

Table F-1
PV Installation Noise Level at SR1

Construction Equipment	Horse Power	Quantity per Crew per Month	Predicted Noise Level (dBA)
Hydraulic Vibrating Post Driver	175	1	50
Flatbed Truck	250	2	55
Stickboom Crane	175	2	53
Trencher	50	1	45
Compactor	120	1	48
Large Backhoe With Mower Attachment	120	1	48
Skid-steer loader (Bobcat)	50	1	45
Backhoe	120	1	48
Front End Loader	250	2	55
Water Truck	450	1	54
Dump Truck	250	1	52
Aggregated Noise Level at SR1			62

Source: Calico Solar, LLC, 2011, URS Corporation 2011.

Notes:

- As a worst case scenario, all equipment is operated in full-power mode all the time.
- Distance between SR1 and the nearest PV Installation site is 4200 feet.
- Above equipment roster is per one (1) crew. It is assumed that up to five (5) crews would be in operation throughout the project area, with no more than 3 (three) actively adjacent to one another and the remaining two (2) active at other locations that are at least a mile distant from the aforementioned three that are adjacent.
- When three (3) such crews operate in close vicinity (i.e., geographically adjacent 20-acre areas), the noise level would increase to 67dBA per logarithmic summation: $62\text{dBA} + 10\text{Log}(3) = 67\text{dBA}$.

Table F-2
PV Installation Noise Level at SR2

Construction Equipment	Horse Power	Quantity per Crew per Month	Predicted Noise Level (dBA)
Hydraulic Vibrating Post Driver	500	1	45
Flatbed Truck	250	2	49
Stickboom Crane	175	2	48
Trencher	50	1	39
Compactor	120	1	43
Large Backhoe With Mower Attachment	120	1	43
Skid-steer loader (Bobcat)	50	1	39
Backhoe	120	1	43
Front End Loader	250	2	49
Water Truck	450	1	49
Dump Truck	250	1	45
Aggregated Noise Level at SR2			56

Source: Calico Solar, LLC, 2011, URS Corporation 2011.

Notes:

- As a worst case scenario, all equipment is operated in full-power mode all the time.
- Distance between SR2 and the nearest PV Installation site is 7800 feet.
- Above equipment roster is per one (1) crew. It is assumed that up to five (5) crews would be in operation throughout the project area, with no more than 3 (three) actively adjacent to one another and the remaining two (2) active at other locations that are at least a mile distant from the aforementioned three that are adjacent.
- When three (3) such crews operate in close vicinity (i.e., geographically adjacent 20-acre areas), the noise level would increase to 61 dBA per logarithmic summation: $56 \text{ dBA} + 10\text{Log}(3) = 66 \text{ dBA}$.

Table F-3
Overall Construction Equipment for Peak Day of each Month

Equipment Description	Utilization	HP	Base Sound (SPL at 1m, dBA)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
Air Compressor	40%	50	107	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	2	2	1	1						1	1	1	1	1																		
Asphalt Paver	50%	120	111		1																							1																						
Backhoe	40%	120	111	3																											2	2	1																	
Compactor	20%	120	111	2																								1	1	1	1	3	2	1																
Crane small (Hydraulic Vibrating Post Driver and Stickboom Crane)	50%	175	112	5																										3	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1			
Crane large	16%	500	117	1	1	1	2	2	2	3	1													1	1	1	1	1	1	1	1	1																		
Dozer	40%	250	114	1	1	1	1	1	1	1	1	1	1				1	1	1	1								1	1	1	1	1	1																	
Generator	50%	50	107	1	1	1	1	1	2	3	2	5	5	5	5	5	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1																		
Grader	40%	175	112	2	2	1	1	1	1	1	1	1	1				1	2	1	1								1	1	1	1	1																		
Light Tower	100%	50	107				1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1																									
Loader	40%	250	114	2																												3	3	3	3	3	3	1												
Maxi Sneecker (Trencher)	50%	50	107	2																											2	2	1																	
Skid Steer (Bobcat)	50%	50	107	2																											2	2	1																	
Welding Machine	40%	50	107		1	2	3	5	5	5	5	5	5	5	5	3	3	3	3	2	1	1	1	0																										
Aerial Lift	50%	120	111	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Fork Lift	50%	50	107	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	4																
Telehandler	20%	120	111			1	1	2	6	5	5	3	3	3	3	3	5	8	6	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Concrete Pump Truck for bridge	50%	250	114																									1	1	1	1	1	1	1	1															
Dump Truck	40%	250	114	3	2	2	1																					1	1	1		2	2	1																
Flatbed Truck	40%	250	114	2																								1	1		7	7	7	7	7	7	7	7	7	7	7	7	2	2	2	2	2	2	2	
Staff & Security Truck	40%	187	112	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6		
Pickup Truck	40%	175	112	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
Water and Road Preparation Materials Truck	50%	250	114	5	12	8	8	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	3	4	4	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Aggregate				53	51	47	49	51	54	55	54	51	50	47	47	45	50	55	52	50	43	38	37	37	37	34	33	40	42	40	38	56	51	46	36	36	34	37	37	30	30	30	30	30	30					

Sources: Calico Solar, LLC, 2011. URS Corporation, 2011.

Notes:

- Construction Equipment, Horse Power and Equipment Quantities are provided by Calico Solar, LLC.
- Utilization rates are derived from Federal Highway Administration (FHWA) Roadway Construction Noise Model User’s Guide.
- SPL (sound pressure level) at 1 meter is based on Beranek 1992, Section 18.5.
- Equipment quantity does not include equipment used for PV Installation and SunCatcher Installation.

**Table F-4
Calculated Construction Noise Levels at SR1**

Equipment Description	Distance to Receiver (ft)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
Air Compressor	15,500	29	29	29	29	29	29	29	34	34	32	32	32	32	32	32	32	32	29	29	0	0	0	0	0	29	29	29	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Asphalt Paver	15,500	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Backhoe	15,500	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36	33	0	0	0	0	0	0	0	0	0	0	0	0	0			
Compactor	15,500	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	30	30	35	33	30	0	0	0	0	0	0	0	0	0	0	0	0	0			
Crane small (Hydraulic Vibrating Post Driver and Stickboom Crane)	15,500	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40	40	36	36	36	36	36					
Crane large	15,500	35	35	35	38	38	38	40	35	0	0	0	0	0	0	0	0	0	0	0	0	35	35	35	35	35	35	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Dozer	15,500	36	36	36	36	36	36	36	36	36	36	0	0	0	36	36	36	36	0	0	0	0	0	0	0	36	36	36	36	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Generator	15,500	30	30	30	30	30	33	35	33	37	37	37	37	37	35	35	35	35	35	33	33	33	33	33	30	30	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grader	15,500	38	38	35	35	35	35	35	35	35	0	0	0	35	38	35	35	0	0	0	0	0	0	0	35	35	35	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Light Tower	15,500	0	0	0	33	36	36	36	36	36	36	36	36	36	36	36	36	33	33	33	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Loader	15,500	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41	41	41	41	36	0	0	0	0	0	0	0	0	0	0			
Maxi Sneeker (Trencher)	15,500	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33	30	0	0	0	0	0	0	0	0	0	0	0	0	0			
Skid Steer (Bobcat)	15,500	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Welding Machine	15,500	0	29	32	34	36	36	36	36	36	36	36	34	34	34	34	32	29	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Aerial Lift	15,500	37	42	42	42	42	42	42	42	39	39	37	37	37	41	42	42	42	42	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37		
Fork Lift	15,500	33	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	36	36	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Telehandler	15,500	0	0	30	30	33	38	37	37	35	35	35	35	35	37	39	38	37	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35		
Concrete Pump Truck for bridge	15,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Dump Truck	15,500	41	39	39	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36	36	0	39	39	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatbed Truck	15,500	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36	0	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	
Staff & Security Truck	15,500	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
Pickup Truck	15,500	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	
Water and Road Preparation Materials Truck	15,500	44	48	46	46	46	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	42	42	43	43	42	42	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37		
Aggregate Noise Level		52	52	51	51	51	51	51	51	51	50	50	50	51	51	51	51	50	50	50	50	50	50	49	49	50	51	50	50	52	52	51	51	51	51	50	51	51	49	49	49	49	49	49				

Sources: Calico Solar, LLC, 2011. URS Corporation, 2011.

**Table F-5
Calculated Construction Noise Levels at SR2**

Equipment Description	Distance to Receiver (ft)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
Air Compressor	20,700	27	27	27	27	27	27	27	32	32	30	30	30	30	30	30	30	30	27	27	0	0	0	0	0	27	27	27	27	27	0	0	0	0	0	0	0	0	0	0	0	0	0				
Asphalt Paver	20,700	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Backhoe	20,700	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34	31	0	0	0	0	0	0	0	0	0	0	0				
Compactor	20,700	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28	28	28	32	31	28	0	0	0	0	0	0	0	0	0	0	0	0			
Crane small (Hydraulic Vibrating Post Driver and Stickboom Crane)	20,700	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38	38	38	38	38	38	38	33	33	33	33	33	33				
Crane large	20,700	33	33	33	36	36	36	38	33	0	0	0	0	0	0	0	0	0	0	0	33	33	33	33	33	33	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Dozer	20,700	34	34	34	34	34	34	34	34	34	0	0	0	34	34	34	34	0	0	0	0	0	0	0	0	34	34	34	34	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Generator	20,700	28	28	28	28	28	31	32	31	35	35	35	35	35	32	32	32	32	32	31	31	31	31	31	28	28	28	28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Grader	20,700	35	35	32	32	32	32	32	32	32	0	0	0	32	35	32	32	0	0	0	0	0	0	0	32	32	32	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Light Tower	20,700	0	0	0	31	34	34	34	34	34	34	34	34	34	34	34	34	31	31	31	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Loader	20,700	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38	38	38	38	38	34	0	0	0	0	0	0	0	0	0	0		
Maxi Sneezer (Trencher)	20,700	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	28	0	0	0	0	0	0	0	0	0	0	0	0	0			
Skid Steer (Bobcat)	20,700	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	28	0	0	0	0	0	0	0	0	0	0	0	0	0			
Welding Machine	20,700	0	27	30	32	34	34	34	34	34	34	34	34	32	32	32	32	30	27	27	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Aerial Lift	20,700	35	39	39	39	39	39	39	39	36	36	35	35	35	38	39	39	39	39	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	39	39	39	39	39	39	39	39		
Fork Lift	20,700	31	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	0	0	0	0	0	0	0	0	0	0	0	0	0			
Telehandler	20,700	0	0	28	28	31	35	35	35	32	32	32	32	32	35	37	35	35	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32		
Concrete Pump Truck for bridge	20,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	35	35	35	35	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dump Truck	20,700	38	37	37	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34	34	0	37	37	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatbed Truck	20,700	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34	0	42	42	42	42	42	42	42	42	42	42	37	37	37	37	37	37	37	37	
Staff & Security Truck	20,700	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40		
Pickup Truck	20,700	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
Water and Road Preparation Materials Truck	20,700	42	45	44	44	43	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	39	39	41	41	39	39	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
Aggregate Noise Level		50	50	49	49	49	49	49	49	48	48	48	48	48	48	49	48	48	48	47	47	47	47	47	47	47	48	48	48	47	49	49	49	48	48	48	48	48	47	47	47	47	47	47	47		

Sources: Calico Solar, LLC, 2011. URS Corporation, 2011.