APPENDIX B
CONSTRUCTION WORKSHEETS

LADWP Elysian Reservoir
Buried Reservoir Option

ESTIMATED VEHICLE TRIPS

			QTY	Trips Per Mon	Trips Total	Month	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	42	43	44	45	46	47	48	49	50	51	52
	Mob/Demob		1 ls		41		41																																																					
	Other:																																																											
	Construction Support Supplies			50			50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Explosives			20						20	20	20	20	20	20	20	20	20	20	20	20																	20	20																							
	Pipe				267													53	53	53	53	53																																						
	Rock Anchors				36			3	3	3	3	3	3	3	3	3	3	3																			3	3																						
1	Move in and Construct Roads, Construction Yards, Etc.				50		50																																																					
2a	Sink/Construct Shafts (a- 1, 2 and 3)	Shaft Muck	1,414 BCY		212			53	53	53	53																																																
2b	Sink/Construct Shafts (b- 4 and 5)	Shaft Muck	707 BCY		106																																53	53																						
3a	Construct Tunnels (a- 1 to 2 and 2 to 3)	Tunnel Muck	2,214 BCY		332							24	24	24	24	24	24	24	24	24	24	24	24	24	24																																				
3b	Construct Tunnels (b -2 to 5 and 4 to 6)	Tunnel Muck	791 BCY		119																																24	24	24	24	24																			
4	Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass	Assumed			50													10	10	10	10	10																																						
5	Demolition of ExistingFacilities	Assumed	7,000 CY		1,400															700	700																																							
10	Construct Retaining & Shear Walls	8 CY	24,047 CY		3,306																																					551	551	551	551	551	551														
11	Concrete - Bottom Lining		9,483 CY		1,304																																											435	435	435										
12	Concrete - Columns, Roof Cap and Roof Slab		11,723 CY		1,612																																														322	322	322	322	322				
10 LCY	Earth on top		26,672 FCY		2,667																																																				1,334	1,334
	Resteel	4,581,885 lb	2,291 tons		191																																					14	14	14	14	14	14	14	14	14	14	14	14	14					
	Cement	20,297,138 lb	10,149 tons		507																																101	101	101	101	101																			
10 LCY	Gravel, Drainage	8,891 cy			889																																											296	296	296										
	Forms				40																													40																											
10 LCY	a) Soil Exports + b) Soil Import Trips	42,074			5,049																																					468	468	468	468	468	468											1,121	1,121	
	Fuel (Diesel)			20			10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Misc. Concrete Operations			44											44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44			
	Avg. Daily Total Personnel-Commute Vehicle Trips						338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,962	1,530	1,530	1,530	947	947	947	947	947	740	740	740	740	740	740	1,827	1,827	1,075	1,075	1,075	1,474	1,474	1,474	1,474	1,474	1,474	1,251	1,251	1,251	1,849	1,849	1,849	1,849	1,849	901	901	120

	General Construction Schedule	CY	WD	Months	Start	Finish	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	42	43	44	45	46	47	48	49	50	51	52
1	Move in and Construct Roads, Construction Yards, Etc.		20	1.0	0.0	1.0																																																					
2a	Sink/Construct Shafts (a- 1, 2 and 3)		83	4.2	1.0	5.2																																																					
2b	Sink/Construct Shafts (b- 4 and 5)		40	2.0	30.0	32.0																																																					
3a	Construct Tunnels (a- 1 to 2 and 2 to 3)		285	14.3	5.2	19.4																																																					
3b	Construct Tunnels (b -2 to 5 and 4 to 6)		100	5.0	30.0	30.0																																																					
4	Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass		108	5.4	11.0	16.4																																																					
5	Demolition of ExistingFacilities		47	2.3	13.0	15.3																																																					
6	Rough Shaping of Res Bottom - Exc & Stockpile	93,606	187	9.4	15.0	24.4																																																					
7	Exc for Retaining Walls - Mostly Rock Excavation BCY	29,033	116	5.8	24.4	30.2																																																					
8	Overexcavate, Mix Soil-Cement & Re-Lay (both exc & fill) BCY	44,453	44	2.2	30.2	32.4																																																					
9	Build-Up Reservoir Bottom to 5:1 @ Dam Toe w/ Soil-Cement FCY	59,956	60	3.0	32.4	35.4																																																					
10	Construct Retaining & Shear Walls	24,047	107	5.4	35.4	40.7																																																					
11	Concrete - Bottom Lining	9,483	64	3.2	40.7	43.9																																																					
12	Concrete - Columns, Roof Cap and Roof Slab	11,723	96	4.8	43.9	48.7																																																					
13	Backfill Retaining Walls & Gap Upstream of Dam - Final Landscaping	84,638	37	1.9	48.7	50.6																																																					
14	Fill Reservoir / Demobilize		20	1.0	50.6	51.6																																																					
			1394																																																									

	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	42	43	44	45	46	47	48	49	50	51	52
Total Vehicles	489	576	576	596	596	700	700	700	744	744	744	1,239	1,236	2,356	2,336	2,163	1,668	1,668	1,668	1,061	1,061	1,061	1,061	1,061	854	854	854	894	854	854	2,143	2,143	1,314	1,314	1,314	2,621	2,621	2,621	2,621	2,621	2,621	2,110	2,110	2,110	2,299	2,299	2,299	2,299	2,299	3,425	3,425	120
Total Delivery Vehicle Trips	151	126	126	146	146	117	117	117	161	161	161	224	221	921	901	201	138	138	138	114	114	114	114	114	114	114	114	154	114	114	315	315	239	239	239	1,147	1,147	1,147	1,147	1,147	1,147	859	859	859	450	450	450	450	450	2,524	2,524	0
Avg. Daily Delivery Vehicle Trips	8	6	6	7	7	6	6	6	8	8	8	11	11	46	45	10	7	7	7	6	6	6	6	6	6	6	6	8	6	6	16	16	12	12	12	57	57	57	57	57	57	43	43	43	23	23	23	23	23	126	126	0
Total Commuter Vehicle Trips	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,962	1,530	1,530	1,530	947	947	947	947	947	740	740	740	740	740	740	1,827	1,827	1,075	1,075	1,075	1,474	1,474	1,474	1,474	1,474	1,474	1,251	1,251	1,251	1,849	1,849	1,849	1,849	1,849	901	901	120
Avg. Daily Commuter Vehicle Trips	17	23	23	23	23	29	29	29	29	29	29	51	51	72	72	98	77	77	77	47	47	47	47	47	37	37	37	37	37	37	91	91	54	54	54	74	74	74	74	74	74	63	63	63	92	92	92	92	92	45	45	6
Avg. Daily Total Vehicle Trips	24	29	29	30	30	35	35	35	37	37	37	62	62	118	117	108	83	83	83	53	53	53	53	53	43	43	43	45	43	43	107	107	66	66	66	131	131	131	131	131	131	105	105	105	115	115	115	115	115	173	173	6

LADWP Elysian Reservoir
Buried Reservoir Option
ESTIMATED EQUIPMENT OPERATIONS

20 WD/Month

	Qty	Operating Hrs/WD/each	Operating Hours per Month	Month	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	42	43	44	45	46	47	48	49	50	51	52
1 1/2 Ton Pickup (Commute Vehicle)	5	4	400		400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
2 3/4 Ton Pickup	2	8	320			320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320											
3 1 Ton Pickup	2	8	320			320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320											
4 4000 Gallon Water Truck	1	4	80		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
5 Dump Trucks	20	8	3200																	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200																	
6 Yard Crane, ATV	2	8	320		160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
7 Loader/ForksCat 966,	1	8	160		80	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
8 Job Trailers (3)	3	2	120		120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
9 Grader, Cat 16G	1	4	80		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
10 Dozer, D10	2	8	320																	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320															320	320	
11 Excavator, Cat 365	1	4	80																	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80															80	80	
12 Roller/Compactor	1	4	80																	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80															80	80	
13 Manitowoc Crane	1	8	160																										160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
14 Hydraulic Breaker	2	2	80															80	80	80	80	80	80	80	80	80	80	80																												
15 Misc.	10	2	400			400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
					920	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,120	2,120	5,960	5,960	5,960	5,960	5,960	5,960	5,960	5,960	5,960	6,040	6,040	6,040	6,040	6,040	6,040	6,040	6,040	6,040	6,040	6,040	2,360	2,360	2,360	2,360	2,360	2,360	1,720	1,720	1,720	1,720	1,720	1,720	1,720	1,720	5,400	5,400	400
			TOTAL Ave. Daily Equip. Units		6	13	13	13	13	13	13	13	13	13	13	13	13	13	13	37	37	37	37	37	37	37	37	37	38	38	38	38	38	38	38	38	38	38	38	15	15	15	15	15	15	11	11	11	11	11	11	11	11	34	34	3

General Construction Schedule

		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	42	43	44	45	46	47	48	49	50	51	52
1	**Move in and Construct Roads, Construction Yards, Etc.**																																																							
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**																																																							
2b	**Sink/Construct Shafts (b- 4 and 5)**																																																							
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**																																																							
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**																																																							
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**																																																							
5	**Demolition of ExistingFacilities**																																																							
6	**Rough Shaping of Res Bottom - Exc & Stockpile**																																																							
7	**Exc for Retaining Walls - Mostly Rock Excavation BCY**																																																							
8	**Overexcavate, Mix Soil-Cement & Re-Lay (both exc & fill) BCY**																																																							
9	**Build-Up Reservoir Bottom to 5:1 @ Dam Toe w/ Soil-Cement FCY**																																																							
10	**Construct Retaining & Shear Walls**																																																							
11	**Concrete - Bottom Lining**																																																							
12	**Concrete - Columns, Roof Cap and Roof Slab**																																																							
13	**Backfill Retaining Walls & Gap Upstream of Dam - Final Landscaping**																																																							
14	**Fill Reservoir / Demobilize**																																																							

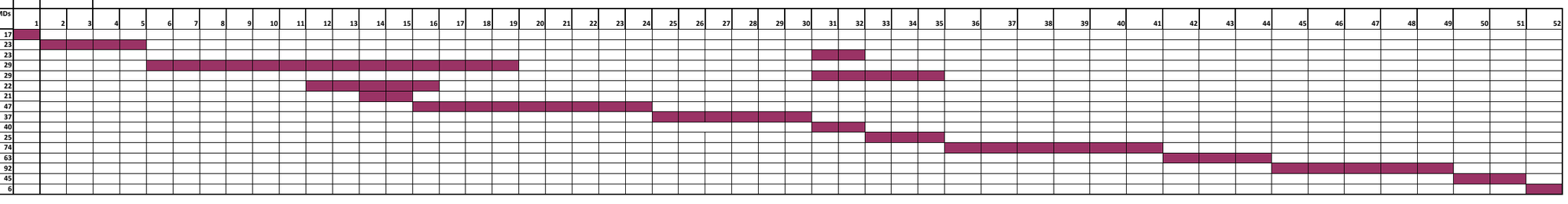
LADWP Elysian Reservoir
Buired Reservoir Option
ESTIMATED PERSONNEL

MANDAYS

Phase	Month	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	42	43	44	45	46	47	48	49	50	51	52
1	Move in and Construct Roads, Construction Yards, Etc.	238																																																			
2a	Sink/Construct Shafts (a- 1, 2 and 3)		330	330	330	330																																															
2b	Sink/Construct Shafts (b- 4 and 5)																															330	330																				
3a	Construct Tunnels (a- 1 to 2 and 2 to 3)						463	463	463	463	463	463	463	463	463	463	463	463	463	463																																		
3b	Construct Tunnels (b -2 to 5 and 4 to 6)																															463	463	463	463	463																		
4	Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass												311	311	311	311	311																																				
5	Demolition of ExistingFacilities														300	300																																						
6	Rough Shaping of Res Bottom - Exc & Stockpile																827	827	827	827	827	827	827	827	827																												
7	Exc for Retaining Walls - Mostly Rock Excavation BCY																									540	540	540	540	540	540																							
8	Overexcavate, Mix Soil-Cement & Re-Lay (both exc & fill) BCY																															674	674																				
9	Build-Up Reservoir Bottom to 5:1 @ Dam Toe w/ Soil-Cement FCY																																	371	371	371																	
10	Construct Retaining & Shear Walls																																				1,234	1,234	1,234	1,234	1,234	1,234											
11	Concrete - Bottom Lining																																										1,011	1,011	1,011								
12	Concrete - Columns, Roof Cap and Roof Slab																																													1,609	1,609	1,609	1,609	1,609			
13	Backfill Retaining Walls & Gap Upstream of Dam - Final Landscaping																																																		781	781	
	Office and Supervision WD/Month 20	100	120	120	120	120	120	120	120	120	120	120	240	240	360	360	360	240	240	240	120	120	120	120	120	200	200	200	200	200	200	360	360	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	120	120	120
	TOTAL MD/Month	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,962	1,530	1,530	1,530	947	947	947	947	947	740	740	740	740	740	740	1,827	1,827	1,075	1,075	1,075	1,474	1,474	1,474	1,474	1,474	1,474	1,251	1,251	1,251	1,849	1,849	1,849	1,849	1,849	901	901	120
	Avg. Field Worker MDs	12	17	17	17	17	23	23	23	23	23	23	39	39	54	54	80	65	65	65	41	41	41	41	41	27	27	27	27	27	27	73	73	42	42	42	62	62	62	62	62	62	51	51	51	80	80	80	80	80	39	39	0
	Office and Supervision	5	6	6	6	6	6	6	6	6	6	6	12	12	18	18	18	12	12	12	6	6	6	6	6	10	10	10	10	10	10	18	18	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	6	6	6
	Avg. Daily Total Personnel	17	23	23	23	23	29	29	29	29	29	29	51	51	72	72	98	77	77	77	47	47	47	47	47	37	37	37	37	37	37	91	91	54	54	54	74	74	74	74	74	74	63	63	63	92	92	92	92	92	45	45	6

General Construction Schedule

Phase		Field Worker MDs	Total Avg MDs
1	**Move in and Construct Roads, Construction Yards, Etc.**	12	17
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**	17	23
2b	**Sink/Construct Shafts (b- 4 and 5)**	17	23
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**	23	29
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**	23	29
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**	16	22
5	**Demolition of ExistingFacilities**	15	21
6	**Rough Shaping of Res Bottom - Exc & Stockpile**	41	47
7	**Exc for Retaining Walls - Mostly Rock Excavation BCY**	27	37
8	**Overexcavate, Mix Soil-Cement & Re-Lay (both exc & fill) BCY**	34	40
9	**Build-Up Reservoir Bottom to 5:1 @ Dam Toe w/ Soil-Cement FCY**	19	25
10	**Construct Retaining & Shear Walls**	62	74
11	**Concrete - Bottom Lining**	51	63
12	**Concrete - Columns, Roof Cap and Roof Slab**	80	92
13	**Backfill Retaining Walls & Gap Upstream of Dam - Final Landscaping**	39	45
14	**Fill Reservoir / Demobilize**	0	6



LADWP Elysian Reservoir
Floating Cover Option
ESTIMATED VEHICLE TRIPS

					Trips																																	
			QTY		Per Mon	Total	Month	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
	Mob		1	ls		41		41																															
	Other:																																						
	Construction Support Supplies				50			50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50								
	Explosives				20						20	20	20	20	20	20	20	20	20	20	20						20	20											
	Pipe					267													53	53	53	53	53																
	Rock Anchors					36			3	3	3	3	3	3	3	3	3	3	3								3	3											
1	Move in and Construct Roads, Construction Yards, Etc.					50		50																															
2a	Sink/Construct Shafts (a- 1, 2 and 3)	Shaft Muck	1,414	BCY		141			35	35	35	35																											
2b	Sink/Construct Shafts (b- 4 and 5)	Shaft Muck	707	BCY		71																					35	35											
3a	Construct Tunnels (a- 1 to 2 and 2 to 3)	Tunnel Muck	2,214	BCY		221							16	16	16	16	16	16	16	16	16	16	16	16	16	16													
3b	Sink/Construct Shafts (b- 4 and 5)	Tunnel Muck	791	BCY		79																					16	16	16	16	16								
4	Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass	Assumed				50													10	10	10	10	10																
5	Demolition of Inlet & Outlet, Reservoir liner	Assumed	4,650	CY		930															465	465																	
6	Installation of CAB, Asphalt Liner, and Vaults		10,000	CY		1,000																							143	143	143	143	143	143	143				
7	Installation of Floating Cover		323,100	SF		6																														2	2	2	
8	Fill Reservoir / Demobilize																																						
	Fuel (diesel)				20			10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Misc. Concrete Operations				44											44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44								
	Total Commuter Vehicle Trips							338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,015	583	583	583	1,033	1,033	1,083	1,083	1,083	500	500	500	500	360	360	360	120

	General Construction Schedule	Quantity	WD	Months	Start	Finish	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
1	**Move in and Construct Roads, Construction Yards, Etc.**		20	1.0	0.0	1.0																																
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**		83	4.2	1.0	5.2																																
2b	**Sink/Construct Shafts (b- 4 and 5)**		20	2.0	19.0	21.0																																
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**		285	14.3	5.1	19.4																																
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**		100	5.0	19.4	24.4																																
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**		108	5.4	11.0	16.4																																
5	**Demolition of Inlet & Outlet, Reservoir liner**	4,650	47	2.3	13.0	15.3																																
6	**Installation of CAB, Asphalt Liner, and Vaults**	10363 CY	140	6.5	21.0	27.5																																
7	**Installation of Floating Cover**	323,100 SF	50	3.0	28.0	31.0																																
8	**Fill Reservoir / Demobilize**	55 MG	20	1.0	31.0	32.0																																

	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
Total Vehicles	489	558	558	578	578	692	692	692	736	736	736	1,231	1,228	2,113	2,093	1,208	713	713	713	1,221	1,221	1,356	1,356	1,356	663	663	663	663	382	382	382	120
Total Delivery Vehicle Trips	151	108	108	128	128	109	109	109	153	153	153	216	213	678	658	193	130	130	130	188	188	273	273	273	163	163	163	163	22	22	22	0
Avg. Daily Delivery Vehicle Trips	8	5	5	6	6	5	5	5	8	8	8	11	11	34	33	10	6	6	6	9	9	14	14	14	8	8	8	8	1	1	1	0
Total Commuter Vehicle Trips	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,015	583	583	583	1,033	1,033	1,083	1,083	1,083	500	500	500	500	360	360	360	120
Avg. Daily Commuter Vehicle Trips	17	23	23	23	23	29	29	29	29	29	29	51	51	72	72	51	29	29	29	52	52	54	54	54	25	25	25	25	18	18	18	6
Avg. Daily Total Vehicle Trips	24	28	28	29	29	35	35	35	37	37	37	62	61	106	105	60	36	36	36	61	61	68	68	68	33	33	33	33	19	19	19	6

LADWP Elysian Reservoir
Floating Cover Option

ESTIMATED EQUIPMENT OPERATIONS

20/Month

		Qty	Operating Hrs/WD/each	Operating Hours per Month	Month	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
1	1/2 Ton Pickup (Commute Vehicle)	5	4	400		400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
2	3/4 Ton Pickup	2	8	320			320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320								
3	1 Ton Pickup	2	8	320			320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320								
4	4000 Gallon Water Truck	1	4	80		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	240	240	240	160	160	160	160				
5	Yard Crane, ATV	2	8	320		160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	320	320	320	320	320	320	320	320	320								
6	Loader/ForksCat 966,	1	8	160		80	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160								
7	Job Trailers (3)	3	2	120		120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120								
8	Grader, Cat 16G	1	4	80		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	240	240	240	160	160	160	160				
9	Dozer, D10	2	8	320																	320	320	320	320	320	320	480	480	480	160	160	160	160				
10	Excavator, Cat 365	1	4	80																	80	80	80	80	80	80	80	80	80								
11	Roller/Compactor (Vibratory)	1	4	80																	80	80	80	80	80	80	240	240	240	160	160	160	160				
12	Hydraulic Breaker	2	2	80															80	80	80	80	80	80	80	80	80	80	80								
13	Truck tractor	1	8	160																							160	160	160	160	160	160	160				
14	AC paver	1	8	160																							160	160	160	160	160	160	160				
15	Tandem Roller	1	8	160																							160	160	160	160	160	160	160				
16	Pulley Grader system	1	8	160																							160	160	160	160	160	160	160				
17	Gas Engine Vibrator	1	8	160																																	
18	Concrete Pump	1	8	160																																	
19	Crane, truck mounted	1	8	160																																	
20	Off-road forklift	1	8	160																														160	160	160	
21	K45 Generator	1	8	160																														160	160	160	
22	Drill	1	8	160																														160	160	160	
23	Air compressor	1	8	160																														160	160	160	
24	Misc.	10	2	400			400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
					TOTAL Hours	920	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,120	2,120	2,760	2,760	2,760	2,760	2,760	2,760	4,040	4,040	4,040	2,080	2,080	2,080	2,080	1,440	1,440	1,440	400
					TOTAL Ave. Daily Equip. Units	6	13	13	13	13	13	13	13	13	13	13	13	13	13	13	17	17	17	17	17	17	25	25	25	13	13	13	13	9	9	9	3

	General Construction Schedule	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
1	**Move in and Construct Roads, Construction Yards, Etc.**	■																															
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**		■	■	■	■																											
2b	**Sink/Construct Shafts (b- 4 and 5)**																				■	■											
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**						■	■	■	■	■	■	■	■	■	■	■	■	■	■													
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**																				■	■	■	■	■								
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**												■	■	■	■	■																
5	**Demolition of Inlet & Outlet, Reservoir liner**														■	■																	
6	**Installation of CAB, Asphalt Liner, and Vaults**																						■	■	■	■	■	■	■				
7	**Installation of Floating Cover**																													■	■	■	
8	**Fill Reservoir / Demobilize**																																■

LADWP Elysian Reservoir
Floating Cover Option

ESTIMATED PERSONNEL

Civil Work

MANDAYS

				Month	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
1	**Move in and Construct Roads, Construction Yards, Etc.**				238																															
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**					330	330	330	330																											
2b	**Sink/Construct Shafts (b- 4 and 5)**																							330	330											
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**									463	463	463	463	463	463	463	463	463	463	463	463	463	463													
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**																							463	463	463	463	463								
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**															311	311	311	311	311																
5	**Demolition of Inlet & Outlet, Reservoir liner**																	300	300																	
6	**Installation of CAB, Asphalt Liner, and Vaults**																									380	380	380	380	380	380	380				
7	**Installation of Floating Cover**																																240	240	240	
8	**Fill Reservoir / Demobilize**																																			0
	Office and Supervision	WD/Month	20		100	120	120	120	120	120	120	120	120	120	120	240	240	360	360	240	120	120	120	240	240	240	240	240	120	120	120	120	120	120	120	120
				TOTAL MD/Month	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,015	583	583	583	1,033	1,033	1,083	1,083	1,083	500	500	500	500	360	360	360	120
				Avg. Field Worker MDs	12	17	17	17	17	23	23	23	23	23	23	39	39	54	54	39	23	23	23	40	40	42	42	42	19	19	19	19	12	12	12	0
				Office and Supervision	5	6	6	6	6	6	6	6	6	6	6	12	12	18	18	12	6	6	6	12	12	12	12	12	6	6	6	6	6	6	6	6
				Avg. Daily Total Personnel	17	23	23	23	23	29	29	29	29	29	29	51	51	72	72	51	29	29	29	52	52	54	54	54	25	25	25	25	18	18	18	6

General Construction Schedule		Field Worker MDs	**Total Avg MDs**	**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**
1	**Move in and Construct Roads, Construction Yards, Etc.**	12	**17**																																
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**	17	**23**																																
2b	**Sink/Construct Shafts (b- 4 and 5)**	17	**39**																																
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**	23	**29**																																
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**	23	**52**																																
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**	16	**22**																																
5	**Demolition of Inlet & Outlet, Reservoir liner**	15	**21**																																
6	**Installation of CAB, Asphalt Liner, and Vaults**	19	**25**																																
7	**Installation of Floating Cover**	12	**18**																																
8	**Fill Reservoir / Demobilize**	0	**6**																																

Elysian Reservoir Project
Aluminum Cover Option
ESTIMATED VEHICLE TRIPS

			QTY	Trips Per Mon	Trips Total
Mob/Demob			1 ls		41
Construction Support Supplies				50	
Explosives				20	
Pipe					267
Rock Anchors					39
1 Move in and Construct Roads, Construction Yards, Etc.					50
2a Sink/Construct Shafts (a- 1, 2 and 3)	Shaft Muck		1,414 BCY		212
2b Sink/Construct Shafts (b- 4 , 5 and 6)	Shaft Muck		707 BCY		106
3a Construct Tunnels (a- 1 to 2 and 2 to 3)	Tunnel Muck		2,214 BCY		332
3b Construct Tunnels (b -2 to 5 and 4 to 6)	Tunnel Muck		791 BCY		119
4 Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass		Assumed			50
5 Demolition of ExistingFacilities		Assumed	7,000 CY		1,400
6 Installation of CAB and Asphalt Liner for Reservoir					1,000
7 Construction of Aluminum Cover					927
Fuel (Diesel)				20	
Misc. Concrete Operations				44	
Total Commuter Vehicle Trips					

Month	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	42	43	44	45	46
Mob/Demob	41																																													
Construction Support Supplies	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50																						
Explosives				20	20	20	20	20	20	20	20	20	20	20						20	20																									
Pipe												53	53	53	53	53																														
Rock Anchors		3	3	3	3	3	3	3	3	3	3	3								3	3																									
1 Move in and Construct Roads, Construction Yards, Etc.	50																																													
2a Sink/Construct Shafts (a- 1, 2 and 3)		53	53	53	53																																									
2b Sink/Construct Shafts (b- 4 , 5 and 6)																				53	53																									
3a Construct Tunnels (a- 1 to 2 and 2 to 3)						24	24	24	24	24	24	24	24	24	24	24	24	24	24																											
3b Construct Tunnels (b -2 to 5 and 4 to 6)																				24	24	24	24	24																						
4 Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass												10	10	10	10	10																														
5 Demolition of ExistingFacilities														700	700																															
6 Installation of CAB and Asphalt Liner for Reservoir																						142	143	143	143	143	143	143																		
7 Construction of Aluminum Cover																													54	54	54	54	54	54	54	54	55	55	55	55	55	55	55	55	55	55
Fuel (Diesel)	10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Misc. Concrete Operations									44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44																						
Total Commuter Vehicle Trips	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,015	583	583	583	1,033	1,033	1,083	1,083	1,083	500	500	500	500	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	120

General Construction Schedule	WD	Months	Start	Finish
1 Move in and Construct Roads, Construction Yards, Etc.	20	1.0	0.0	1.0
2a Sink/Construct Shafts (a- 1, 2 and 3)	83	4.2	1.0	5.2
2b Sink/Construct Shafts (b- 4 , 5 and 6)	40	2.0	19.0	21.0
3a Construct Tunnels (a- 1 to 2 and 2 to 3)	285	14.3	5.1	19.4
3b Construct Tunnels (b -2 to 5 and 4 to 6)	100	5.0	19.4	24.4
4 Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass	108	5.4	11.0	16.4
5 Demolition of ExistingFacilities	47	2.3	13.0	15.3
6 Installation of CAB and Asphalt Liner for Reservoir	140	7.0	21.0	28.0
7 Construction of Aluminum Cover	341	17.1	28.0	45.1
8 Fill Reservoir / Demobilize	20	1.0	45.1	46.1
	929			

	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	42	43	44	45	46
Total Vehicles	489	576	576	596	596	700	700	700	744	744	744	1,239	1,236	2,356	2,336	1,216	721	721	721	1,247	1,247	1,363	1,364	1,364	663	663	663	663	536	536	536	536	536	536	536	536	537	537	537	537	537	537	537	537	537	537	120
Total Delivery Vehicle Trips	151	126	126	146	146	117	117	117	161	161	161	224	221	921	901	201	138	138	138	214	214	280	281	281	163	163	163	163	74	74	74	74	74	74	74	74	75	75	75	75	75	75	75	75	75	0
Avg. Daily Delivery Vehicle Trips	8	6	6	7	7	6	6	6	8	8	8	11	11	46	45	10	7	7	7	11	11	14	14	14	8	8	8	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0
Total Commuter Vehicle Trips	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,015	583	583	583	1,033	1,033	1,083	1,083	1,083	500	500	500	500	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	120
Avg. Daily Commuter Vehicle Trips	17	23	23	23	23	29	29	29	29	29	29	51	51	72	72	51	29	29	29	52	52	54	54	54	25	25	25	25	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	6
Avg. Daily Total Vehicle Trips	24	29	29	30	30	35	35	35	37	37	37	62	62	118	117	61	36	36	36	62	62	68	68	68	33	33	33	33	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	6

Elysian Reservoir Project
Aluminum Cover Option
ESTIMATED EQUIPMENT OPERATIONS

20 WD/Month

	Qty	Operating Hrs/WD/each	Operating Hours per Month	Month 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	42	43	44	45	46
1 1/2 Ton Pickup (Commute Vehicle)	5	4	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
2 3/4 Ton Pickup	2	8	320		320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320																						
3 1 Ton Pickup	2	8	320		320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320																						
4 4000 Gallon Water Truck	1	4	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	240	240	240	160	160	160	160																		
5 Yard Crane, ATV	2	8	320	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	320	320	320	320	320	320	320	320	320																						
6 Loader/ForksCat 966,	1	8	160	80	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160																						
7 Job Trailers (3)	3	2	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120																						
8 Grader, Cat 16G	1	4	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	240	240	240	160	160	160	160																		
9 Dozer, D10	2	8	320																320	320	320	320	320	320	480	480	480	160	160	160	160																		
10 Excavator, Cat 365	1	4	80																80	80	80	80	80	80	80	80	80																						
11 Roller/Compactor (Vibratory)	1	4	80																80	80	80	80	80	80	240	240	240	160	160	160	160																		
12 Hydraulic Breaker	2	2	80														80	80	80	80	80	80	80	80	80	80	80																						
13 Truck Tractor	1	8	160																						160	160	160	160	160	160	160																		
14 Asphalt Paver	1	8	160																						160	160	160	160	160	160	160																		
15 Tandem Roller	1	8	160																						160	160	160	160	160	160	160																		
16 Pulley Grader System	1	8	160																						160	160	160	160	160	160	160																		
17 Hydraulic Crane, 55 Ton	2	8	320																													320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	
18 Drill Rig with Auger	1	8	160																													160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	
19 Front End Loader	1	8	160																													160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	
20 Hydraulic Excavator	1	8	160																													160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	
21 Gas Engine Vibrator	1	8	160																													160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	
22 Cherry Picker (boom lifts)	2	8	320																													320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	
23 Water Truck	1	8	160																													160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	
24 Concrete pump	1	8	160																													160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	
25 Misc.	10	2	400		400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
TOTAL Hours				920	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,040	2,120	2,120	2,760	2,760	2,760	2,760	2,760	2,760	4,040	4,040	4,040	2,080	2,080	2,080	2,080	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	400
TOTAL Ave. Daily Equip. Units				6	13	13	13	13	13	13	13	13	13	13	13	13	13	13	17	17	17	17	17	17	25	25	25	13	13	13	13	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	3

General Construction Schedule

		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	42	43	44	45	46
1	**Move in and Construct Roads, Construction Yards, Etc.**																																														
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**																																														
2b	**Sink/Construct Shafts (b- 4 , 5 and 6)**																																														
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**																																														
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**																																														
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**																																														
5	**Demolition of ExistingFacilities**																																														
6	**Installation of CAB and Asphalt Liner for Reservoir**																																														
7	**Construction of Aluminum Cover**																																														
8	**Fill Reservoir / Demobilize**																																														

Elysian Reservoir Project
Aluminum Cover Option
ESTIMATED PERSONNEL
Civil Work

MANDAYS

Phase			Month	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	42	43	44	45	46
1	Move in and Construct Roads, Construction Yards, Etc.			238																																														
2a	Sink/Construct Shafts (a- 1, 2 and 3)				330	330	330	330																																										
2b	Sink/Construct Shafts (b- 4 , 5 and 6)																						330	330																										
3a	Construct Tunnels (a- 1 to 2 and 2 to 3)								463	463	463	463	463	463	463	463	463	463	463	463	463	463																												
3b	Construct Tunnels (b -2 to 5 and 4 to 6)																						463	463	463	463	463																							
4	Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass														311	311	311	311	311																															
5	Demolition of ExistingFacilities																300	300																																
6	Installation of CAB and Asphalt Liner for Reservoir																								380	380	380	380	380	380	380																			
7	Construction of Aluminum Cover																															282	282	282	282	282	282	282	282	282	282	282	282	282	282	282	282		
8	Fill Reservoir																																																0
	Office and Supervision	WD/Month	20	100	120	120	120	120	120	120	120	120	120	120	240	240	360	360	240	120	120	120	240	240	240	240	240	120	120	120	120	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	120
			TOTAL MD/Month	338	450	450	450	450	583	583	583	583	583	583	1,015	1,015	1,435	1,435	1,015	583	583	583	1,033	1,033	1,083	1,083	1,083	500	500	500	500	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	120
			Avg. Field Worker MDs	12	17	17	17	17	23	23	23	23	23	23	39	39	54	54	39	23	23	23	40	40	42	42	42	19	19	19	19	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	0
			Office and Supervision	5	6	6	6	6	6	6	6	6	6	6	12	12	18	18	12	6	6	6	12	12	12	12	12	6	6	6	6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	6
			Avg. Daily Total Personnel	17	23	23	23	23	29	29	29	29	29	29	51	51	72	72	51	29	29	29	52	52	54	54	54	25	25	25	25	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	6

General Construction Schedule

Phase		Field Worker MDs	Total Avg MDs	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	42	43	44	45	46
1	**Move in and Construct Roads, Construction Yards, Etc.**	12	**17**																																															
2a	**Sink/Construct Shafts (a- 1, 2 and 3)**	17	**23**																																															
2b	**Sink/Construct Shafts (b- 4 , 5 and 6)**	17	**23**																																															
3a	**Construct Tunnels (a- 1 to 2 and 2 to 3)**	23	**29**																																															
3b	**Construct Tunnels (b -2 to 5 and 4 to 6)**	23	**29**																																															
4	**Drain Reservoir / Build Shaft 4 and Connect to 3 / Activate Bypass**	16	**22**																																															
5	**Demolition of ExistingFacilities**	15	**21**																																															
6	**Installation of CAB and Asphalt Liner for Reservoir**	19	**25**																																															
7	**Construction of Aluminum Cover**	14	**23**																																															
8	**Fill Reservoir / Demobilize**	0	**6**																																															

LADWP Elysian Reservoir Project
Inlet Line Construction
ESTIMATED VEHICLE TRIPS

			QTY		Trips Per Mon	Trips Total	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Mob		1	ls		40		20	20																					
	Construction Support Supplies				25			25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25			
	Pipe (Casing, carrier, and connector pipe to RSTL)		4750	LF		220					22	22	22	22	22	22	9	9	9	9	9	9	9	9	9	9	5			
1	Move in & site preparation				25			25	25																					
2	Excavate & shore tunnel launch and receiving pit	Shaft Muck	890	CY		135				135																				
3	Tunneling and 102 inch diameter casing	Tunnel Muck	5,023	CY		753					126	126	126	126	126	126														
4	54 inch diameter Carrier installation (see pipe delivery above)																													
5	Cut and cover from launch pit to RSTL connection, backfilling excavations		847	CY		321																					321			
6	Riverside Dr. and Caltrans Island restoration								10																			5	10	
7	Demobilize																													
	Fuel (diesel)				20			10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10			
	Concrete Operations				22					22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22			
	Total Commuter Vehicle Trips							340	340	360	220	220	220	220	220	220	260	260	260	260	260	260	260	260	260	260	200	120	120	60

	General Construction Schedule	Quantity	WD	Months	Start	Finish	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	**Move in & site preparation**		40	2.0	0.0	2.0																							
2	**Excavate & shore tunnel launch pit**	890 CY	60	1.0	2.0	3.0																							
3	**Tunneling and 102 inch diameter casing**	2300 LF	115	5.8	3.0	8.8																							
4	**54 inch diameter Carrier installation**	2300 LF	192	9.6	9.0	18.6																							
5	**Cut and cover from launch pit to RSTL connection, backfilling excavations**	122 LF	10	0.5	19.0	19.5																							
6	**Riverside Dr. and Caltrans Island restoration**	47,500 SF	40	2.0	20.0	22.0																							
7	**Demobilize**		20	1.0	22.0	23.0																							

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Total Vehicles	420	440	562	434	434	434	434	434	434	336	336	336	336	336	336	336	336	336	336	583	125	130	60
Total Delivery Vehicle Trips	80	100	202	214	214	214	214	214	214	76	76	76	76	76	76	76	76	76	76	383	5	10	0
Avg. Daily Delivery Vehicle Trips	4	5	10	11	11	11	11	11	11	4	4	4	4	4	4	4	4	4	4	19	0	1	0
Total Commuter Vehicle Trips	340	340	360	220	220	220	220	220	220	260	260	260	260	260	260	260	260	260	260	200	120	120	60
Avg. Daily Commuter Vehicle Trips	17	17	18	11	11	11	11	11	11	13	13	13	13	13	13	13	13	13	13	10	6	6	3
Avg. Daily Total Vehicle Trips	21	22	28	22	22	22	22	22	22	17	17	17	17	17	17	17	17	17	17	29	6	7	3

LADWP Elysian Reservoir Project
Inlet Line Construction
ESTIMATED VEHICLE TRIPS

			QTY		Trips Per Mon	Trips Total	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Mob		1	ls		40		20	20																					
	Construction Support Supplies				25			25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25			
	Pipe (Casing, carrier, and connector pipe to RSTL)		4750	LF		220					22	22	22	22	22	22	9	9	9	9	9	9	9	9	9	9	5			
1	Move in & site preparation				25			25	25																					
2	Excavate & shore tunnel launch and receiving pit	Shaft Muck	890	CY		135				135																				
3	Tunneling and 102 inch diameter casing	Tunnel Muck	5,023	CY		753					126	126	126	126	126	126														
4	54 inch diameter Carrier installation (see pipe delivery above)																													
5	Cut and cover from launch pit to RSTL connection, backfilling excavations		847	CY		321																					321			
6	Riverside Dr. and Caltrans Island restoration								10																			5	10	
7	Demobilize																													
	Fuel (diesel)				20			10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10			
	Concrete Operations				22					22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22			
	Total Commuter Vehicle Trips							340	340	360	220	220	220	220	220	220	260	260	260	260	260	260	260	260	260	260	200	120	120	60

	General Construction Schedule	Quantity	WD	Months	Start	Finish	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	**Move in & site preparation**		40	2.0	0.0	2.0																							
2	**Excavate & shore tunnel launch pit**	890 CY	60	1.0	2.0	3.0																							
3	**Tunneling and 102 inch diameter casing**	2300 LF	115	5.8	3.0	8.8																							
4	**54 inch diameter Carrier installation**	2300 LF	192	9.6	9.0	18.6																							
5	**Cut and cover from launch pit to RSTL connection, backfilling excavations**	122 LF	10	0.5	19.0	19.5																							
6	**Riverside Dr. and Caltrans Island restoration**	47,500 SF	40	2.0	20.0	22.0																							
7	**Demobilize**		20	1.0	22.0	23.0																							

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Total Vehicles	420	440	562	434	434	434	434	434	434	336	336	336	336	336	336	336	336	336	336	583	125	130	60
Total Delivery Vehicle Trips	80	100	202	214	214	214	214	214	214	76	76	76	76	76	76	76	76	76	76	383	5	10	0
Avg. Daily Delivery Vehicle Trips	4	5	10	11	11	11	11	11	11	4	4	4	4	4	4	4	4	4	4	19	0	1	0
Total Commuter Vehicle Trips	340	340	360	220	220	220	220	220	220	260	260	260	260	260	260	260	260	260	260	200	120	120	60
Avg. Daily Commuter Vehicle Trips	17	17	18	11	11	11	11	11	11	13	13	13	13	13	13	13	13	13	13	10	6	6	3
Avg. Daily Total Vehicle Trips	21	22	28	22	22	22	22	22	22	17	17	17	17	17	17	17	17	17	17	29	6	7	3

LADWP Elysian Reservoir Project
Inlet Line Construction
ESTIMATED VEHICLE TRIPS

			QTY		Trips Per Mon	Trips Total	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Mob		1	ls		40		20	20																					
	Construction Support Supplies				25			25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25			
	Pipe (Casing, carrier, and connector pipe to RSTL)		4750	LF		220					22	22	22	22	22	22	9	9	9	9	9	9	9	9	9	9	5			
1	Move in & site preparation				25			25	25																					
2	Excavate & shore tunnel launch and receiving pit	Shaft Muck	890	CY		135				135																				
3	Tunneling and 102 inch diameter casing	Tunnel Muck	5,023	CY		753					126	126	126	126	126	126														
4	54 inch diameter Carrier installation (see pipe delivery above)																													
5	Cut and cover from launch pit to RSTL connection, backfilling excavations		847	CY		321																					321			
6	Riverside Dr. and Caltrans Island restoration								10																			5	10	
7	Demobilize																													
	Fuel (diesel)				20			10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10			
	Concrete Operations				22					22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22			
	Total Commuter Vehicle Trips							340	340	360	220	220	220	220	220	220	260	260	260	260	260	260	260	260	260	260	200	120	120	60

	General Construction Schedule	Quantity	WD	Months	Start	Finish	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	**Move in & site preparation**		40	2.0	0.0	2.0																							
2	**Excavate & shore tunnel launch pit**	890 CY	60	1.0	2.0	3.0																							
3	**Tunneling and 102 inch diameter casing**	2300 LF	115	5.8	3.0	8.8																							
4	**54 inch diameter Carrier installation**	2300 LF	192	9.6	9.0	18.6																							
5	**Cut and cover from launch pit to RSTL connection, backfilling excavations**	122 LF	10	0.5	19.0	19.5																							
6	**Riverside Dr. and Caltrans Island restoration**	47,500 SF	40	2.0	20.0	22.0																							
7	**Demobilize**		20	1.0	22.0	23.0																							

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Total Vehicles	420	440	562	434	434	434	434	434	434	336	336	336	336	336	336	336	336	336	336	583	125	130	60
Total Delivery Vehicle Trips	80	100	202	214	214	214	214	214	214	76	76	76	76	76	76	76	76	76	76	383	5	10	0
Avg. Daily Delivery Vehicle Trips	4	5	10	11	11	11	11	11	11	4	4	4	4	4	4	4	4	4	4	19	0	1	0
Total Commuter Vehicle Trips	340	340	360	220	220	220	220	220	220	260	260	260	260	260	260	260	260	260	260	200	120	120	60
Avg. Daily Commuter Vehicle Trips	17	17	18	11	11	11	11	11	11	13	13	13	13	13	13	13	13	13	13	10	6	6	3
Avg. Daily Total Vehicle Trips	21	22	28	22	22	22	22	22	22	17	17	17	17	17	17	17	17	17	17	29	6	7	3