

Appendix E

Noise and Vibration Information

Project: SARCCUP - IEUA

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				IEUA				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
Well Drilling					85	85		
Drill Rig Truck	1	79	20%	30	83	76	79	0
Generator Sets	1	81	50%	30	85	82	85	0
Forklift	1	75	10%	30	79	69	72	0
Water Trucks	4	80	10%	30	90	80	83	0
Well Building Construction					83	83		
Concrete Mixer Trucks	1	79	40%	30	83	79	82	0
Rubber Tired Loader	1	79	50%	30	83	80	83	0
Forklift	1	75	10%	30	79	69	72	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: SARCCUP Arlington

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8 Daytime hours (7 am to 7 pm) 0 Evening hours (7 pm to 10 pm) 0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

				Arlington Recharge				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
Well Drilling					85	85		
Drill Rig Truck	1	79	20%	30	83	76	79	0
Generator Sets	1	81	50%	30	85	82	85	0
Forklift	1	75	10%	30	79	69	72	0
Water Trucks	4	80	10%	30	90	80	83	0
Well Building Construction					83	83		
Concrete Mixer Trucks	1	79	40%	30	83	79	82	0
Rubber Tired Loader	1	79	50%	30	83	80	83	0
Forklift	1	75	10%	30	79	69	72	0
Excavation and Shoring					89	92		
Water Trucks	3	80	10%	30	89	79	82	0
Excavator	2	81	40%	30	88	84	87	0
Backhoe	1	80	40%	30	84	80	83	0
Rubber Tired Loader	1	79	50%	30	83	80	83	0
Cranes	1	81	40%	30	85	81	84	0
Compactor (Ground)	1	83	20%	30	87	80	83	0
Other Equipment	1	85	50%	30	89	86	89	0
Pipe Installation					89	89		
Water Trucks	3	80	10%	30	89	79	82	0
Other Equipment	1	85	50%	30	89	86	89	0
Welders	1	74	40%	30	78	74	77	0
Cranes	1	81	40%	30	85	81	84	0
Generator Sets	1	81	50%	30	85	82	85	0
Street Restoration					84	81		
Paver	1	77	50%	30	81	78	81	0
Roller	1	80	20%	30	84	77	80	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: SARCCUP - Canyon Pump Station

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Canyon Pump Station				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
Decommissioning					85	89		
Water Trucks	1	80	10%	30	84	74	77	0
Excavator	1	81	40%	30	85	81	84	0
Backhoe	1	80	40%	30	84	80	83	0
Rubber Tired Loader	1	79	50%	30	83	80	83	0
Other Equipment	1	85	50%	30	89	86	89	0
Street Restoration					84	81		
Paver	1	77	50%	30	81	78	81	0
Roller	1	80	20%	30	84	77	80	0
New Western Pump Station					89	87		
Water Trucks	3	80	10%	30	89	79	82	0
Excavator	1	81	40%	30	85	81	84	0
Backhoe	1	80	40%	30	84	80	83	0
Welders	1	74	40%	30	78	74	77	0
Cranes	1	81	40%	30	85	81	84	0
Excavation and Shoring					89	91		
Water Trucks	3	80	10%	30	89	79	82	0
Excavator	2	81	40%	30	88	84	87	0
Backhoe	1	80	40%	30	84	80	83	0
Rubber Tired Loader	1	79	50%	30	83	80	83	0
Cranes	1	81	40%	30	85	81	84	0
Compactor (Ground)	1	83	20%	30	87	80	83	0
Other Equipment	1	85	50%	30	89	86	89	0
Pipe Installation					89	89		
Water Trucks	3	80	10%	30	89	79	82	0
Other Equipment	1	85	50%	30	89	86	89	0
Welders	1	74	40%	30	78	74	77	0
Cranes	1	81	40%	30	85	81	84	0
Generator Sets	1	81	50%	30	85	82	85	0
Street Restoration					84	81		
Paver	1	77	50%	30	81	78	81	0
Roller	1	80	20%	30	84	77	80	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: SARCCUP - ID-4 CRA Crossing

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				ID-4 CRA Crossing Refurbishment				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
					49	51		
Backhoe	1	80	40%	1700	49	45	48	0
Rubber Tired Loader	1	79	50%	1700	48	45	48	0
Cranes	1	81	40%	1700	50	46	49	0
Welders	1	74	40%	1700	43	39	42	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: SARCCUP - Arundo

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Arundo Removal				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
Mowing/Clearing/Grubbing					93	91		
Other Equipment	6	85	50%	50	93	90	93	0
Dozer	2	82	40%	50	85	81	84	0
Excavator	2	81	40%	50	84	80	83	0
Dump/Haul Trucks	7	76	20%	50	84	77	80	0
Rubber Tired Loader	1	79	50%	50	79	76	79	0
Water Trucks	1	80	10%	50	80	70	73	0
Pickup Truck	2	75	40%	50	78	74	77	0
Maintenance					78	74		
Pickup Truck	2	75	40%	50	78	74	77	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Vibration Calculations

Equipment	Caisson Drilling	Loaded Trucks	
Reference Vibration Levels	0.089	0.076	in/sec PPV
Reference Distance	25	25	feet
Distance to Sensitive Receptor	30	30	feet
	0.833333333	0.833333333	
	0.761	0.761	
Vibration Levels at Sensitive Receptor	0.068	0.058	in/sec PPV