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# Appendix D

## Noise



# **APPENDIX D-1**

*Field Noise Measurement Data Sheets*



# FIELD NOISE MEASUREMENT DATA

**DUDEK**

|                                 |                               |
|---------------------------------|-------------------------------|
| PROJECT <u>RCCD SOLAR PLANT</u> | PROJECT # <u>14415</u>        |
| SITE ID _____                   | OBSERVER(S) <u>PETE VITAR</u> |
| SITE ADDRESS _____              |                               |
| START DATE <u>7/13/22</u>       | END DATE <u>7/13/22</u>       |
| START TIME _____                | END TIME _____                |

|  |                           |                |                            |                  |                |            |                 |                  |                        |
|--|---------------------------|----------------|----------------------------|------------------|----------------|------------|-----------------|------------------|------------------------|
| METEOROLOGICAL CONDITIONS  |                           |                |                            |                  |                |            |                 |                  |                        |
| TEMP   | <u>89</u> F               | HUMIDITY       | <u>35</u> % R.H.           | WIND             | CALM           | LIGHT      | <u>MODERATE</u> |                  |                        |
| WINDSPD  | <u>12</u> MPH             | DIR.           | <u>N NE S SE S SW W NW</u> |                  | VARIABLE       | STEADY     | GUSTY           |                  |                        |
| SKY  | <u>SUNNY</u> <u>CLEAR</u> | OVCRAST        | <u>PRTY CLDY</u>           | FOG              | RAIN           |            |                 |                  |                        |
| ACOUSTIC MEASUREMENTS  |                           |                |                            |                  |                |            |                 |                  |                        |
| MEAS. INSTRUMENT   | <u>Piccolo SLM-P3</u>     |                |                            | TYPE             | <u>1</u>       | 2          | SERIAL #        | <u>130927096</u> |                        |
| CALIBRATOR   | <u>REED R8090</u>         |                |                            |                  |                |            | SERIAL #        | -                |                        |
| CALIBRATION CHECK  | <u>PRE-TEST</u>           | <u>DBA SPL</u> |                            | <u>POST-TEST</u> | <u>DBA SPL</u> | WINDSCREEN | <u>YES</u>      |                  |                        |
| SETTINGS   |                           |                |                            |                  |                |            |                 |                  |                        |
|  | <u>A-WTD</u>              | <u>SLOW</u>    | FAST                       | FRONTAL          | RANDOM         | ANSI       | OTHER:          |                  |                        |
| REC. #   | BEGIN                     | END            | Leq                        | Lmax             | Lmin           | L90        | L50             | L10              | OTHER (SPECIFY METRIC) |
| <u>ST1</u> <u>97-112</u>   | <u>14:51</u>              | <u>15:06</u>   |                            |                  |                |            |                 |                  |                        |
| _____  | _____                     | _____          | _____                      | _____            | _____          | _____      | _____           | _____            | _____                  |
| _____  | _____                     | _____          | _____                      | _____            | _____          | _____      | _____           | _____            | _____                  |
| COMMENTS   |                           |                |                            |                  |                |            |                 |                  |                        |
| <u>READING TAKEN AT NORTH END OF GARDEN AT NORCO SENIOR CENTER (2690 Clark Ave);</u> |                           |                |                            |                  |                |            |                 |                  |                        |

|   |           |       |       |                                 |          |                     |            |        |       |       |  |
|---|-----------|-------|-------|---------------------------------|----------|---------------------|------------|--------|-------|-------|--|
| SOURCE INFO AND TRAFFIC COUNTS  |           |       |       |                                 |          |                     |            |        |       |       |  |
| PRIMARY NOISE SOURCE  |           |       |       | TRAFFIC                         | AIRCRAFT | RAIL                | INDUSTRIAL | OTHER: |       |       |  |
| ROADWAY TYPE: <u>N/A</u>  |           |       |       | DIST. TO RDWY C/L OR EOP: _____ |          |                     |            |        |       |       |  |
| TRAFFIC COUNT DURATION: _____   |           | MIN   | SPEED |                                 | MIN      |                     | SPEED      |        |       |       |  |
| COUNT 1 (OR RDWY 1)   | DIRECTION | NB/EB | SB/WB | NB/EB                           | SB/WB    | COUNT 2 (OR RDWY 2) | NB/EB      | SB/WB  | NB/EB | SB/WB |  |
|   | AUTOS     |       |       |                                 |          |                     |            |        |       |       |  |
|   | MED TRKS  |       |       |                                 |          |                     |            |        |       |       |  |
|   | HVY TRKS  |       |       |                                 |          |                     |            |        |       |       |  |
|   | BUSES     |       |       |                                 |          |                     |            |        |       |       |  |
|   | MOTOCLS   |       |       |                                 |          |                     |            |        |       |       |  |
| SPEEDS ESTIMATED BY: <u>RADAR / DRIVING THE FACE</u>  |           |       |       |                                 |          |                     |            |        |       |       |  |
| POSTED SPEED LIMIT SIGNS SAY: _____   |           |       |       |                                 |          |                     |            |        |       |       |  |
| OTHER NOISE SOURCES (BACKGROUND):   |           |       |       |                                 |          |                     |            |        |       |       |  |
| DIST. AIRCRAFT <u>POSSIBLE</u> <u>RUSTLING LEAVES</u> DIST. BARKING DOGS <u>BIRDS</u> DIST. INDUSTRIAL            |           |       |       |                                 |          |                     |            |        |       |       |  |
| DIST. KIDS PLAYING DIST. CONCRETES / YELLING DIST. TRAFFIC (JUST RDWYS BELOW) DIST. GARDENERS / LANDSCAPING NOISE |           |       |       |                                 |          |                     |            |        |       |       |  |
| OTHER: <u>DISTANT LOW HUM FROM AIRCRAFT COOLING UNITS AT NORCO</u><br><u>LIST FACILITIES TO THE NORTH</u>         |           |       |       |                                 |          |                     |            |        |       |       |  |

|                         |                         |             |              |             |              |
|-------------------------|-------------------------|-------------|--------------|-------------|--------------|
| DESCRIPTION / SKETCH    |                         |             |              |             |              |
| TERRAIN                 | <u>HARD</u>             | <u>SOFT</u> | <u>MIXED</u> | <u>FLAT</u> | OTHER: _____ |
| PHOTOS                  | <u>4668; 4669; 4670</u> |             |              |             |              |
| OTHER COMMENTS / SKETCH |                         |             |              |             |              |
|                         |                         |             |              |             |              |



ST1

| Rec 97 to 112   | Slow Response | dBA weighting |      | 2.0 dB resc |      |
|-----------------|---------------|---------------|------|-------------|------|
| Date hh:mm:ss   | LeqPeriod Leq | SEL           | Lmax | Lmin        |      |
| 7/13/2022 14:51 | 1.0 min       | 42.3          | 60.1 | 47          | 40.3 |
| 7/13/2022 14:52 | 1.0 min       | 43            | 60.8 | 49.1        | 40.3 |
| 7/13/2022 14:53 | 1.0 min       | 42.8          | 60.6 | 47.6        | 40.2 |
| 7/13/2022 14:54 | 1.0 min       | 44.9          | 62.7 | 57          | 39.9 |
| 7/13/2022 14:55 | 1.0 min       | 44            | 61.8 | 54.7        | 40.8 |
| 7/13/2022 14:56 | 1.0 min       | 42.7          | 60.5 | 50.9        | 40.8 |
| 7/13/2022 14:57 | 1.0 min       | 42.9          | 60.7 | 48          | 40.2 |
| 7/13/2022 14:58 | 1.0 min       | 42.7          | 60.5 | 47.6        | 41   |
| 7/13/2022 14:59 | 1.0 min       | 41.6          | 59.4 | 45.4        | 40.1 |
| 7/13/2022 15:00 | 1.0 min       | 42.7          | 60.5 | 49.3        | 39.4 |
| 7/13/2022 15:01 | 1.0 min       | 44.2          | 62   | 55.3        | 40.2 |
| 7/13/2022 15:02 | 1.0 min       | 40.5          | 58.3 | 42.6        | 39.4 |
| 7/13/2022 15:03 | 1.0 min       | 42.2          | 60   | 52.1        | 39.8 |
| 7/13/2022 15:04 | 1.0 min       | 46.7          | 64.5 | 58.5        | 41.2 |
| 7/13/2022 15:05 | 1.0 min       | 42.9          | 60.7 | 52.6        | 40.4 |
| 7/13/2022 15:06 | 44 sec        | 44.4          | 60.8 | 50.8        | 40.6 |

| L <sub>eq</sub> | L <sub>max</sub> | L <sub>min</sub> |
|-----------------|------------------|------------------|
| <b>43.3</b>     | 58.5             | 39.4             |

ST2

| Rec 113 to 128  | Slow Response | dBA weighting |      | 2.0 dB resc |           |
|-----------------|---------------|---------------|------|-------------|-----------|
| Date hh:mm:ss   | LeqPeriod Leq | SEL           | Lmax | Lmin        |           |
| 7/13/2022 15:07 | 1.0 min       | 49.6          | 67.4 | 61.2        | 41.8      |
| 7/13/2022 15:08 | 1.0 min       | 48.2          | 66   | 58.2        | 40.7      |
| 7/13/2022 15:09 | 1.0 min       | 41.8          | 59.6 | 43.2        | 40.5      |
| 7/13/2022 15:10 | 1.0 min       | 43.9          | 61.7 | 49          | 40.8      |
| 7/13/2022 15:11 | 1.0 min       | 42.7          | 60.5 | 45.9        | 40.5      |
| 7/13/2022 15:12 | 1.0 min       | 47.6          | 65.4 | 51.7        | 41.3      |
| 7/13/2022 15:13 | 1.0 min       | 43.3          | 61.1 | 48.5        | 41.2      |
| 7/13/2022 15:14 | 1.0 min       | 42.1          | 59.9 | 44          | 40.3      |
| 7/13/2022 15:15 | 1.0 min       | 44.4          | 62.2 | 53.5        | 40.2      |
| 7/13/2022 15:16 | 1.0 min       | 43            | 60.8 | 50.5        | 39.9      |
| 7/13/2022 15:17 | 1.0 min       | 42.1          | 59.9 | 49.3        | 39.5      |
| 7/13/2022 15:18 | 1.0 min       | 41.8          | 59.6 | 46          | 39.6      |
| 7/13/2022 15:19 | 1.0 min       | 41.2          | 59   | 46.8        | 39.3      |
| 7/13/2022 15:20 | 1.0 min       | 48.1          | 65.9 | 53.4        | 40.4      |
| 7/13/2022 15:21 | 1.0 min       | 43.7          | 61.5 | 51.2        | 40.8      |
| 7/13/2022 15:22 | 34 sec        | 46.4          | 61.7 | 54.5        | 42.1      |
|                 |               | $L_{eq}$      |      | $L_{max}$   | $L_{min}$ |
|                 |               | <b>45.1</b>   |      | 61.2        | 39.3      |



# FIELD NOISE MEASUREMENT DATA

PROJECT NORCO COLLEGE KINESIOLOGY BUILDING PROJECT # 13705  
 SITE ID ST2 (ST3)  
 SITE ADDRESS \_\_\_\_\_ OBSERVER(S) DAVID ORTEGA  
 START DATE 10/12/2021 END DATE 10/12/2021  
 START TIME 10:48 AM END TIME 11:03 AM

METEOROLOGICAL CONDITIONS  
 TEMP 71° F HUMIDITY 12 % R H WIND ALM LIGHT MODERATE  
 WINDSPD <1 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY  
 SKY SUNNY CLEAR OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS  
 MEAS. INSTRUMENT Piccolo II TYPE 1 ? SERIAL # 1200  
 CALIBRATOR RION NC-74 SERIAL # 34678576  
 CALIBRATION CHECK PRE-MEASUREMENT 94 dBA SPL POST-MEASUREMENT 94 dBA SPL WINDSCREEN YES

SETTINGS A-WTD SLOW FAST FRONTAL RANDOM ANSI OTHER \_\_\_\_\_

| REC. #       | BEGIN           | END             | Leq         | Lmax        | Lmin        | L90         | L50         | L10         | OTHER (SPECIFY METRIC) |
|--------------|-----------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------|
| <u>18-34</u> | <u>10:48 AM</u> | <u>11:03 AM</u> | <u>49.1</u> | <u>67.1</u> | <u>43.3</u> | <u>44.6</u> | <u>45.8</u> | <u>48.8</u> |                        |
|              |                 |                 |             |             |             |             |             |             |                        |
|              |                 |                 |             |             |             |             |             |             |                        |

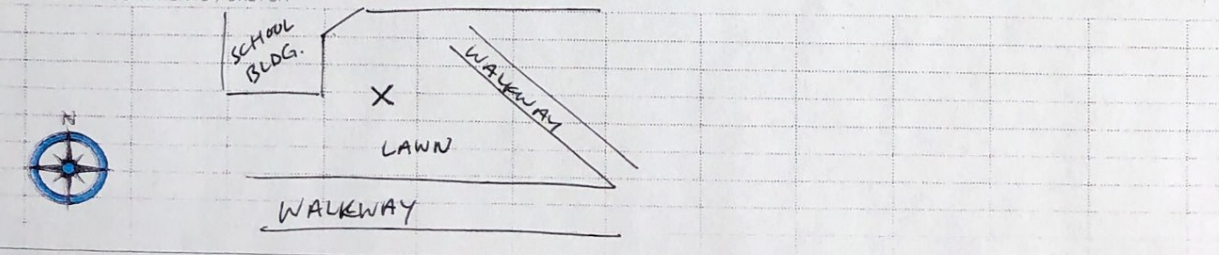
COMMENTS  
Measurement taken adjacent to Applied Technology building, on lawn.  
Students/staff conversations audible throughout measurement. Leq constant around 49.5 dBA.

SOURCE INFO AND TRAFFIC COUNTS

| PRIMARY NOISE SOURCE   |           | TRAFFIC | AIRCRAFT | RAIL  | INDUSTRIAL             | OTHER     |       |       |
|------------------------|-----------|---------|----------|---|------------------------|-----------|-------|-------|
| ROADWAY TYPE           |           | SPEED   |          | DIST TO RDWY C/L OR EOP                       |                        |           |       |       |
| COUNT 1<br>(OR RDWY 1) | DIRECTION | NB/EB   | SB/WB    | IF COUNTING BOTH DIRECTIONS AS ONE CHECK HERE | COUNT 2<br>(OR RDWY 2) | DIRECTION | NB/EB | SB/WB |
|                        |           |         |          |   |                        |           |       |       |
|                        |           |         |          |   |                        |           |       |       |
|                        |           |         |          |   |                        |           |       |       |
|                        |           |         |          |   |                        |           |       |       |
|                        |           |         |          |   |                        |           |       |       |

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE  
 POSTED SPEED LIMIT SIGNS SAY: \_\_\_\_\_  
 OTHER NOISE SOURCES (BACKGROUND) DIST. AIRCRAFT RUSTLING LEAVES DIST BARKING DOGS BIRDS DIST INDUSTRIAL  
 DIST KIDS PLAYING DIST CONVERSATIONS / YELLING DIST TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE  
 OTHER: HVAC from adjacent/nearby buildings audible. Aircraft fly-overs are audible. Fly-over @ 10:52 = 60 dBA Leq.

DESCRIPTION / SKETCH  
 TERRAIN HARD SOFT MIXED FLAT OTHER \_\_\_\_\_  
 PHOTOS YES  
 OTHER COMMENTS / SKETCH \_\_\_\_\_





# FIELD NOISE MEASUREMENT DATA

DUDEK

|   |                               |
|---|-------------------------------|
| PROJECT <u>MORENO VALLEY COLLEGE WC</u> | PROJECT # <u>11413</u>        |
| SITE ID _____                           | OBSERVER(S) <u>PETE VITAR</u> |
| SITE ADDRESS _____                      |                               |
| START DATE <u>11/8/18</u>               | END DATE <u>11/8/18</u>       |
| START TIME _____                        | END TIME _____                |

**METEOROLOGICAL CONDITIONS**

|                               |                           |                                 |
|-------------------------------|---------------------------|---------------------------------|
| TEMP <u>75</u> F              | HUMIDITY <u>20</u> % R.H. | WIND <u>CALM</u> LIGHT MODERATE |
| WINDSPD _____ MPH             | DIR. N NE S SE S SW W NW  | <u>VARIABLE</u> STEADY GUSTY    |
| SKY <u>SUNNY</u> <u>CLEAR</u> | OVRCAST PRTLY CLDY FOG    | RAIN _____                      |

**ACOUSTIC MEASUREMENTS**

|                                       |                        |                           |
|---------------------------------------|------------------------|---------------------------|
| MEAS. INSTRUMENT <u>Piccolo SLM-3</u> | TYPE 1 <u>(2)</u>      | SERIAL # <u>140317004</u> |
| CALIBRATOR <u>BSWA CA 114</u>         |                        | SERIAL # <u>480151</u>    |
| CALIBRATION CHECK _____               | PRE-TEST _____ dBA SPL | POST-TEST _____ dBA SPL   |
|                                       |                        | WINDSCRN <u>YES</u>       |

SETTINGS      A-WTD (SLOW)      FAST      FRONTAL      RANDOM      ANSI      OTHER: \_\_\_\_\_

| REC. #     | BEGIN        | END          | Leq         | Lmax        | Lmin      | L90 | L50 | L10 | OTHER (SPECIFY METRIC) |
|------------|--------------|--------------|-------------|-------------|-----------|-----|-----|-----|------------------------|
| <u>3-4</u> | <u>11:42</u> | <u>11:57</u> | <u>54.5</u> | <u>67.1</u> | <u>51</u> |     |     |     |                        |
|            |              |              |             |             |           |     |     |     |                        |
|            |              |              |             |             |           |     |     |     |                        |
|            |              |              |             |             |           |     |     |     |                        |
|            |              |              |             |             |           |     |     |     |                        |

COMMENTS  
READING TAKEN ON CAMPUS ON PATH BETWEEN SCIENCE & TECH. BUILDING AND STUDENT PARKING LOT (AT END OF COLLEGE DRIVE); PRIMARY NOISE SOURCE: CARS IN MV COLLEGE PARKING LOT; SECONDARY: CONVERSATIONS

**SOURCE INFO AND TRAFFIC COUNTS**

PRIMARY NOISE SOURCE TRAFFIC      AIRCRAFT      RAIL      INDUSTRIAL      OTHER: \_\_\_\_\_

ROADWAY TYPE: ASPHALT      DIST. TO RDWY C/L OR EOP: APX 100' TO COLLEGE DR. END

| COUNT 1<br>(OR RDWY 1) | DIRECTION | MIN   |       | SPEED |       | IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE | COUNT 2<br>(OR RDWY 2) | MIN   |       | SPEED |       |
|------------------------|-----------|-------|-------|-------|-------|--|------------------------|-------|-------|-------|-------|
|                        |           | NB/EB | SB/WB | NB/EB | SB/WB |  |                        | NB/EB | SB/WB | NB/EB | SB/WB |
| /                      | AUTOS     |       |       |       |       |  | /                      |       |       |       |       |
|                        | MED TRKS  |       |       |       |       |  |                        |       |       |       |       |
|                        | HVY TRKS  |       |       |       |       |  |                        |       |       |       |       |
|                        | BUSES     |       |       |       |       |  |                        |       |       |       |       |
|                        | MOTRCLS   |       |       |       |       |  |                        |       |       |       |       |

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE  
 POSTED SPEED LIMIT SIGNS SAY: \_\_\_\_\_

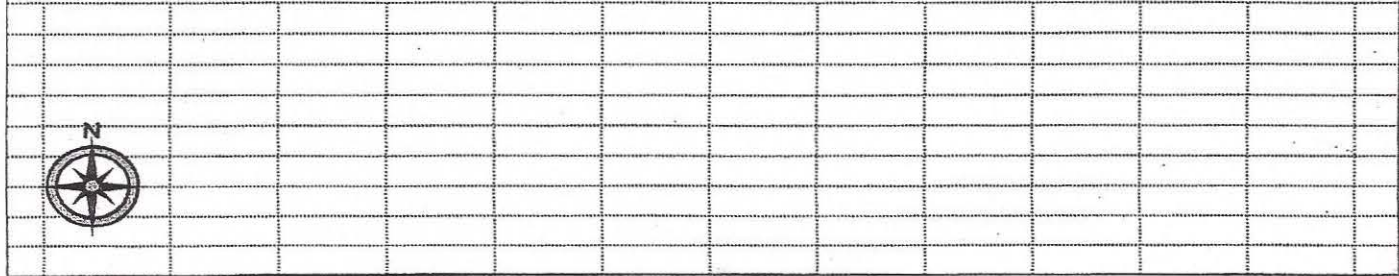
OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT    RUSTLING LEAVES    DIST. BARKING DOGS    BIRDS    DIST. INDUSTRIAL  
 DIST. KIDS PLAYING    DIST. CONVERSATIONS / YELLING    DIST. TRAFFIC (LIST RDWYS BELOW)    DISTD GARDENERS/LANDSCAPING NOISE  
 OTHER: \_\_\_\_\_

**DESCRIPTION / SKETCH**

TERRAIN    HARD    SOFT    MIXED    FLAT    OTHER: \_\_\_\_\_

PHOTOS 2734; 2735; 2736; 2737; 2738;

OTHER COMMENTS / SKETCH \_\_\_\_\_



# FIELD NOISE MEASUREMENT DATA

DUDEK

|   |                               |
|---|-------------------------------|
| PROJECT <u>MORENO VALLEY COLLEGE WC</u> | PROJECT # <u>11413</u>        |
| SITE ID _____                           | OBSERVER(S) <u>PETE VITAR</u> |
| SITE ADDRESS _____                      |                               |
| START DATE <u>11/8/18</u>               | END DATE <u>11/8/18</u>       |
| START TIME _____                        | END TIME _____                |

|                                       |                           |                           |                                  |
|---------------------------------------|---------------------------|---------------------------|----------------------------------|
| <b>METEOROLOGICAL CONDITIONS</b>      |                           |                           |                                  |
| TEMP <u>75</u> F                      | HUMIDITY <u>20</u> % R.H. | WIND <u>CALM</u>          | LIGHT MODERATE                   |
| WINDSPD _____ MPH                     | DIR. N NE S SE S SW W NW  | VARIABLE STEADY GUSTY     |                                  |
| SKY <u>SUNNY</u> <u>CLEAR</u>         | OVRCAST PRTLY CLDY FOG    | RAIN                      |                                  |
| <b>ACOUSTIC MEASUREMENTS</b>          |                           |                           |                                  |
| MEAS. INSTRUMENT <u>PICCOLO CLM-3</u> | TYPE 1 <u>(2)</u>         | SERIAL # <u>140317004</u> |                                  |
| CALIBRATOR <u>BSWA CA 114</u>         |                           | SERIAL # <u>480151</u>    |                                  |
| CALIBRATION CHECK _____               | PRE-TEST _____ dBA SPL    | POST-TEST _____ dBA SPL   | WINDSCRN <u>YES</u>              |
| SETTINGS                              | A-WTD <u>SLOW</u>         | FAST                      | FRONTAL RANDOM ANSI OTHER: _____ |

| REC. #     | BEGIN        | END          | Leq         | Lmax        | Lmin        | L90 | L50 | L10 | OTHER (SPECIFY METRIC) |
|------------|--------------|--------------|-------------|-------------|-------------|-----|-----|-----|------------------------|
| <u>1-2</u> | <u>11:22</u> | <u>11:37</u> | <u>58.3</u> | <u>75.2</u> | <u>51.9</u> |     |     |     |                        |
|            |              |              |             |             |             |     |     |     |                        |
|            |              |              |             |             |             |     |     |     |                        |

ST-2 (ST6)

COMMENTS  
READING TAKEN ON CAMPUIS IN QUAD IN FRONT OF STUDENT ACADEMIC SERVICES BUILDING; PRIMARY NOISE SOURCE IS PASSING CONVERSATIONS;

|                                       |           |       |       |                                      |          |                        |            |                                     |       |       |  |
|---------------------------------------|-----------|-------|-------|--------------------------------------|----------|------------------------|------------|-------------------------------------|-------|-------|--|
| <b>SOURCE INFO AND TRAFFIC COUNTS</b> |           |       |       |                                      |          |                        |            |                                     |       |       |  |
| PRIMARY NOISE SOURCE                  |           |       |       | TRAFFIC                              | AIRCRAFT | RAIL                   | INDUSTRIAL | OTHER: <u>STUDENT CONVERSATIONS</u> |       |       |  |
| ROADWAY TYPE: <u>N/A</u>              |           |       |       | DIST. TO RDWY C/L OR EOP: <u>N/A</u> |          |                        |            |                                     |       |       |  |
| TRAFFIC COUNT DURATION: _____ MIN     |           | SPEED |       | MIN                                  |          | SPEED                  |            |                                     |       |       |  |
| COUNT 1<br>(OR RDWY 1)                | DIRECTION | NB/EB | SB/WB | NB/EB                                | SB/WB    | COUNT 2<br>(OR RDWY 2) | NB/EB      | SB/WB                               | NB/EB | SB/WB |  |
|                                       | AUTOS     |       |       |                                      |          |                        |            |                                     |       |       |  |
|                                       | MED TRKS  |       |       |                                      |          |                        |            |                                     |       |       |  |
|                                       | HVY TRKS  |       |       |                                      |          |                        |            |                                     |       |       |  |
|                                       | BUSES     |       |       |                                      |          |                        |            |                                     |       |       |  |
| MOTRCLS                               |           |       |       |                                      |          |                        |            |                                     |       |       |  |


IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE

POSTED SPEED LIMIT SIGNS SAY: \_\_\_\_\_

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL  
 DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE  
 OTHER: \_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>DESCRIPTION / SKETCH</b>                      |  |  |  |  |  |  |  |  |  |  |  |
| TERRAIN HARD SOFT <u>MIXED</u> FLAT OTHER: _____ |  |  |  |  |  |  |  |  |  |  |  |
| PHOTOS <u>2729; 2730; 2731; 2732</u>             |  |  |  |  |  |  |  |  |  |  |  |
| OTHER COMMENTS / SKETCH _____                    |  |  |  |  |  |  |  |  |  |  |  |



**APPENDIX D-2**  
*Construction Noise Modeling*  
*Input and Output*



To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance = **80**  
 allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) = **1**

| Construction Activity                      | Equipment        | Total Equipment Qty | AUF % (from FHWA RCNM) | Reference Lmax @ 50 ft. from FHWA RCNM | Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Barrier / Topo Insertion Loss (dB) | Distance-Adjusted Lmax | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq |
|--|------------------|---------------------|------------------------|--|--|------------------------------|------------------------------------|------------------------|----------------------------------|------------------------------------|----------------------|
| Site Preparation                           | Grader           | 1                   | 40                     | 85                                     |  | 160                          |                                    | 74.9                   | 1                                | 60                                 | 71                   |
|  | Dozer            | 1                   | 40                     | 82                                     |  | 160                          |                                    | 71.9                   | 1                                | 60                                 | 68                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 160                          |                                    | 73.9                   | 1                                | 60                                 | 70                   |
| Total for Site Preparation Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>74.5</b>          |
| Grading                                    | Grader           | 1                   | 40                     | 85                                     |  | 160                          |                                    | 74.9                   | 1                                | 60                                 | 71                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 160                          |                                    | 69.9                   | 1                                | 60                                 | 63                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 160                          |                                    | 73.9                   | 1                                | 60                                 | 70                   |
| Total for Grading Phase:                   |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>73.8</b>          |
| Boring/Conduit                             | Tractor          | 1                   | 40                     | 84                                     | Crawler Tractors                                       | 500                          |                                    | 64.0                   | 1                                | 60                                 | 60                   |
|  | Excavator        | 1                   | 40                     | 81                                     |  | 500                          |                                    | 61.0                   | 1                                | 60                                 | 57                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 500                          |                                    | 60.0                   | 1                                | 60                                 | 53                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 500                          |                                    | 55.0                   | 1                                | 60                                 | 48                   |
| Total for Boring/Conduit Phase:            |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>62.5</b>          |
| Racking/Other Mechanicals                  | Auger Drill Rig  | 1                   | 20                     | 84                                     | Bore/Drill Rigs  | 375                          |                                    | 66.5                   | 1                                | 60                                 | 60                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Off-Highway Tractor                                    | 375                          |                                    | 66.5                   | 1                                | 60                                 | 63                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 375                          |                                    | 57.5                   | 1                                | 60                                 | 51                   |
| Total for Racking/Other Mechanicals Phase: |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>64.5</b>          |
| PV Panel Installation                      | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 160                          |                                    | 64.9                   | 1                                | 60                                 | 58                   |
| Total for PV Panel Installation Phase:     |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>57.9</b>          |
| Other Electrical                           | Man Lift         | 1                   | 20                     | 75                                     | Aerial Lift  | 160                          |                                    | 64.9                   | 1                                | 60                                 | 58                   |
|  | Grader           | 1                   | 40                     | 85                                     |  | 160                          |                                    | 74.9                   | 1                                | 60                                 | 71                   |
|  | Front End Loader | 1                   | 40                     | 79                                     | Skid Steer Loaders                                     | 160                          |                                    | 68.9                   | 1                                | 60                                 | 65                   |
| Total for Other Electrical Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>72.1</b>          |

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance = **80**  
 allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) = **1**

| Construction Activity                      | Equipment        | Total Equipment Qty | AUF % (from FHWA RCNM) | Reference Lmax @ 50 ft. from FHWA RCNM | Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Barrier / Topo Insertion Loss (dB) | Distance-Adjusted Lmax | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq |
|--|------------------|---------------------|------------------------|--|--|------------------------------|------------------------------------|------------------------|----------------------------------|------------------------------------|----------------------|
| Site Preparation                           | Grader           | 1                   | 40                     | 85                                     |  | 130                          |                                    | 76.7                   | 1                                | 60                                 | 73                   |
|  | Dozer            | 1                   | 40                     | 82                                     |  | 130                          |                                    | 73.7                   | 1                                | 60                                 | 70                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 130                          |                                    | 75.7                   | 1                                | 60                                 | 72                   |
| Total for Site Preparation Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>76.3</b>          |
| Grading                                    | Grader           | 1                   | 40                     | 85                                     |  | 130                          |                                    | 76.7                   | 1                                | 60                                 | 73                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 130                          |                                    | 71.7                   | 1                                | 60                                 | 65                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 130                          |                                    | 75.7                   | 1                                | 60                                 | 72                   |
| Total for Grading Phase:                   |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>75.6</b>          |
| Boring/Conduit                             | Tractor          | 1                   | 40                     | 84                                     | Crawler Tractors                                       | 450                          |                                    | 64.9                   | 1                                | 60                                 | 61                   |
|  | Excavator        | 1                   | 40                     | 81                                     |  | 450                          |                                    | 61.9                   | 1                                | 60                                 | 58                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 450                          |                                    | 60.9                   | 1                                | 60                                 | 54                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 450                          |                                    | 55.9                   | 1                                | 60                                 | 49                   |
| Total for Boring/Conduit Phase:            |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>63.4</b>          |
| Racking/Other Mechanicals                  | Auger Drill Rig  | 1                   | 20                     | 84                                     | Bore/Drill Rigs  | 365                          |                                    | 66.7                   | 1                                | 60                                 | 60                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Off-Highway Tractor                                    | 365                          |                                    | 66.7                   | 1                                | 60                                 | 63                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 365                          |                                    | 57.7                   | 1                                | 60                                 | 51                   |
| Total for Racking/Other Mechanicals Phase: |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>64.7</b>          |
| PV Panel Installation                      | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 130                          |                                    | 66.7                   | 1                                | 60                                 | 60                   |
| Total for PV Panel Installation Phase:     |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>59.7</b>          |
| Other Electrical                           | Man Lift         | 1                   | 20                     | 75                                     | Aerial Lift  | 130                          |                                    | 66.7                   | 1                                | 60                                 | 60                   |
|  | Grader           | 1                   | 40                     | 85                                     |  | 130                          |                                    | 76.7                   | 1                                | 60                                 | 73                   |
|  | Front End Loader | 1                   | 40                     | 79                                     | Skid Steer Loaders                                     | 130                          |                                    | 70.7                   | 1                                | 60                                 | 67                   |
| Total for Other Electrical Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>73.9</b>          |



To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance = **80**  
 allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) = **1**

| Construction Activity                      | Equipment        | Total Equipment Qty | AUF % (from FHWA RCNM) | Reference Lmax @ 50 ft. from FHWA RCNM | Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Barrier / Topo Insertion Loss (dB) | Distance-Adjusted Lmax | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq |
|--|------------------|---------------------|------------------------|--|--|------------------------------|------------------------------------|------------------------|----------------------------------|------------------------------------|----------------------|
| Site Preparation                           | Grader           | 1                   | 40                     | 85                                     |  | 220                          |                                    | 72.1                   | 1                                | 60                                 | 68                   |
|  | Dozer            | 1                   | 40                     | 82                                     |  | 220                          |                                    | 69.1                   | 1                                | 60                                 | 65                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 220                          |                                    | 71.1                   | 1                                | 60                                 | 67                   |
| Total for Site Preparation Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>71.8</b>          |
| Grading                                    | Grader           | 1                   | 40                     | 85                                     |  | 220                          |                                    | 72.1                   | 1                                | 60                                 | 68                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 220                          |                                    | 67.1                   | 1                                | 60                                 | 60                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 220                          |                                    | 71.1                   | 1                                | 60                                 | 67                   |
| Total for Grading Phase:                   |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>71.1</b>          |
| Boring/Conduit                             | Tractor          | 1                   | 40                     | 84                                     | Crawler Tractors                                       | 220                          |                                    | 71.1                   | 1                                | 60                                 | 67                   |
|  | Excavator        | 1                   | 40                     | 81                                     |  | 220                          |                                    | 68.1                   | 1                                | 60                                 | 64                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 220                          |                                    | 67.1                   | 1                                | 60                                 | 60                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 220                          |                                    | 62.1                   | 1                                | 60                                 | 55                   |
| Total for Boring/Conduit Phase:            |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>69.6</b>          |
| Racking/Other Mechanicals                  | Auger Drill Rig  | 1                   | 20                     | 84                                     | Bore/Drill Rigs  | 220                          |                                    | 71.1                   | 1                                | 60                                 | 64                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Off-Highway Tractor                                    | 220                          |                                    | 71.1                   | 1                                | 60                                 | 67                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 220                          |                                    | 62.1                   | 1                                | 60                                 | 55                   |
| Total for Racking/Other Mechanicals Phase: |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>69.1</b>          |
| PV Panel Installation                      | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 2000                         |                                    | 43.0                   | 1                                | 60                                 | 36                   |
| Total for PV Panel Installation Phase:     |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>36.0</b>          |
| Other Electrical                           | Man Lift         | 1                   | 20                     | 75                                     | Aerial Lift  | 220                          |                                    | 62.1                   | 1                                | 60                                 | 55                   |
|  | Grader           | 1                   | 40                     | 85                                     |  | 220                          |                                    | 72.1                   | 1                                | 60                                 | 68                   |
|  | Front End Loader | 1                   | 40                     | 79                                     | Skid Steer Loaders                                     | 220                          |                                    | 66.1                   | 1                                | 60                                 | 62                   |
| Total for Other Electrical Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>69.3</b>          |

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance = **80**  
 allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) = **1**

| Construction Activity                      | Equipment        | Total Equipment Qty | AUF % (from FHWA RCNM) | Reference Lmax @ 50 ft. from FHWA RCNM | Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Barrier / Topo Insertion Loss (dB) | Distance-Adjusted Lmax | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq |
|--|------------------|---------------------|------------------------|--|--|------------------------------|------------------------------------|------------------------|----------------------------------|------------------------------------|----------------------|
| Site Preparation                           | Grader           | 1                   | 40                     | 85                                     |  | 890                          |                                    | 60.0                   | 1                                | 60                                 | 56                   |
|  | Dozer            | 1                   | 40                     | 82                                     |  | 890                          |                                    | 57.0                   | 1                                | 60                                 | 53                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 890                          |                                    | 59.0                   | 1                                | 60                                 | 55                   |
| Total for Site Preparation Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>59.6</b>          |
| Grading                                    | Grader           | 1                   | 40                     | 85                                     |  | 890                          |                                    | 60.0                   | 1                                | 60                                 | 56                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 890                          |                                    | 55.0                   | 1                                | 60                                 | 48                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 890                          |                                    | 59.0                   | 1                                | 60                                 | 55                   |
| Total for Grading Phase:                   |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>58.9</b>          |
| Boring/Conduit                             | Tractor          | 1                   | 40                     | 84                                     | Crawler Tractors                                       | 1200                         |                                    | 56.4                   | 1                                | 60                                 | 52                   |
|  | Excavator        | 1                   | 40                     | 81                                     |  | 1200                         |                                    | 53.4                   | 1                                | 60                                 | 49                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 1200                         |                                    | 52.4                   | 1                                | 60                                 | 45                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 1200                         |                                    | 47.4                   | 1                                | 60                                 | 40                   |
| Total for Boring/Conduit Phase:            |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>54.9</b>          |
| Racking/Other Mechanicals                  | Auger Drill Rig  | 1                   | 20                     | 84                                     | Bore/Drill Rigs  | 1225                         |                                    | 56.2                   | 1                                | 60                                 | 49                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Off-Highway Tractor                                    | 1225                         |                                    | 56.2                   | 1                                | 60                                 | 52                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 1225                         |                                    | 47.2                   | 1                                | 60                                 | 40                   |
| Total for Racking/Other Mechanicals Phase: |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>54.2</b>          |
| PV Panel Installation                      | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 890                          |                                    | 50.0                   | 1                                | 60                                 | 43                   |
| Total for PV Panel Installation Phase:     |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>43.0</b>          |
| Other Electrical                           | Man Lift         | 1                   | 20                     | 75                                     | Aerial Lift  | 890                          |                                    | 50.0                   | 1                                | 60                                 | 43                   |
|  | Grader           | 1                   | 40                     | 85                                     |  | 890                          |                                    | 60.0                   | 1                                | 60                                 | 56                   |
|  | Front End Loader | 1                   | 40                     | 79                                     | Skid Steer Loaders                                     | 890                          |                                    | 54.0                   | 1                                | 60                                 | 50                   |
| Total for Other Electrical Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>57.2</b>          |

| Construction Activity                      | Equipment        | Total Equipment Qty | AUF % (from FHWA RCNM) | Reference Lmax @ 50 ft. from FHWA RCNM | Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Barrier / Topo Insertion Loss (dB) | Distance-Adjusted Lmax | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq |
|--|------------------|---------------------|------------------------|--|--|------------------------------|------------------------------------|------------------------|----------------------------------|------------------------------------|----------------------|
| Site Preparation                           | Grader           | 1                   | 40                     | 85                                     |  | 250                          |                                    | 71.0                   | 1                                | 60                                 | 67                   |
|  | Dozer            | 1                   | 40                     | 82                                     |  | 250                          |                                    | 68.0                   | 1                                | 60                                 | 64                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 250                          |                                    | 70.0                   | 1                                | 60                                 | 66                   |
| Total for Site Preparation Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>70.7</b>          |
| Grading                                    | Grader           | 1                   | 40                     | 85                                     |  | 250                          |                                    | 71.0                   | 1                                | 60                                 | 67                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 250                          |                                    | 66.0                   | 1                                | 60                                 | 59                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Tractors/Loaders/Back                                  | 250                          |                                    | 70.0                   | 1                                | 60                                 | 66                   |
| Total for Grading Phase:                   |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>69.9</b>          |
| Boring/Conduit                             | Tractor          | 1                   | 40                     | 84                                     | Crawler Tractors                                       | 180                          |                                    | 72.9                   | 1                                | 60                                 | 69                   |
|  | Excavator        | 1                   | 40                     | 81                                     |  | 180                          |                                    | 69.9                   | 1                                | 60                                 | 66                   |
|  | Roller           | 1                   | 20                     | 80                                     |  | 180                          |                                    | 68.9                   | 1                                | 60                                 | 62                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 180                          |                                    | 63.9                   | 1                                | 60                                 | 57                   |
| Total for Boring/Conduit Phase:            |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>71.4</b>          |
| Racking/Other Mechanicals                  | Auger Drill Rig  | 1                   | 20                     | 84                                     | Bore/Drill Rigs  | 250                          |                                    | 70.0                   | 1                                | 60                                 | 63                   |
|  | Tractor          | 1                   | 40                     | 84                                     | Off-Highway Tractor                                    | 250                          |                                    | 70.0                   | 1                                | 60                                 | 66                   |
|  | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 250                          |                                    | 61.0                   | 1                                | 60                                 | 54                   |
| Total for Racking/Other Mechanicals Phase: |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>68.0</b>          |
| PV Panel Installation                      | Man Lift         | 1                   | 20                     | 75                                     | Rough Terrain Forklifts                                | 1300                         |                                    | 46.7                   | 1                                | 60                                 | 40                   |
| Total for PV Panel Installation Phase:     |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>39.7</b>          |
| Other Electrical                           | Man Lift         | 1                   | 20                     | 75                                     | Aerial Lift  | 250                          |                                    | 61.0                   | 1                                | 60                                 | 54                   |
|  | Grader           | 1                   | 40                     | 85                                     |  | 250                          |                                    | 71.0                   | 1                                | 60                                 | 67                   |
|  | Front End Loader | 1                   | 40                     | 79                                     | Skid Steer Loaders                                     | 250                          |                                    | 65.0                   | 1                                | 60                                 | 61                   |
| Total for Other Electrical Phase:          |                  |                     |                        |  |  |                              |                                    |                        |                                  |                                    | <b>68.2</b>          |



# **APPENDIX D-3**

## *Operational Noise Modeling Input and Output*



**RCCD Solar Plan**

**Operational Noise Analysis**

**Norco College Campus**

| Operational Component        | Location                        | Noise Emission Level | Nearest Noise-Sensitive Receiver | Distance (feet) | Resulting Noise Level at Receiver | Notes (references etc.)                                    |
|------------------------------|---------------------------------|----------------------|----------------------------------|-----------------|-----------------------------------|--|
| 2500 kVA step-up transformer | SW corner of solar field        | 61 dBA at 1 m.       | Apartments to the east           | 375             | 19.8                              | Siemens Power Engineering Guide, 4th Edition: Transformers |
| Inverter                     | SW corner of solar field        | 69 dBA at 1 m.       | Apartments to the east           | 375             | 27.8                              | STP 150 US; from applicant                                 |
| BESS                         | North-central portion of campus | 75 dBA at 10 m.      | Campus core                      | 170             | 32.7                              | Megapack 2; from applicant                                 |
| 200 kVA step-up transformer  | southwest corner of campus      | 48 dBA at 1 m.       | Campus core                      | 35              | 7.4                               | Siemens Power Engineering Guide, 4th Edition: Transformers |
|                              |                                 |                      | <b>Combined</b>                  |                 | <b>28.5</b>                       |  |

**Moreno Valley Campus**

| Operational Component        | Location                           | Noise Emission Level | Nearest Noise-Sensitive Receiver      | Distance (feet) | Resulting Noise Level at 200' | Distance (feet) | Resulting Noise Level at Receiver | Notes (references etc.)                                    |
|------------------------------|------------------------------------|----------------------|---------------------------------------|-----------------|-------------------------------|-----------------|-----------------------------------|--|
| 1000 kVA step-up transformer | NW corner of solar field           | 55 dBA at 1 m.       | Single-family residences to the south | 200             | 19.3                          | 1200            | 3.7                               | Siemens Power Engineering Guide, 4th Edition: Transformers |
| Inverter                     | NW corner of solar field           | 69 dBA at 1 m.       | Single-family residences to the south | 200             | 33.3                          | 1200            | 17.7                              | STP 150 US; from applicant                                 |
| BESS                         | Northern portion of campus         | 75 dBA at 10 m.      | Campus core                           | 200             | 51.3                          | 75              | 39.8                              | Megapack 2; from applicant                                 |
| 600 kVA step-up transformer  | Northern portion of campus at BESS | 55 dBA at 1 m.       | Campus core                           | 200             | 19.3                          | 75              | 7.8                               | Siemens Power Engineering Guide, 4th Edition: Transformers |
| 200 kVA step-up transformer  | southwest corner of campus         | 48 dBA at 1 m.       | Campus core                           | 200             | 12.3                          | 100             | 0.0                               | Siemens Power Engineering Guide, 4th Edition: Transformers |
| 750 kVA step-up transformer  | southwest corner of campus         | 55 dBA at 1 m.       | Campus core                           | 200             | 19.3                          | 100             | 5.3                               | Siemens Power Engineering Guide, 4th Edition: Transformers |
|                              |                                    |                      | <b>Combined</b>                       |                 | <b>33.5</b>                   |                 | <b>17.9</b>                       |  |

