY
 WATER/FIRE DISTRICT

PARK AND RECREATION
 EL DORADO HILLS COMMUNITY
 SERVICES DISTRICT

SCHOOL DISTRICT
 RESCUE UNION SCHOOL DISTRICT

DATE OF PREPARATION
 APRIL 5, 2016

ENGINEERS CERTIFICATE

FOR THE RECORD TO THE COUNTY RECORDS
 THE ENGINEER HAS REVIEWED THE SUBDIVISION MAP AND THE PLANS AND SPECIFICATIONS THEREON AND HAS FOUND THEM TO BE IN ACCORD WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND THE SUBDIVISION MAP REGULATIONS AND HAS THEREFORE PREPARED THIS CERTIFICATE OF CORRECTNESS.

DATE: _____

PHASING PLAN NOTICE

THE PHASING PLAN IS A PART OF THE SUBDIVISION MAP AND IS SUBJECT TO THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND THE SUBDIVISION MAP REGULATIONS. THE PHASING PLAN IS A PART OF THE SUBDIVISION MAP AND IS SUBJECT TO THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND THE SUBDIVISION MAP REGULATIONS.

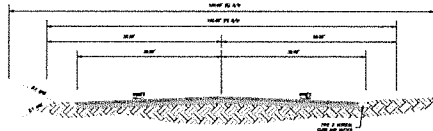
PLANNED CONSTRUCTION: _____
 APPROVED CONSTRUCTION: _____
 MODIFIED CONSTRUCTION: _____
 APPROVED CONSTRUCTION: _____

SERRANO VILLAGE J5 & J6

TENTATIVE SUBDIVISION MAP

EL DORADO COUNTY SEPTEMBER 2016 CALIFORNIA

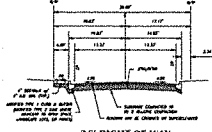
CORRECTED Exhibit L



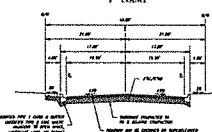
EXISTING BASS LAKE ROAD TYPICAL STREET SECTION



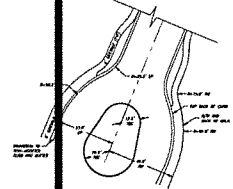
FUTURE BASS LAKE ROAD TYPICAL STREET SECTION



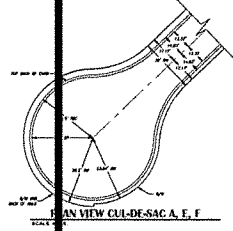
36' RIGHT-OF-WAY



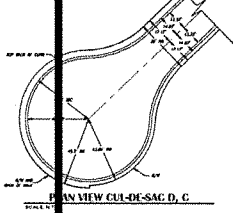
42' RIGHT-OF-WAY



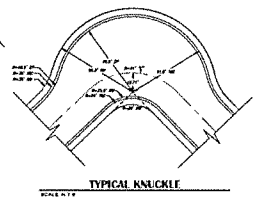
TYPICAL PLAN VIEW ENTRY ROAD



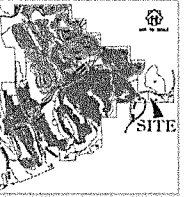
PLAN VIEW CUL-DESAC A, E, F



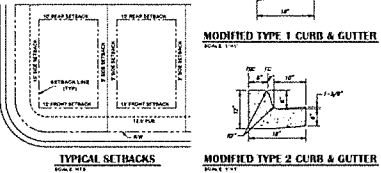
PLAN VIEW CUL-DESAC D, C



TYPICAL KNUCKLE

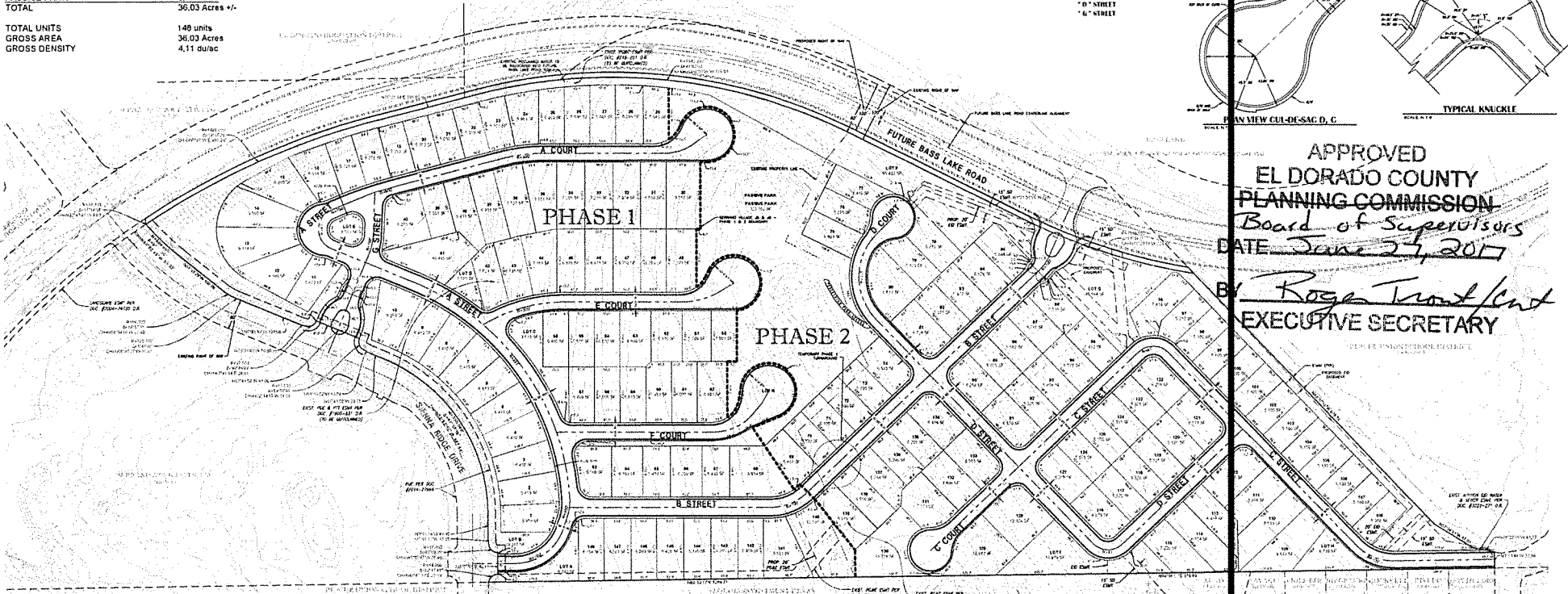


| | |
|-------------------------|-----------------|
| TOTAL AREA | 21.63 Acres |
| RESIDENTIAL LOTS | 7.04 Acres |
| LANDSCAPE LOT A | 0.16 Acres |
| LANDSCAPE LOT B | 0.44 Acres |
| LANDSCAPE LOT C | 0.20 Acres |
| LANDSCAPE LOT D | 0.08 Acres |
| LANDSCAPE LOT E | 0.07 Acres |
| LANDSCAPE LOT F | 1.96 Acres |
| LANDSCAPE LOT G | 1.08 Acres |
| LANDSCAPE LOT H | 0.15 Acres |
| LANDSCAPE LOT I | 0.39 Acres |
| PASSIVE PARK | 2.83 Acres |
| TOTAL | 36.03 Acres +/- |
| TOTAL UNITS | 148 units |
| GROSS AREA | 36.03 Acres |
| GROSS DENSITY | 4.11 du/ac |



TYPICAL SETBACKS

MODIFIED TYPE 2 CURB & GUTTER



APPROVED
 EL DORADO COUNTY
 PLANNING COMMISSION
 Board of Supervisors
 DATE June 27, 2017
 BY Roger Trout
 EXECUTIVE SECRETARY

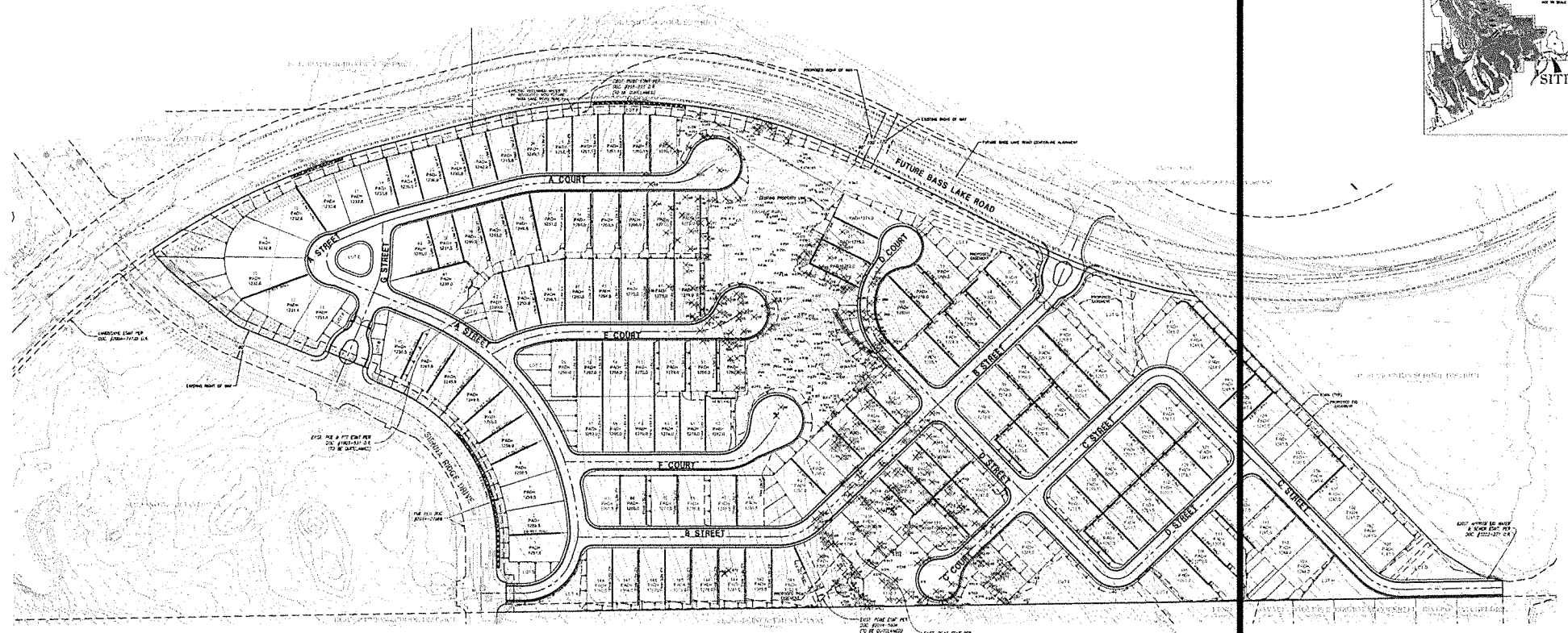
SERRANO VILLAGE J5 & J6
TREE PRESERVATION AND PROTECTION PLAN
 EL DORADO COUNTY SEPTEMBER 2016 CALIFORNIA



0 50' 100'
 SCALE IN FEET
 UNITS: HORIZONTAL DISTANCE, VERTICAL DISTANCE



OWN LINES
 (SEE THE CONVEYANCE FOR
 THE RELEVANT PARCELS)
 REMAINS AS A TREE PRESERVATION INSTRUMENT



APPROVED
 EL DORADO COUNTY
~~PLANNING COMMISSION~~
 Board of Supervisors
 DATE June 27, 2017
 BY Rose Trout/Cut
 EXECUTIVE SECRETARY

EXHIBIT M

SERRANO CONSULTING GROUP, INC. 11000 SERRANO AVENUE, SUITE 100, EL DORADO, CA 91731 TEL: 951-681-1100 FAX: 951-681-1101 WWW.SERRANOCONSULTING.COM

**Modified Single-Unit Residential (R1) Development Standards for Serrano Village J5/J6
Tentative Subdivision**

| Standard | Required by Zoning Ordinance | Proposed Modifications to Single-Unit Residential Development Standards | Notes |
|--|--|---|----------------------------------|
| <i>Maximum Building Coverage (all buildings)</i> | 35% | Maximum 65% coverage | |
| <i>Minimum Lot Area – Interior Lot</i> | 6,000 sf | 5,003 sf | |
| <i>Minimum Lot Width – Interior Lot</i> | 60 feet | 45 feet | |
| <i>Minimum Lot Area – Corner Lot</i> | 7,500 sf | 6,258 sf | |
| <i>Minimum Lot Width – Corner Lot</i> | 75 feet | 60 feet | |
| <i>Maximum Building Height</i> | 40 feet | 35 feet | |
| <i>Front Yard Setback</i> | 20 feet | 15 feet for living space 15 feet for side-load garage 20 feet for front-load garage | |
| <i>Rear Yard Setback</i> | 15 feet | 10 feet | |
| <i>Side Yard Setback</i> | 5 feet | 3 feet | |
| <i>Setback for AC/Pool Equipment</i> | Up to 50% encroachment, but not less than 3' from any property line | Side: 2.5' Rear: 2.5' | Shall be screened by solid fence |
| <i>Setback for Solid Fences and Walls over 40 inches tall</i> | Solid Fence Walls not to exceed 40" in height with in front yard | Front: 5' Side, and Rear: 0' | |
| <i>Setback for Open fences and walls (50% or more) and over 40 inches tall and less than 7' tall</i> | Front Yard with fence/wall 50% open or more, below 7' tall | Front, Side, and Rear: 0' | |
| <i>Setback for any structure such as a permanent BBQ or spa, not over 40 inches high</i> | Front: 20 feet Rear: 10 feet Side: 5 feet | Front: 0' Side and Rear: 2.5' | |
| <i>Setback for Pergola/ Trellis</i> | Side: 5' Rear: 15' | Side: 2.5' Rear: 2.5' | |
| <i>Setback for any structure over 30 inches high.</i> | Rear: 15' | Rear: 5' | Subject to Building Code |
| <i>Minimum Side and Rear Yard Setback: Swimming pool (underground)</i> | Side: 5 feet Rear: 5 feet | Side and Rear: 5' | As measured from edge of footing |
| <i>Minimum Side and Rear Yard Setback: Portable sheds (120 square feet or less)</i> | Side and Rear: 5' | Side and Rear: 5' | |
| <i>Setback for architectural extensions of the dwelling (uninhabitable space)</i> | Up to 50% encroachment, but not less than 3' to side property line | Side and Rear: 2.5' | |
| <i>Setback for chimneys – attached or detached</i> | Front and Rear: 3' into setbacks Side: 3' into setbacks, but remainder setback not less than 3' | Side: 3' Rear: 7' | |

EXHIBIT N

APPROVED
EL DORADO COUNTY
PLANNING COMMISSION
Board of Supervisors
DATE June 27, 2017
BY Roger Trout
EXECUTIVE SECRETARY

APPROVED
EL DORADO COUNTY
PLANNING COMMISSION

Board of Supervisors
DATE June 27, 2017

BY *Roger Trout*
EXECUTIVE SECRETARY



NOTES:

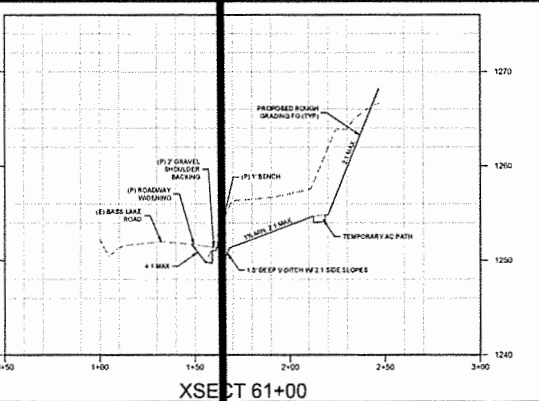
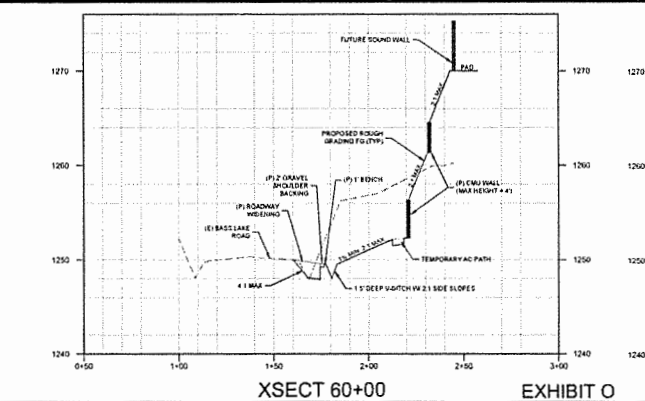
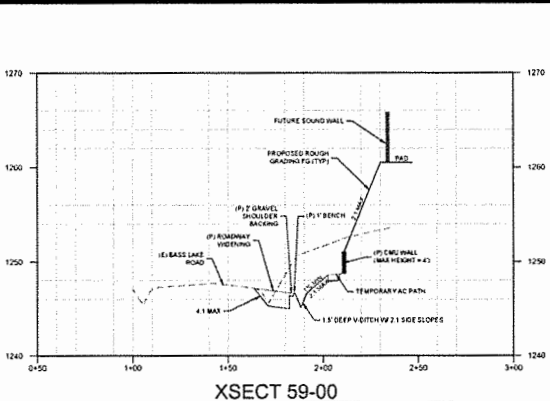
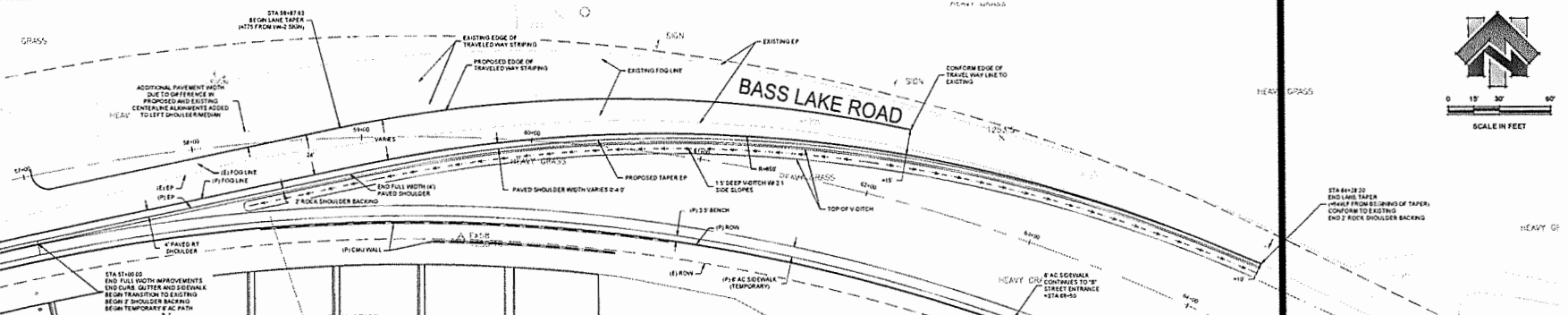
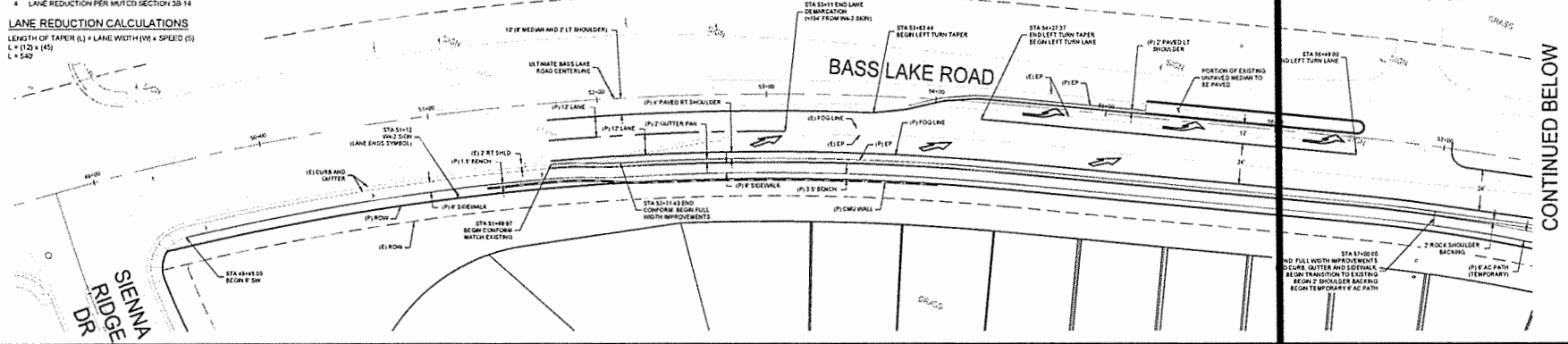
- 1. UTILITIES NOT SHOWN FOR CLARITY
- 2. TREES #3 AND TREES TO BE REMOVED NOT SHOWN FOR CLARITY
- 3. SOME EXISTING TOPOGRAPHIC FEATURES NOT SHOWN FOR CLARITY

ASSUMPTIONS:

- 1. 45 MPH POSTED LIMIT USED IN LIEU OF 85TH PERCENTILE SPEED FOR LANE REDUCTION CALCULATIONS
- 2. 12' LANE WIDTH USED FOR LANE REDUCTION CALCULATIONS
- 3. ADVANCED WARNING EXISTENCE (D) FROM MUTCD SECTION 2C.95 - TABLE 2C.4 - 775FT. D-M/MT
- 4. LANE REDUCTION PER MUTCD SECTION 3B-14

LANE REDUCTION CALCULATIONS:

LENGTH OF TAPER (L) = LANE WIDTH (W) x SPEED (S)
 $L = (12') \times (45)$
 $L = 540'$



DATE _____
DESIGNED BY _____
DRAWING NO. **2677.216**
SHEET NO. **1** OF **1**

PRELIMINARY
NOT FOR CONSTRUCTION

REV. ENGINEERS, INC.
Civil Engineers, Architects, Planners
4250 Lincoln Ave. Ste. 200 (Lincoln Plaza)
Folsom, CA 95630
Phone: 916-336-3447 Fax: 916-336-1510

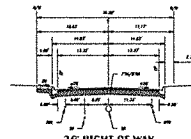
CALIFORNIA
EL DORADO COUNTY

PRELIM PLANIMETRICS FOR:
BLR FRONTAGE IMPROVEMENTS AT J6

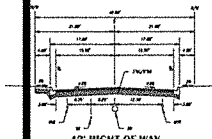
CONTINUED BELOW

DRAWING INFO
DATE: JUL 17
DRAWN BY: _____
DESIGNED BY: _____
REVIEWER: _____
PROJECT NO. **2677.216**
SHEET NO. **1** OF **1**

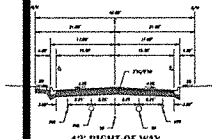
SERRANO VILLAGE J5 & J6
TENTATIVE WATER, RECLAIMED WATER & SEWER PLAN
 EL DORADO COUNTY CALIFORNIA
 SEPTEMBER 2016



36' HIGH-OF-WAY
 SCALE: 1/8" = 1'-0"
 * A' CURB
 * C' STREET - STA. 9+87.84 TO STA. 15+33.79
 * D' CURB
 * E' CURB
 * F' CURB



42' HIGH-OF-WAY
 SCALE: 1/8" = 1'-0"
 * A' STREET
 * B' STREET
 * C' STREET - STA. 3+38.44 TO STA. 6+64.44
 * D' STREET - STA. 4+93.30 TO STA. 9+74.50
 * E' STREET



42' HIGH-OF-WAY
 SCALE: 1/8" = 1'-0"
 * A' STREET
 * B' STREET
 * C' STREET - STA. 8+64.44 TO STA. 9+37.84
 * D' STREET - STA. 9+74.50 TO STA. 13+32.70

SERRANO
 8750 WEST 144th STREET
 FEDERAL WAY, WA 98003
 PE (206) 875-1100
 13400 Greenwood Square

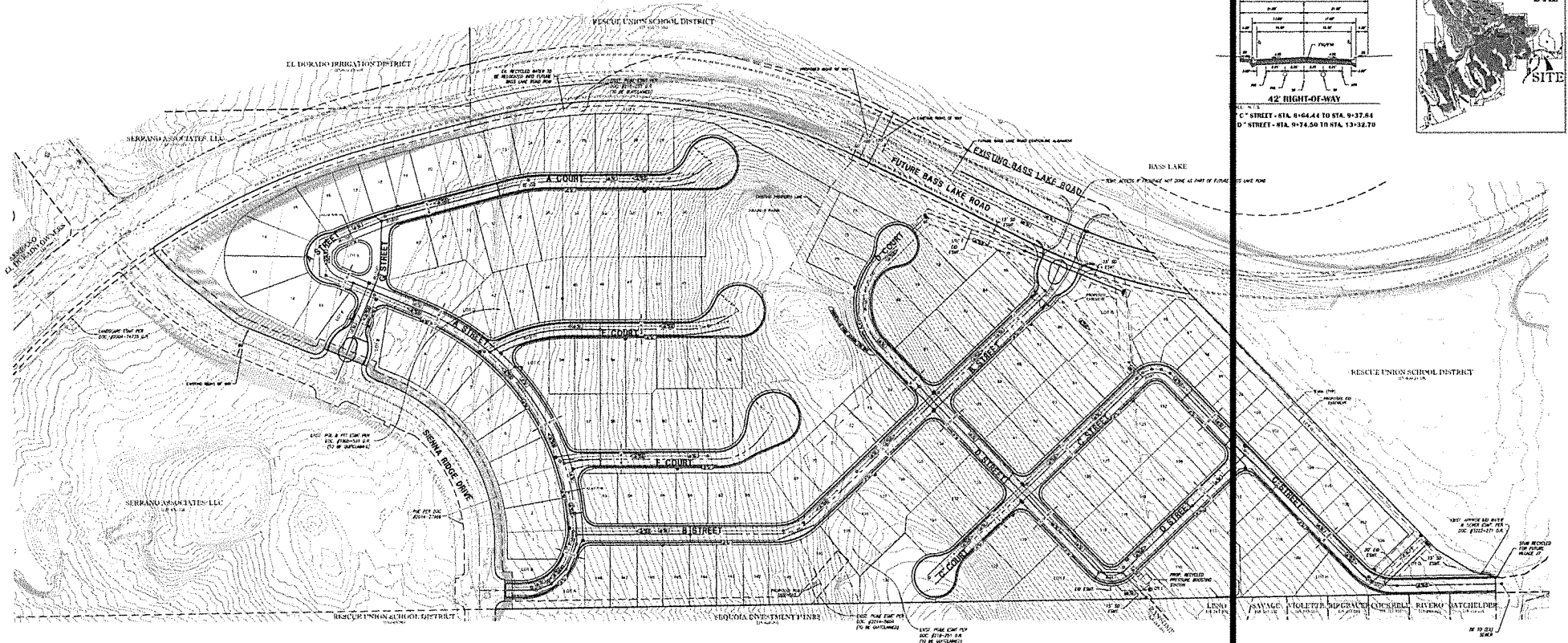
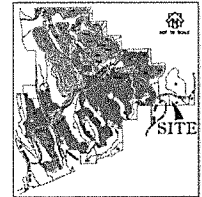


EXHIBIT Q

APPROVED
 EL DORADO COUNTY
 PLANNING COMMISSION
 Board of Supervisors
 DATE June 27, 2017
 BY Roger T.../s/
 EXECUTIVE SECRETARY

SERRANO VILLAGE J5 & J6
TENTATIVE GRADING AND DRAINAGE PLAN
 EL DORADO COUNTY CALIFORNIA
 SEPTEMBER 2016



SCALE IN FEET
 HORIZONTAL DISTANCE INTERVAL - 1" = 100'
 VERTICAL DISTANCE INTERVAL - 1" = 5'

SERRANO

REGISTERED PROFESSIONAL ENGINEER
 CIVIL ENGINEERING
 P. E. # 52475
 2016 License Renewal
 2016 License Renewal

PRELIMINARY EARTHWORK
 CUT: 66,500 CY
 FILL: 91,000 CY

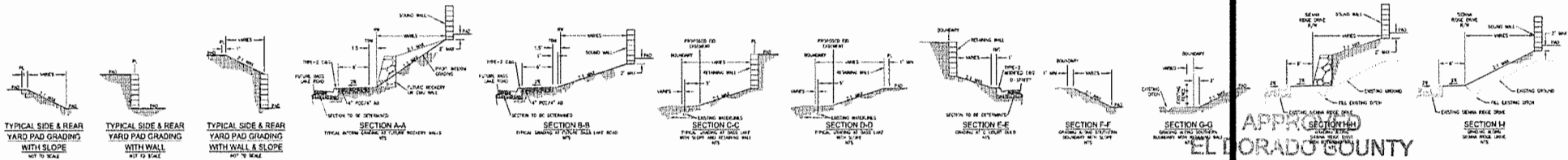
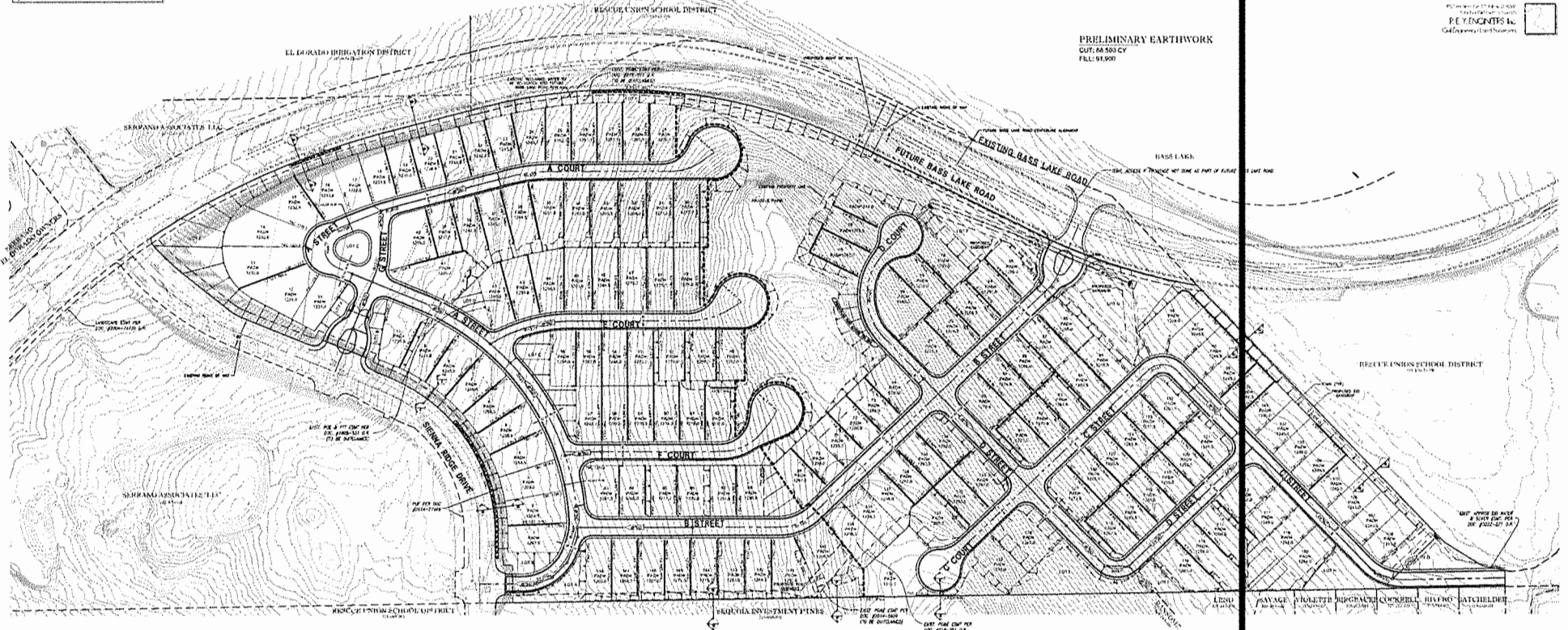


EXHIBIT R

APPROVED
EL DORADO COUNTY
PLANNING COMMISSION
Board of Supervisors
 DATE June 27, 2017
 BY Roger West/CST
EXECUTIVE SECRETARY

SERRANO VILLAGE J5 & J6

EXISTING / PROPOSED DRAINAGE EXHIBIT

EL DORADO COUNTY

SEPTEMBER 2006

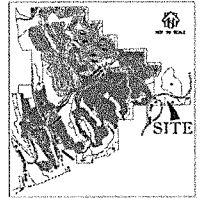
CALIFORNIA



1" = 20' HORIZONTAL SCALE
1" = 10' VERTICAL SCALE

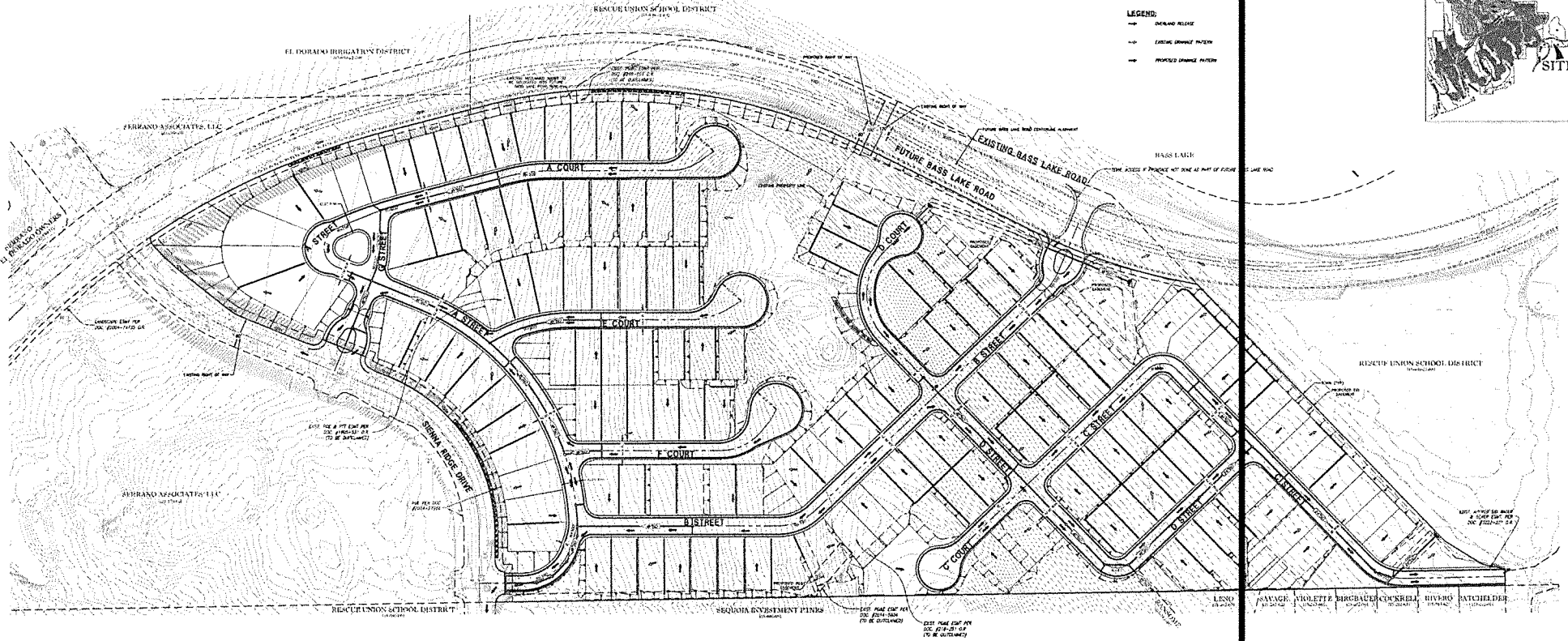
SERRANO

REGISTERED CIVIL ENGINEER
NO. 44214
RE: HICKS & ASSOCIATES, INC.
CITY OF EL DORADO



LEGEND:

- OVERLAND FLOW
- EXISTING DRAINAGE PATTERNS
- PROPOSED DRAINAGE PATTERNS



SERRANO VILLAGE J5 & J6, EL DORADO COUNTY, CALIFORNIA
 PREPARED BY: SERRANO ASSOCIATES, LLC
 DATE: SEPTEMBER 2006

Environmental Noise Analysis

Serrano Village J5 & J6

El Dorado County, California

BAC Job # 2013-070

Prepared For:

Parker Development Company

Attn: Mr. Tom Howard
4525 Serrano Parkway
El Dorado Hills, CA 95762

Prepared By:

Bollard Acoustical Consultants, Inc.



Paul Bollard, President

November 22, 2016

APPROVED
EL DORADO COUNTY
PLANNING COMMISSION
Board of Supervisors
DATE June 27, 2017
BY Roger Trout/Cat
EXECUTIVE SECRETARY



EXHIBIT S

Introduction

The Serrano Village J5 & J6 project is located in the western portion of El Dorado County, in the unincorporated community of El Dorado Hills. Land uses in the project vicinity include single-family residential to the northwest and southeast, Bass Lake to the north, and rural residential to the south. Village J6 proposes a 148-lot subdivision while Village J5 would consist of commercial uses.

Traffic noise emanating from Bass Lake Road, as well as noise from the proposed Village J5 commercial uses are considered to be potentially significant noise sources affecting the proposed residential uses of Village J6. As a result, the project developer has retained Bollard Acoustical Consultants, Inc. (BAC) to prepare this analysis. The project area, residential site plan, and commercial site plan are shown in Figures 1, 2, and 3, respectively.

El Dorado County Noise Standards

The Noise Element of the El Dorado County General Plan contains policies to ensure that County residents are not subjected to noise beyond acceptable levels.

Policy 6.5.1.1 of the County Noise Element requires an acoustical analysis for new residential developments located in potentially noise-impacted areas.

Policy 6.5.1.2 states that where proposed non-transportation noise sources are likely to produce noise levels exceeding the performance standards of Table 1 at existing or planned residential uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Policy 6.5.1.3 states that where noise mitigation measures are required to achieve the County's exterior noise standards, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project and the noise barriers are not incompatible with the surroundings.

Policy 6.5.1.7 states that noise created by new non-transportation noise sources shall be mitigated so as not to exceed any of the noise level standards of Table 1, as measured immediately within the property line of the receiving property.

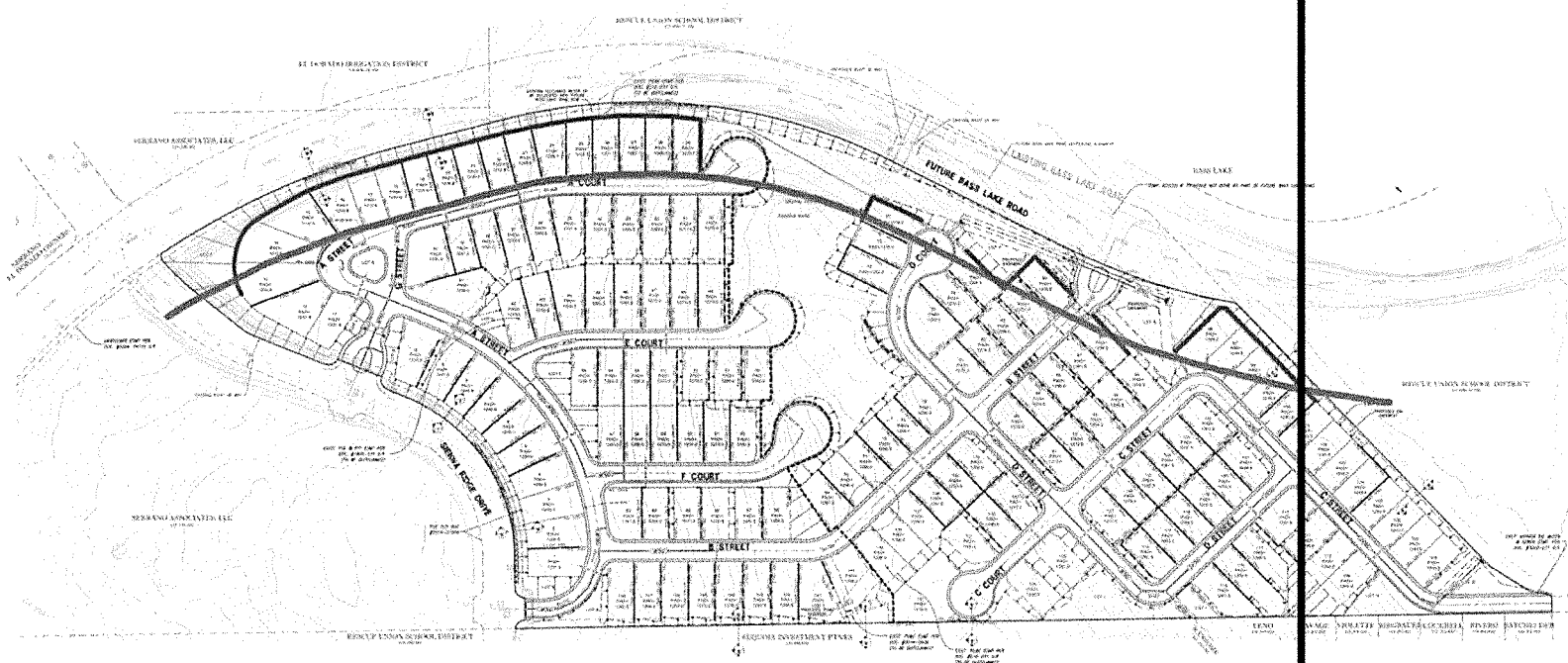
Policy 6.5.1.8 establishes 45 and 60 dB L_{dn} as being acceptable interior and exterior noise levels, respectively, for new residential uses affected by traffic noise sources. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn} or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 dB L_{dn} may be allowed provided that available exterior noise reduction measures have been implemented and interior noise levels are in compliance with the 45 dB L_{dn} standard.

Figure 1



Serrano Village J5 & J6 - El Dorado County, California
Project Area and Traffic Noise Measurement Locations



Figure 2
 Serrano Village J5 & J6 - El Dorado County, California
 Project Site Plan, Recommended Noise Barrier Locations, and 60 dB Ldn Traffic Noise Contour



Legend

-  Future (2035) 60 dB Ldn Traffic Noise Contour
-  Recommended 6-foot Noise Barrier Location

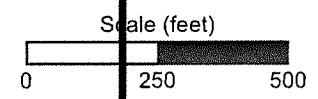


Figure 3
Serrano Village J5 & J6 - El Dorado County, California
Serrano J5 Commercial Center Site Plan

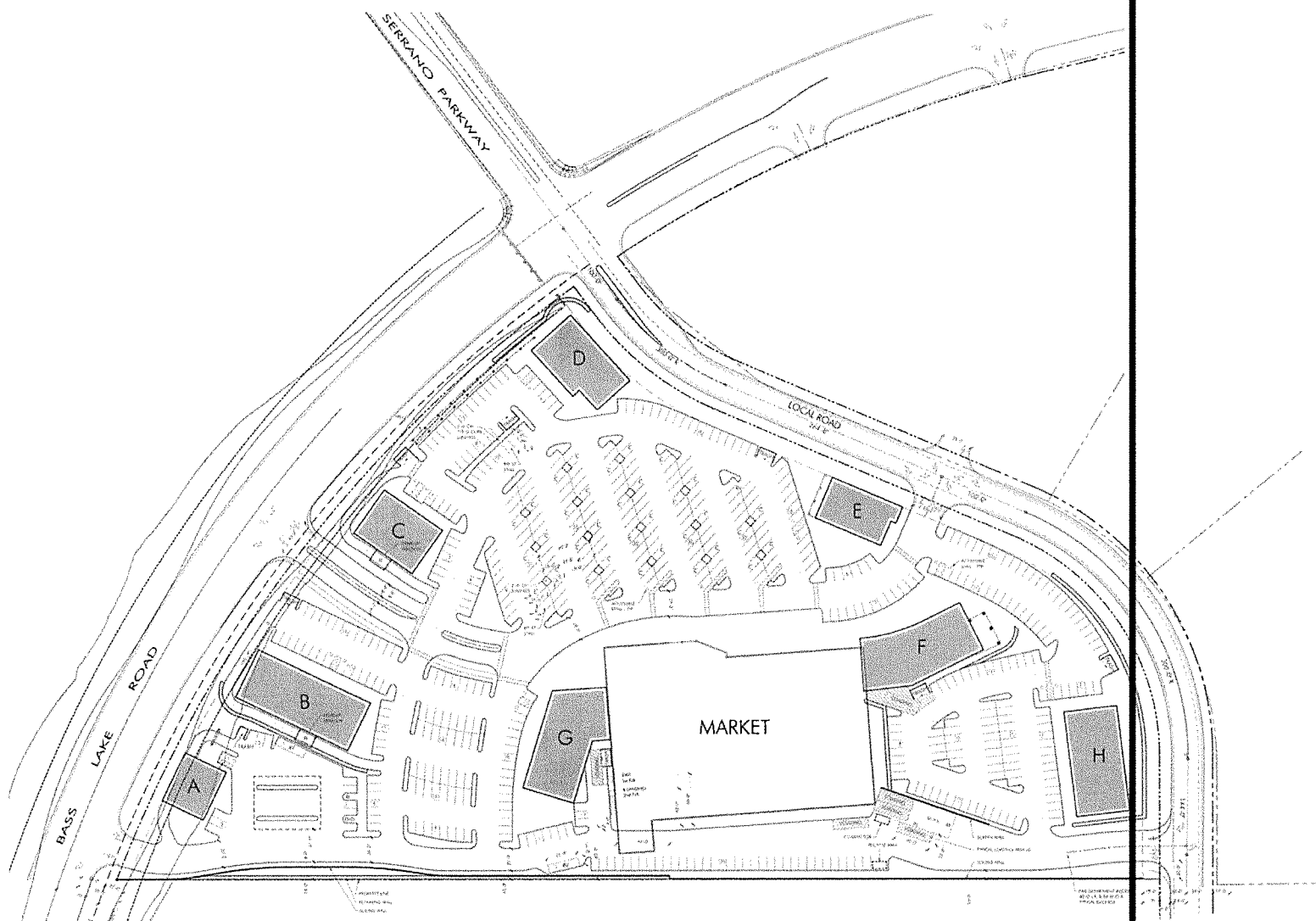


Table 1
Performance Standards for Non-Transportation Noise Sources
El Dorado County Noise Element – Community Areas

| Noise Level Descriptor | Daytime (7 a.m. - 7 p.m.) | Evening (7 p.m. - 10 p.m.) | Nighttime (10 p.m. - 7 a.m.) |
|-------------------------------|--------------------------------------|---------------------------------------|---|
| Hourly L_{eq} , dB | 55 dB | 50 dB | 45 dB |
| Maximum Level, dB | 70 dB | 60 dB | 55 dB |

Note: Each of the noise levels specified above should be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Please refer to Appendix A for definitions of acoustical terminology.

Existing Ambient Noise Environment

The noise environment in the project vicinity is primarily defined by traffic noise emanating from Bass Lake Road. To quantify existing ambient noise levels in the project area, BAC conducted long-term and short-term noise surveys at the locations shown on Figure 1 on August 7-9, 2013. Larson-Davis Laboratories (LDL) 820 precision integrating sound level meters were used to complete the noise level measurement survey. The meters were calibrated before use with a LDL Model CAL200 calibrator to ensure the accuracy of the measurements.

The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4). The noise level measurement results are summarized below in Table 2. The detailed long-term monitoring results conducted at Site A are provided in Appendices B and C.

Table 2
Summary of Ambient Noise Level Measurements
Serrano Village J5 & J6 Residential Development – August 7-9, 2013

| Site | Date | Daytime | | | | Nighttime | | |
|----------------|--------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|
| | | L_{dn} | L_{eq} | L_{50} | L_{max} | L_{eq} | L_{50} | L_{max} |
| 1 ¹ | August 7, 2013 – 2:55 PM | -- | 59 | -- | 71 | -- | -- | -- |
| 2 ¹ | August 7, 2013 – 2:30 PM | -- | 63 | -- | 82 | -- | -- | -- |
| A ² | August 7-8, 2013 | 63 | 59 | 55 | 69-82 | 56 | 40 | 65-75 |
| | August 8-9, 2013 | 63 | 58 | 55 | 68-77 | 56 | 41 | 64-73 |

Notes:

¹ Short-term noise level measurement location, 15 minute duration.

² Long-term noise level measurement location, 48 hour duration.

Source: Bollard Acoustical Consultants, Inc.

Evaluation of Future Bass Lake Road Traffic Noise Levels

Traffic Noise Prediction Methodology

The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) with the Calveno vehicle noise emission curves was used to predict traffic noise levels at the project site.

Traffic Noise Prediction Model Calibration

The FHWA Model provides reasonably accurate traffic noise predictions under “ideal” roadway conditions. Ideal conditions are generally considered to be long straight roadway segments with uniform vehicle speeds, a flat roadway surface, good pavement conditions, a statistically large volume of traffic, and an unimpeded view of the roadway from the receiver location. Such conditions did not appear to be in effect at this project site. As a result, Bollard Acoustical Consultants, Inc. conducted a careful calibration of the FHWA Model through site-specific traffic noise level measurements and concurrent traffic counts.

This calibration process was performed at two locations on the project site on August 7th, 2013. The traffic noise measurement locations, Sites 1 and 2, are shown in Figure 1. The detailed results of this procedure are provided in Appendix D. The FHWA Model was found to reasonably predict traffic noise levels at the measurement site. As a result, no calibration adjustment was applied to the FHWA Model for the prediction of future traffic noise levels at the project site.

Predicted Future Exterior Traffic Noise Levels at Outdoor Activity Areas

The FHWA Model was used with future traffic data to predict future traffic noise levels at the proposed outdoor activity areas of the project residences which are located adjacent to Bass Lake Road. Future traffic volume forecasts for Bass Lake Road were obtained from El Dorado County Traffic Model. The FHWA Model inputs and predicted future traffic noise levels at the project site are shown in Appendix E. The predicted future traffic noise levels are summarized below in Table 3.

Table 3
Predicted Future Traffic Noise Levels at Lots Nearest to Bass Lake Road
Serrano Village J5 & J6 – El Dorado County, California

| Roadway | Predicted L _{dn} (dB) at Proposed Outdoor Activity Areas | | | | | |
|----------------|---|--------|--------|--------|--------|---------|
| | Lot 15 | Lot 23 | Lot 28 | Lot 77 | Lot 96 | Lot 101 |
| Bass Lake Road | 64 | 65 | 65 | 62 | 64 | 58 |

Note: A complete listing of FHWA Model inputs and results are provided in Appendix E.

The Table 2 data indicate that future traffic noise levels within the backyards of the nearest to Bass Lake Road will be exposed to the future traffic noise levels in the County's conditionally acceptable range of 60-65 dB L_{dn}. Because the predicted exterior levels along Bass Lake Road are within this conditionally acceptable range, a more specific analysis of potential noise impacts at the residences located adjacent to Bass Lake Road was prepared.

Traffic Noise Barrier Analysis

An analysis of noise barrier effectiveness was performed for this project and is summarized below in Table 4 for representative backyard areas. Proposed grading plans were reviewed to ensure that proposed site topography was included in the barrier analysis. The detailed results of the noise barrier effectiveness are provided as Appendix F.

Table 4
Barrier Analysis Results
Serrano Village J5 & J6 - El Dorado County, California

| Barrier Height (feet) | Predicted L _{dn} (dB) at Proposed Outdoor Activity Areas | | | | |
|-----------------------|---|--------|--------|--------|--------|
| | Lot 15 | Lot 23 | Lot 28 | Lot 77 | Lot 96 |
| No barrier | 64 | 65 | 65 | 62 | 64 |
| 5 | 56 | 57 | 56 | 53 | 59 |
| 6 | 55 | 56 | 55 | 52 | 58 |
| 7 | 54 | 55 | 54 | 51 | 57 |
| 8 | 53 | 54 | 53 | 50 | 56 |

Note: A complete listing of FHWA Model Noise Barrier Effectiveness inputs and results are provided in Appendix F.

As shown above in Table 4, the barrier analysis results indicate that a 5-foot wall constructed at the locations shown in Figure 2 would be adequate to achieve compliance with the County's exterior noise standard (60 dB L_{dn}).

The model result indicates that a 5-foot tall barrier would be adequate is based on the typical assumption that the receiver is located in the middle of the backyard area. If the receiver is located closer to the house (further from the road), the barrier would be more effective. However, at backyard receiver locations closer to the wall, the wall would be less effective as a standing individual could potentially see the roadway over the top of the barrier. To provide adequate noise attenuation, a solid barrier height of at least 6 feet is recommended.

Interior Noise Levels within Residences Located Adjacent to Bass Lake Road

With construction of the required Bass Lake Road noise barrier, future traffic noise levels are not predicted to exceed 60 dB L_{dn} at the exterior first-floor facades of residences constructed along Bass Lake Road. Due to reduced ground absorption at elevated positions, and lack of shielding by barriers at upper floor areas, second-floor facade exterior noise levels are predicted

to be approximately 67 dB L_{dn}. Based on this level, a building facade noise reduction of 22 dB or less would be required to achieve an interior noise level of 45 dB L_{dn} within second-floor rooms, and 15 dB of noise reduction would be required for first-floor facades.

Standard residential construction (wood siding, STC-26 windows, door weather-stripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of 25 dB with windows closed and approximately 15 dB with windows open. Therefore, standard construction would be acceptable for this project at all residences of this development. Nonetheless, mechanical ventilation should be provided to allow occupants to close doors and windows as desired for acoustical isolation.

Evaluation of Serrano Village J5 Commercial Center Noise Generation

Noise Sources Evaluated

The major noise-producing components of the Serrano Village J5 Commercial Center identified as potentially significant consist of parking lot activity, rooftop mechanical equipment, and loading dock activities. Each of these noise sources are evaluated separately below.

Parking Lot Noise

As a means of determining potential noise exposure due to project parking lot activities, Bollard Acoustical Consultants, Inc. utilized noise level data collected for previous parking lot noise studies. A typical sound exposure level (SEL) due to automobile arrivals/departures, including car doors slamming and people conversing, is approximately 70 dB at a distance of 50 feet. The approximate distance between the center of the nearest proposed parking lot area, located just north of Building F, and the closest residential areas to the northeast, Lots 7 and 8, is 150 feet.

Based on the capacity of the nearest parking lot, it was assumed that 42 cars could enter or leave the parking lot within a worst-case hour. Parking lot noise exposure was determined using the following equation.

$$\text{Peak Hour } L_{eq} = 70 + 10 \cdot \log(N) - 35.6$$

Where 70 is the SEL for a single automobile parking operation, N is the number of parking lot operations in a peak hour, and 35.6 is 10 times the logarithm of the number of seconds in an hour.

Using the equation and operations data described above, the proposed parking lot could be expected to produce a noise exposure of approximately 41 dB Peak Hour L_{eq} at the closest residential property lines. Therefore, noise exposure is expected to comply with the County's noise exposure standards and is not expected to be a significant impact on the closest residents and no mitigation measures are required.

Mechanical Equipment Noise

Heating, ventilating, and air conditioning (HVAC) requirements for this store will likely be met using rooftop mounted systems located atop the building. The units would be shielded from view of neighboring residential uses by intervening building parapets.

BAC reference file data for packaged HVAC systems indicate that a 12.5-ton packaged unit can be expected to generate an A-weighted sound power level of 85 dB. When projected to the nearest residential property lines 175 feet from the equipment location, the resulting levels compute to approximately 35 dB L_{eq} , including 5 dB of shielding provided by the building parapets.

Because the predicted HVAC equipment noise level of 35 dB L_{eq} is below measured existing ambient noise levels in the project vicinity and below County noise standards, no noise impacts are identified for this aspect of the project, and no additional consideration of noise mitigation measures would be warranted.

Truck Delivery and Unloading Noise

According to the commercial site plans shown on Figure 3, the commercial area would have only one truck loading dock, as the smaller stores would load through the front entrance with smaller trucks. The loading dock associated with the Market is approximately 750 feet from the residential project site and would be completely shielded from view of those proposed residences by the intervening market building. Given this distance and shielding, truck unloading operations at the commercial market are predicted to be inaudible at the proposed residential locations, and well below El Dorado County noise standards. As a result, no noise impacts are identified for this aspect of the project, and no additional consideration of noise mitigation measures is warranted.

Conclusions

The residential portion of Serrano Village J5 & J6 project site will be exposed to future Bass Lake Road traffic noise levels in excess of El Dorado County 60 dB L_{dn} exterior noise level standard for new residential developments. The following specific noise mitigation measures are recommended to achieve compliance with the County's noise standards:

- A 6-foot tall barrier would be required to reduce future traffic noise levels to approximately 60 dB L_{dn} in the backyards located adjacent to Bass Lake Road. Figure 2 shows the recommended locations of the noise barrier.
- Suitable materials for the traffic noise barriers include masonry and precast concrete panels. Other materials may be acceptable but should be reviewed by an acoustical consultant prior to use.
- Mechanical ventilation (air conditioning) should be provided for all residences in this development to allow the occupants to close doors and windows as desired to achieve compliance with the applicable interior noise level criteria.

These conclusions are based on the Bass Lake Road traffic assumptions cited in Appendix E and on noise reduction data for standard residential dwellings. Deviations from the Appendix E data, or the project site plan shown in Figure 2, could cause future traffic noise levels to differ from those predicted in this analysis. In addition, Bollard Acoustical Consultants, Inc. is not responsible for degradation in acoustic performance of the residential construction due to poor construction practices, failure to comply with applicable building code requirements, or for failure to adhere to the minimum building practices cited in this report.

Appendix A
Acoustical Terminology

| | |
|-----------------------------|---|
| Acoustics | The science of sound. |
| Ambient Noise | The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study. |
| Attenuation | The reduction of an acoustic signal. |
| A-weighting | A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response. |
| Decibel or dB | Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell. |
| CNEL | Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging. |
| Frequency | The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz. |
| L_{dn} | Day/Night Average Sound Level. Similar to CNEL but with no evening weighting. |
| Leq | Equivalent or energy-averaged sound level. |
| L_{max} | The highest root-mean-square (RMS) sound level measured over a given period of time. |
| Loudness | A subjective term for the sensation of the magnitude of sound. |
| Masking | The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound. |
| Noise | Unwanted sound. |
| Peak Noise | The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level. |
| RT₆₀ | The time it takes reverberant sound to decay by 60 dB once the source has been removed. |
| Sabin | The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin. |
| SEL | A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period. |
| Threshold of Hearing | The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing. |
| Threshold of Pain | Approximately 120 dB above the threshold of hearing. |



Appendix B-1
Serrano Village J5 & J6
24hr Continuous Noise Monitoring at Site A
August 7-8, 2013

| Hour | Leq | Lmax | L50 | L90 |
|-------|-----|------|-----|-----|
| 15:00 | 57 | 69 | 55 | 43 |
| 16:00 | 58 | 70 | 57 | 45 |
| 17:00 | 60 | 75 | 58 | 51 |
| 18:00 | 60 | 70 | 58 | 48 |
| 19:00 | 59 | 76 | 57 | 46 |
| 20:00 | 58 | 69 | 57 | 46 |
| 21:00 | 57 | 72 | 55 | 40 |
| 22:00 | 56 | 73 | 48 | 34 |
| 23:00 | 53 | 68 | 41 | 31 |
| 0:00 | 52 | 67 | 35 | 29 |
| 1:00 | 49 | 67 | 31 | 27 |
| 2:00 | 45 | 65 | 28 | 25 |
| 3:00 | 49 | 66 | 30 | 26 |
| 4:00 | 53 | 69 | 34 | 28 |
| 5:00 | 59 | 75 | 54 | 37 |
| 6:00 | 62 | 75 | 60 | 47 |
| 7:00 | 62 | 75 | 61 | 52 |
| 8:00 | 61 | 73 | 58 | 48 |
| 9:00 | 58 | 76 | 53 | 43 |
| 10:00 | 57 | 81 | 51 | 41 |
| 11:00 | 57 | 76 | 53 | 42 |
| 12:00 | 56 | 69 | 51 | 40 |
| 13:00 | 57 | 78 | 52 | 42 |
| 14:00 | 56 | 72 | 51 | 41 |

| | Statistical Summary | | | | | |
|------------------|----------------------------|------|---------|------------------------------|------|---------|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 62.3 | 55.5 | 58.6 | 61.7 | 45.4 | 55.8 |
| Lmax (Maximum) | 81.5 | 68.7 | 73.4 | 75.1 | 65.2 | 69.4 |
| L50 (Median) | 61.2 | 50.9 | 55.2 | 60.4 | 27.8 | 40.2 |
| L90 (Background) | 51.9 | 40.0 | 44.6 | 47.1 | 25.3 | 31.6 |

| | |
|--------------------|------|
| Computed Ldn, dB | 62.7 |
| % Daytime Energy | 76% |
| % Nighttime Energy | 24% |

Appendix B-2
 Serrano Village J5 & J6
 24hr Continuous Noise Monitoring at Site A
 August 8-9, 2013

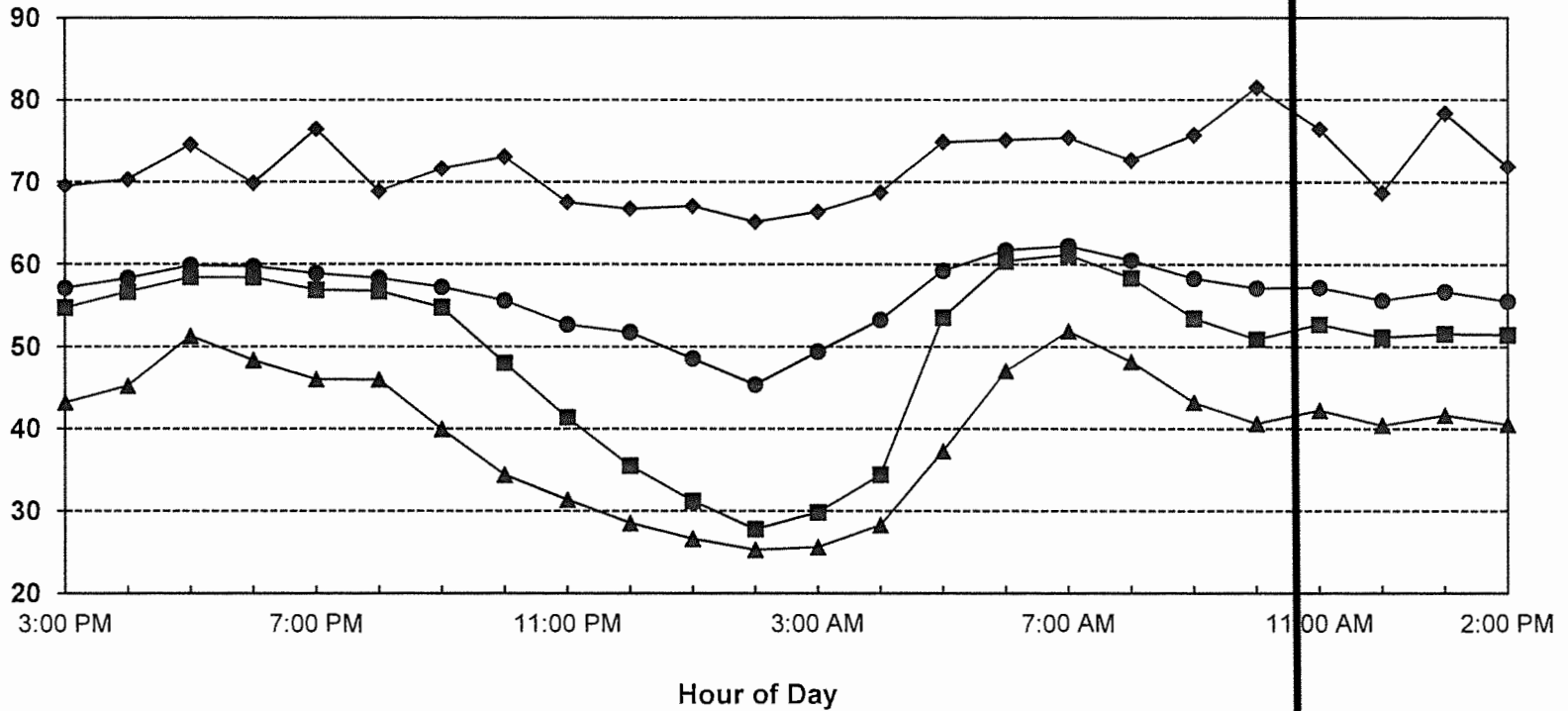
| Hour | Leq | Lmax | L50 | L90 |
|-------|-----|------|-----|-----|
| 15:00 | 56 | 71 | 53 | 43 |
| 16:00 | 57 | 77 | 55 | 45 |
| 17:00 | 58 | 70 | 56 | 47 |
| 18:00 | 58 | 69 | 56 | 45 |
| 19:00 | 58 | 72 | 56 | 45 |
| 20:00 | 57 | 68 | 56 | 44 |
| 21:00 | 58 | 69 | 56 | 47 |
| 22:00 | 54 | 68 | 48 | 33 |
| 23:00 | 53 | 67 | 42 | 32 |
| 0:00 | 51 | 68 | 39 | 31 |
| 1:00 | 51 | 70 | 34 | 27 |
| 2:00 | 47 | 64 | 28 | 25 |
| 3:00 | 45 | 66 | 29 | 26 |
| 4:00 | 53 | 73 | 35 | 30 |
| 5:00 | 58 | 73 | 51 | 39 |
| 6:00 | 62 | 73 | 61 | 47 |
| 7:00 | 63 | 74 | 62 | 53 |
| 8:00 | 61 | 75 | 59 | 49 |
| 9:00 | 58 | 71 | 54 | 43 |
| 10:00 | 57 | 72 | 52 | 41 |
| 11:00 | 57 | 76 | 51 | 39 |
| 12:00 | 57 | 72 | 52 | 38 |
| 13:00 | 57 | 76 | 52 | 40 |
| 14:00 | 57 | 72 | 54 | 43 |

| | Statistical Summary | | | | | |
|------------------|----------------------------|------|---------|------------------------------|------|---------|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 63.0 | 56.2 | 58.3 | 62.2 | 45.1 | 55.7 |
| Lmax (Maximum) | 76.5 | 68.3 | 72.3 | 73.4 | 64.1 | 69.0 |
| L50 (Median) | 62.1 | 51.1 | 55.0 | 60.5 | 28.4 | 40.7 |
| L90 (Background) | 52.6 | 38.5 | 44.1 | 46.8 | 25.2 | 32.0 |

| | |
|--------------------|------|
| Computed Ldn, dB | 62.6 |
| % Daytime Energy | 75% |
| % Nighttime Energy | 25% |

Appendix C-1
Serrano Village J5 & J6
24hr Continuous Noise Monitoring at Site A
August 7-8, 2013

Sound Level, dBA

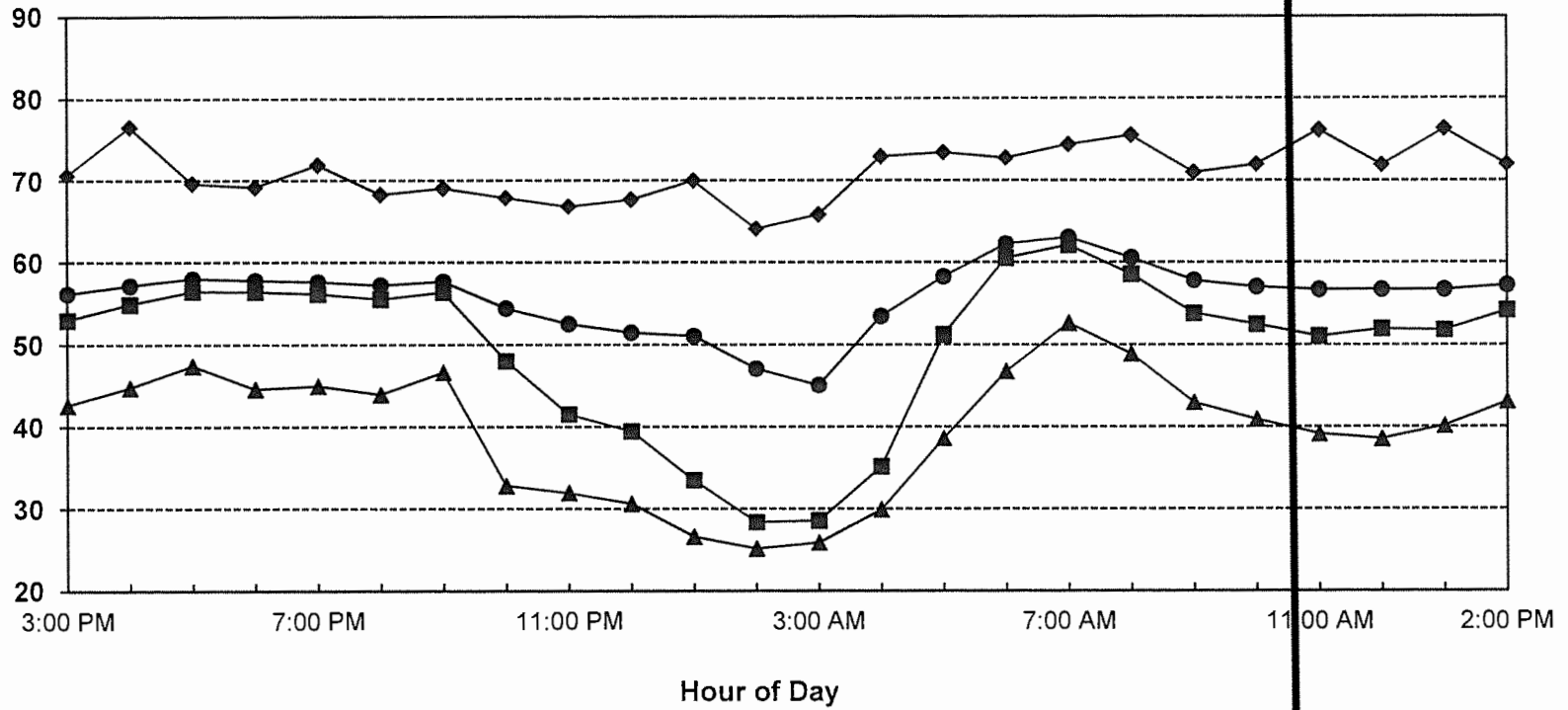


● Average (Leq)
 ◆ Maximum (Lmax)
 ■ L50
 ▲ L90

Ldn: 63 dBA

Appendix C-2
Serrano Village J5 & J6
24hr Continuous Noise Monitoring at Site A
August 8-9, 2013

Sound Level, dBA



● Average (Leq) ◆ Maximum (Lmax) ■ L50 ▲ L90

Ldn: 63 dB

Appendix D-1
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Calibration Worksheet

Project Information: Job Number: 2013-070
Project Name: Serrano Villages J5 & J6
Roadway Tested: Bass Lake Road
Test Location: Site 1
Test Date: August 7, 2013

Weather Conditions: Temperature (Fahrenheit): 85
Relative Humidity: Moderate
Wind Speed and Direction: Calm
Cloud Cover: Clear

Sound Level Meter: Sound Level Meter: LDL Model 820
Calibrator: LDL Model CAL200
Meter Calibrated: Immediately before
Meter Settings: A-weighted, slow response

Microphone: Microphone Location: On project site
Distance to Centerline (feet): 80
Microphone Height: 5 feet above ground
Intervening Ground (Hard or Soft): **Soft**
Elevation Relative to Road (feet): 5

Roadway Condition: Pavement Type Asphalt
Pavement Condition: Good
Number of Lanes: 2
Posted Maximum Speed (mph): 50

Test Parameters: Test Time: 2:55 PM
Test Duration (minutes): 15
Observed Number Automobiles: 138
Observed Number Medium Trucks: 2
Observed Number Heavy Trucks: 0
Observed Average Speed (mph): 40

Model Calibration: Measured Average Level (L_{eq}): 59.1
Level Predicted by FHWA Model: 59.6
Difference: 0.5 dB

Conclusions:

Appendix D-2
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Calibration Worksheet

Project Information: Job Number: 2013-070
Project Name: Serrano Villages J5 & J6
Roadway Tested: Bass Lake Road
Test Location: Site 2
Test Date: August 7, 2013

Weather Conditions: Temperature (Fahrenheit): 85
Relative Humidity: Moderate
Wind Speed and Direction: Calm
Cloud Cover: Clear

Sound Level Meter: Sound Level Meter: LDL Model 820
Calibrator: LDL Model CAL200
Meter Calibrated: Immediately before
Meter Settings: A-weighted, slow response

Microphone: Microphone Location: On project site
Distance to Centerline (feet): 50
Microphone Height: 5 feet above ground
Intervening Ground (Hard or Soft): **Soft**
Elevation Relative to Road (feet): 5

Roadway Condition: Pavement Type Asphalt
Pavement Condition: Good
Number of Lanes: 2
Posted Maximum Speed (mph): 50

Test Parameters: Test Time: 2:30 PM
Test Duration (minutes): 15
Observed Number Automobiles: 74
Observed Number Medium Trucks: 2
Observed Number Heavy Trucks: 0
Observed Average Speed (mph): 50

Model Calibration: Measured Average Level (L_{eq}): 62.9
Level Predicted by FHWA Model: 63.0
Difference: 0.1 dB

Conclusions:

**Appendix E
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet**

Project Information:

Job Number: 2013-070
Project Name: Serrano Villages J5 & J6
Roadway Name: Bass Lake Road

Traffic Data:

Year: 2035
Average Daily Traffic Volume: 7,900
Percent Daytime Traffic: 76
Percent Nighttime Traffic: 24
Percent Medium Trucks (2 axle): 2
Percent Heavy Trucks (3+ axle): 1
Assumed Vehicle Speed (mph): 50
Intervening Ground Type (hard/soft): **Soft**

Traffic Noise Levels:

| Location: | Description | Distance | Offset (dB) | -----L _{dn} , dB----- | | | Total |
|-----------|-------------|----------|-------------|--------------------------------|---------------|--------------|-------|
| | | | | Autos | Medium Trucks | Heavy Trucks | |
| 1 | Lot 15 | 95 | 0 | 63 | 54 | 55 | 64 |
| 2 | Lot 23 | 90 | 0 | 64 | 55 | 56 | 65 |
| 3 | Lot 28 | 90 | 0 | 64 | 55 | 56 | 65 |
| 4 | Lot 77 | 140 | 0 | 61 | 52 | 53 | 62 |
| 5 | Lot 96 | 95 | 0 | 63 | 54 | 55 | 64 |
| 6 | Lot 101 | 245 | 0 | 57 | 48 | 49 | 58 |

Traffic Noise Contours (No Calibration Offset):

| L _{dn} Contour, dB | Distance from Centerline, (ft) |
|-----------------------------|--------------------------------|
| 75 | 19 |
| 70 | 41 |
| 65 | 87 |
| 60 | 188 |

Appendix F-1
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 2013-070
 Project Name: Serrano Villages J5 & J6
 Roadway Name: Bass Lake Road
 Location(s): Lot 15

Noise Level Data: Year: 2035
 Auto L_{dn} , dB: 63
 Medium Truck L_{dn} , dB: 54
 Heavy Truck L_{dn} , dB: 55

Site Geometry: Receiver Description: Lot 15
 Centerline to Barrier Distance (C_1): 80
 Barrier to Receiver Distance (C_2): 15
 Automobile Elevation: 1216
 Medium Truck Elevation: 1218
 Heavy Truck Elevation: 1224
 Pad/Ground Elevation at Receiver: 1234
 Receiver Elevation¹: 1239
 Base of Barrier Elevation: 1234
 Starting Barrier Height 5

Barrier Effectiveness:

| Top of Barrier Elevation (ft) | Barrier Height ² (ft) | ----- L_{dn} , dB ----- | | | | Barrier Breaks Line of Sight to... | | |
|-------------------------------|----------------------------------|---------------------------|---------------|--------------|-------|------------------------------------|----------------|---------------|
| | | Autos | Medium Trucks | Heavy Trucks | Total | Autos? | Medium Trucks? | Heavy Trucks? |
| 1239 | 5 | 55 | 46 | 49 | 56 | Yes | Yes | Yes |
| 1240 | 6 | 54 | 45 | 47 | 55 | Yes | Yes | Yes |
| 1241 | 7 | 53 | 44 | 46 | 54 | Yes | Yes | Yes |
| 1242 | 8 | 52 | 43 | 45 | 53 | Yes | Yes | Yes |
| 1243 | 9 | 51 | 42 | 44 | 52 | Yes | Yes | Yes |
| 1244 | 10 | 50 | 41 | 43 | 51 | Yes | Yes | Yes |
| 1245 | 11 | 49 | 40 | 42 | 51 | Yes | Yes | Yes |
| 1246 | 12 | 49 | 40 | 42 | 50 | Yes | Yes | Yes |
| 1247 | 13 | 49 | 40 | 41 | 50 | Yes | Yes | Yes |

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix F-2
 FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
 Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 2013-070
 Project Name: Serrano Villages J5 & J6
 Roadway Name: Bass Lake Road
 Location(s): Lot 23

Noise Level Data: Year: 2035
 Auto L_{dn} , dB: 64
 Medium Truck L_{dn} , dB: 55
 Heavy Truck L_{dn} , dB: 56

Site Geometry: Receiver Description: Lot 23
 Centerline to Barrier Distance (C_1): 75
 Barrier to Receiver Distance (C_2): 15
 Automobile Elevation: 1237
 Medium Truck Elevation: 1239
 Heavy Truck Elevation: 1245
 Pad/Ground Elevation at Receiver: 1251
 Receiver Elevation¹: 1256
 Base of Barrier Elevation: 1251
 Starting Barrier Height 5

Barrier Effectiveness:

| Top of Barrier Elevation (ft) | Barrier Height ² (ft) | ----- L_{dn} , dB ----- | | | | Barrier Breaks Line of Sight to... | | |
|-------------------------------------|-------------------------------------|---------------------------|------------------|-----------------|-------|------------------------------------|-------------------|------------------|
| | | Autos | Medium Trucks | Heavy Trucks | Total | Autos? | Medium Trucks? | Heavy Trucks? |
| 1256 | 5 | 56 | 47 | 50 | 57 | Yes | Yes | Yes |
| 1257 | 6 | 55 | 46 | 48 | 56 | Yes | Yes | Yes |
| 1258 | 7 | 53 | 45 | 47 | 55 | Yes | Yes | Yes |
| 1259 | 8 | 53 | 44 | 46 | 54 | Yes | Yes | Yes |
| 1260 | 9 | 52 | 43 | 45 | 53 | Yes | Yes | Yes |
| 1261 | 10 | 51 | 42 | 44 | 52 | Yes | Yes | Yes |
| 1262 | 11 | 50 | 41 | 43 | 51 | Yes | Yes | Yes |
| 1263 | 12 | 49 | 40 | 42 | 51 | Yes | Yes | Yes |
| 1264 | 13 | 49 | 40 | 42 | 50 | Yes | Yes | Yes |

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix F-3
 FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
 Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 2013-070
 Project Name: Serrano Villages J5 & J6
 Roadway Name: Bass Lake Road
 Location(s): Lot 28

Noise Level Data: Year: 2035
 Auto L_{dn}, dB: 64
 Medium Truck L_{dn}, dB: 55
 Heavy Truck L_{dn}, dB: 56

Site Geometry: Receiver Description: Lot 28
 Centerline to Barrier Distance (C₁): 75
 Barrier to Receiver Distance (C₂): 15
 Automobile Elevation: 1250
 Medium Truck Elevation: 1252
 Heavy Truck Elevation: 1258
 Pad/Ground Elevation at Receiver: 1268
 Receiver Elevation¹: 1273
 Base of Barrier Elevation: 1268
 Starting Barrier Height 5

Barrier Effectiveness:

| Top of Barrier Elevation (ft) | Barrier Height ² (ft) | ----- L _{dn} , dB ----- | | | | Barrier Breaks Line of Sight to... | | |
|-------------------------------------|-------------------------------------|----------------------------------|------------------|-----------------|-------|------------------------------------|-------------------|------------------|
| | | Autos | Medium Trucks | Heavy Trucks | Total | Autos? | Medium Trucks? | Heavy Trucks? |
| 1273 | 5 | 55 | 46 | 49 | 56 | Yes | Yes | Yes |
| 1274 | 6 | 54 | 45 | 47 | 55 | Yes | Yes | Yes |
| 1275 | 7 | 53 | 44 | 46 | 54 | Yes | Yes | Yes |
| 1276 | 8 | 52 | 43 | 45 | 53 | Yes | Yes | Yes |
| 1277 | 9 | 51 | 42 | 44 | 52 | Yes | Yes | Yes |
| 1278 | 10 | 50 | 41 | 43 | 51 | Yes | Yes | Yes |
| 1279 | 11 | 50 | 41 | 42 | 51 | Yes | Yes | Yes |
| 1280 | 12 | 49 | 40 | 42 | 50 | Yes | Yes | Yes |
| 1281 | 13 | 48 | 40 | 41 | 50 | Yes | Yes | Yes |

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix F-4
 FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
 Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 2013-070
 Project Name: Serrano Villages J5 & J6
 Roadway Name: Bass Lake Road
 Location(s): Lot 77

Noise Level Data: Year: 2035
 Auto L_{dn} , dB: 61
 Medium Truck L_{dn} , dB: 52
 Heavy Truck L_{dn} , dB: 53

Site Geometry: Receiver Description: Lot 77
 Centerline to Barrier Distance (C_1): 125
 Barrier to Receiver Distance (C_2): 15
 Automobile Elevation: 1251
 Medium Truck Elevation: 1253
 Heavy Truck Elevation: 1259
 Pad/Ground Elevation at Receiver: 1285
 Receiver Elevation¹: 1290
 Base of Barrier Elevation: 1285
 Starting Barrier Height 5

Barrier Effectiveness:

| Top of Barrier Elevation (ft) | Barrier Height ² (ft) | ----- L_{dn} , dB ----- | | | | Barrier Breaks Line of Sight to... | | |
|-------------------------------|----------------------------------|---------------------------|---------------|--------------|-------|------------------------------------|----------------|---------------|
| | | Autos | Medium Trucks | Heavy Trucks | Total | Autos? | Medium Trucks? | Heavy Trucks? |
| 1290 | 5 | 52 | 43 | 45 | 53 | Yes | Yes | Yes |
| 1291 | 6 | 51 | 42 | 44 | 52 | Yes | Yes | Yes |
| 1292 | 7 | 50 | 41 | 43 | 51 | Yes | Yes | Yes |
| 1293 | 8 | 49 | 40 | 42 | 50 | Yes | Yes | Yes |
| 1294 | 9 | 48 | 39 | 41 | 49 | Yes | Yes | Yes |
| 1295 | 10 | 47 | 38 | 40 | 49 | Yes | Yes | Yes |
| 1296 | 11 | 47 | 38 | 39 | 48 | Yes | Yes | Yes |
| 1297 | 12 | 46 | 37 | 39 | 47 | Yes | Yes | Yes |
| 1298 | 13 | 46 | 37 | 38 | 47 | Yes | Yes | Yes |

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

**Appendix F-5
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet**

Project Information: Job Number: 2013-070
Project Name: Serrano Villages J5 & J6
Roadway Name: Bass Lake Road
Location(s): Lot 96

Noise Level Data: Year: 2035
Auto L_{dn} , dB: 63
Medium Truck L_{dn} , dB: 54
Heavy Truck L_{dn} , dB: 55

Site Geometry: Receiver Description: Lot 96
Centerline to Barrier Distance (C_1): 80
Barrier to Receiver Distance (C_2): 15
Automobile Elevation: 1240
Medium Truck Elevation: 1242
Heavy Truck Elevation: 1248
Pad/Ground Elevation at Receiver: 1243
Receiver Elevation¹: 1248
Base of Barrier Elevation: 1243
Starting Barrier Height 5

Barrier Effectiveness:

| Top of Barrier Elevation (ft) | Barrier Height ² (ft) | ----- L_{dn} , dB ----- | | | | Barrier Breaks Line of Sight to... | | |
|-------------------------------|----------------------------------|---------------------------|---------------|--------------|-------|------------------------------------|----------------|---------------|
| | | Autos | Medium Trucks | Heavy Trucks | Total | Autos? | Medium Trucks? | Heavy Trucks? |
| 1248 | 5 | 58 | 49 | 50 | 59 | Yes | Yes | No |
| 1249 | 6 | 57 | 48 | 50 | 58 | Yes | Yes | Yes |
| 1250 | 7 | 55 | 47 | 49 | 57 | Yes | Yes | Yes |
| 1251 | 8 | 54 | 45 | 48 | 56 | Yes | Yes | Yes |
| 1252 | 9 | 53 | 44 | 46 | 54 | Yes | Yes | Yes |
| 1253 | 10 | 52 | 43 | 45 | 54 | Yes | Yes | Yes |
| 1254 | 11 | 51 | 42 | 44 | 53 | Yes | Yes | Yes |
| 1255 | 12 | 50 | 41 | 43 | 52 | Yes | Yes | Yes |
| 1256 | 13 | 50 | 41 | 43 | 51 | Yes | Yes | Yes |

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

El Dorado Hills Specific Plan

Actual Scenario

Table 1: Summary of Residential Use by Development Neighborhood
January 2017 (includes pending applications for Serrano Village A14, D1 Lots C & D, and J5/J6)

| | Specific Plan | | | Actual ⁽¹⁾ | | | (Reduction) / Increase from Specific Plan | | |
|------------------------|----------------|--------------------------|---|-----------------------|--------------------------|---------------------|---|--------------------------|--|
| | (a) | (b) | (c) | (d) | (e) | (f) | (d) - (a) | (e) - (b) | (f) - (c) |
| | Dwelling Units | Net Acres ⁽²⁾ | Net D.U./ac | Dwelling Units | Net Acres ⁽²⁾ | Net D.U./ac | Dwelling Units | Net Acres ⁽²⁾ | Net D.U./ac |
| NORTH UPLANDS | | | | | | | | | |
| Village H | 362 | 160 | | 267 | 213 | | (95) | 53 | |
| Village I | 699 | 134 | | 218 | 147 | | (481) | 13 | |
| Village J | 342 | 117 | | 483 | 150 | | 141 | 33 | |
| Village K | 458 | 236 | | 671 | 338 | | 213 | 102 | |
| Village L | 56 | 25 | | 110 | 68 | | 54 | 43 | |
| Village M | 37 | 148 | | 168 | 162 | | 131 | 14 | |
| | <u>1,954</u> | <u>820</u> | <u>2.38</u> | <u>1,917</u> | <u>1,077</u> | <u>1.78</u> | <u>(37)</u> | <u>257</u> | <u>(0.60)</u> |
| SOUTH UPLANDS | | | | | | | | | |
| Village C | 482 | 252 | | 427 | 162 | | (55) | (90) | |
| Village E | 282 | 109 | | 696 | 190 | | 414 | 81 | |
| Village F | 553 | 107 | | 257 | 74 | | (296) | (33) | |
| Village G | 905 | 192 | | 199 | 66 | | (706) | (126) | |
| | <u>2,222</u> | <u>660</u> | <u>3.37</u> | <u>1,579</u> | <u>493</u> | <u>3.20</u> | <u>(643)</u> | <u>(167)</u> | <u>(0.16)</u> |
| VALLEY | | | | | | | | | |
| Village A | 606 | 151 | | 376 | 117 | | (230) | (34) | |
| Village B | 212 | 53 | | 196 | 50 | | (16) | (3) | |
| Village D | 1,051 | 250 | | 787 | 266 | | (264) | 16 | |
| Village P (by others) | 90 | 53 | | 0 | 0 | | (90) | (53) | |
| Village Q (by others) | 27 | 27 | | 0 | 0 | | (27) | (27) | |
| Village V (by others) | 0 | 7 | | 0 | 0 | | 0 | (7) | |
| | <u>1,986</u> | <u>541</u> | <u>3.67</u> | <u>1,359</u> | <u>434</u> | <u>3.13</u> | <u>(627)</u> | <u>(107)</u> | <u>(0.54)</u> |
| | <u>6,162</u> | <u>2,021</u> | <u>3.05</u> * | <u>4,855</u> | <u>2,003</u> | <u>2.42</u> ** | <u>(1,307)</u> | <u>(18)</u> | <u>(0.63)</u> |
| | | | * NET DENSITY (Specific Plan Area) | | | | | | ** NET DENSITY (Actual - Serrano Portion) |
| MISCELLANEOUS | | | | | | | | | |
| Village T (by others) | | 126 | | 126 | | (assumes no change) | | 0 | |
| Village U (by others) | | 130 | | 130 | | (assumes no change) | | 0 | |
| | | <u>256</u> | | <u>256</u> | | | | | |
| MISCELLANEOUS | | | | | | | | | |
| Village J (Commercial) | | 45 | | 12 ^[3] | | | | (33) | |
| Village Green | | 27 | | 27 | | | | 0 | |
| Village R (by others) | | 157 | | 157 | | (assumes no change) | | 0 | |
| Village W (by others) | | 13 | | 13 | | (assumes no change) | | 0 | |
| Circulation | | 139 | | 139 | | (assumes no change) | | 0 | |
| Schools | | 60 | | 48 ^[4] | | | | (12) | |
| Golf Course | | 370 | | 189 ^[5] | | | | (181) | |
| Open Space | | 808 | | 989 ^[6] | | | | 181 | |
| | | <u>3,896</u> | <u>1.58</u> | <u>3,833</u> | <u>1.27</u> | | | | |
| | | | Gross Density | | | Gross Density | | | |

[1] Serrano portion only, as developed, mapped, and planned.

[2] Defined by the Specific Plan as the number of acres excluding open space, major circulation routes, and school sites.

[3] Village J5 Phase 1

[4] Includes Oak Meadow School, Silva Valley School, and Rolling Hills School. Rescue Union is pursuing a school site outside the Serrano boundary.

[5] In April 2000, the Planning Commission voted to approve abandonment of the 2nd golf course described in the Specific Plan in favor of open space accessible to the public.

[6] Minimum required open space acreage as a result abandonment of 2nd golf course. 1,178 total Golf Course and Open Space acres, less 189 ac for Golf Course, equals 989 ac.

APPROVED
EL DORADO COUNTY
PLANNING COMMISSION
 Board of Supervisors
 DATE June 27, 2017
 BY Roger Trout
 EXECUTIVE SECRETARY