
Code	# of Structures Demolished	Demolition per day (sf)
No Demolition		

Construction Schedule for

Funks Reservoir

06

Subpackage

Phase	Code	Start Date	End Date	Working Days	Days/Week
06 Funks Reservoir	Funks Reservoir-06				
06.01 Funks Reservoir Admin and Operations BLDG	Funks Reservoir-0601	5/1/2027	5/1/2028	262	5
06.02 Funks Reservoir Maintenance and Storage BLDG	Funks Reservoir-0602	5/1/2027	5/1/2028	262	5
06.03 Funks Reservoir Flow Meter Vault	Funks Reservoir-0603	6/1/2027	12/1/2027	131	5
06.04 Funks Reservoir	Funks Reservoir-0604	11/6/2025	11/6/2027	522	5

01
02
03
04

Offroad Equipment (Fossil Fuel) Inventory for

Funks Reservoir

06

Code	Equipment Name	General Equipment Category	#/day	Hours/day/ equipment	Fuel Type	Engine Horsepower (if known)	Fuel (gal/day) (if known)
Funks Reservoir-0601	Hyd. Excavator, .75 C.Y.	Excavators	0.08	8	Diesel		
Funks Reservoir-0601	Trowel, 48" Walk-Behind	Other Construction Equipment	0.01	8	Diesel		
Funks Reservoir-0601	Hyd. Crane, 12 Ton	Cranes	0.01	8	Diesel		
Funks Reservoir-0601	Hydraulic Crane, 25 ton	Cranes	0.01	8	Diesel		
Funks Reservoir-0601	S.P. Crane, 4x4, 5 Ton	Cranes	0.01	8	Diesel		
Funks Reservoir-0601	Grader, 30,000 Lbs.	Graders	0.00	8	Diesel		
Funks Reservoir-0601	Concrete Pump (Small)	Pumps	0.00	8	Diesel		
Funks Reservoir-0601	Grout Pump, 50 C.F./hr.	Pumps	0.01	8	Diesel		
Funks Reservoir-0601	Vibratory Roller, Towed, 23 Ton	Rollers	0.03	8	Diesel		
Funks Reservoir-0601	Dozer, 200 H.P.	Rubber Tired Dozers	0.03	8	Diesel		
Funks Reservoir-0601	Gas Engine Vibrator	Other Construction Equipment	0.02	8	Gasoline		
Funks Reservoir-0601	Welder, Gas Engine, 300 amp	Welders	0.00	8	Gasoline		
Funks Reservoir-0602	Hyd. Excavator, .75 C.Y.	Excavators	0.03	8	Diesel		
Funks Reservoir-0602	Trowel, 48" Walk-Behind	Other Construction Equipment	0.01	8	Diesel		
Funks Reservoir-0602	Hyd. Crane, 12 Ton	Cranes	0.00	8	Diesel		
Funks Reservoir-0602	Hydraulic Crane, 25 ton	Cranes	0.00	8	Diesel		
Funks Reservoir-0602	Grader, 30,000 Lbs.	Graders	0.00	8	Diesel		
Funks Reservoir-0602	Concrete Pump (Small)	Pumps	0.00	8	Diesel		
Funks Reservoir-0602	Grout Pump, 50 C.F./hr.	Pumps	0.02	8	Diesel		
Funks Reservoir-0602	Vibratory Roller, Towed, 23 Ton	Rollers	0.01	8	Diesel		
Funks Reservoir-0602	Dozer, 200 H.P.	Rubber Tired Dozers	0.01	8	Diesel		
Funks Reservoir-0602	Gas Engine Vibrator	Other Construction Equipment	0.01	8	Gasoline		
Funks Reservoir-0602	Welder, Gas Engine, 300 amp	Welders	0.01	8	Gasoline		
Funks Reservoir-0603	Hyd. Excavator, .75 C.Y.	Excavators	0.06	8	Diesel		
Funks Reservoir-0603	Hyd. Excavator, 2.5 C.Y.	Excavators	0.13	8	Diesel		
Funks Reservoir-0603	Rammer/Tamper, Gas, 15"	Other Construction Equipment	0.03	8	Diesel		
Funks Reservoir-0603	Trowel, 48" Walk-Behind	Other Construction Equipment	0.01	8	Diesel		
Funks Reservoir-0603	Crawler Crane, 75 Ton	Cranes	0.03	8	Diesel		
Funks Reservoir-0603	Lattice Boom Crane, 90 Ton	Cranes	0.01	8	Diesel		
Funks Reservoir-0603	Hydraulic Crane, 25 ton	Cranes	0.01	8	Diesel		
Funks Reservoir-0603	Grader, 30,000 Lbs.	Graders	0.00	8	Diesel		
Funks Reservoir-0603	Concrete Pump (Small)	Pumps	0.05	8	Diesel		
Funks Reservoir-0603	Tandem Roller, 5 Ton	Rollers	0.00	8	Diesel		
Funks Reservoir-0603	Vibratory Roller, Towed, 23 Ton	Rollers	0.02	8	Diesel		
Funks Reservoir-0603	Sheepsfoot Roller, 240 H.P.	Rollers	0.03	8	Diesel		
Funks Reservoir-0603	Dozer, 200 H.P.	Rubber Tired Dozers	0.02	8	Diesel		
Funks Reservoir-0603	F.E. Loader, W.M., 5.5 C.Y.	Tractors/Loaders/Backhoes	0.17	8	Diesel		
Funks Reservoir-0603	Truck Tractor, 220 H.P.	Off-Highway Tractors	0.03	8	Diesel		
Funks Reservoir-0603	Truck Tractor, 6x4, 380 H.P.	Off-Highway Tractors	0.15	8	Diesel		
Funks Reservoir-0603	Gas Engine Vibrator	Other Construction Equipment	0.10	8	Gasoline		
Funks Reservoir-0603	Welder, Gas Engine, 300 amp	Welders	0.09	8	Gasoline		
Funks Reservoir-0604	Clamshell Bucket, 1 C.Y.	Other Construction Equipment	3.08	8	Diesel		
Funks Reservoir-0604	Backhoe Loader, 48 H.P.	Tractors/Loaders/Backhoes	0.38	8	Diesel		
Funks Reservoir-0604	Crawler Crane, 25 Ton	Cranes	3.08	8	Diesel		
Funks Reservoir-0604	Hydraulic Crane, 25 ton	Cranes	0.02	8	Diesel		
Funks Reservoir-0604	20' Suction Hose, 6"	Pumps	3.08	8	Diesel		
Funks Reservoir-0604	50' Discharge Hose, 6"	Pumps	61.69	8	Diesel		
Funks Reservoir-0604	Centr. Water Pump, 6"	Pumps	3.08	8	Diesel		
Funks Reservoir-0604	Sheepsfoot Roller, 240 H.P.	Rollers	0.16	8	Diesel		
Funks Reservoir-0604	S.P. Scraper, 21 C.Y.	Scapters	0.21	8	Diesel		
Funks Reservoir-0604	Dozer, 200 H.P.	Rubber Tired Dozers	0.93	8	Diesel		
Funks Reservoir-0604	Dozer, 300 H.P.	Rubber Tired Dozers	0.05	8	Diesel		
Funks Reservoir-0604	Crawler Loader, 3 C.Y.	Tractors/Loaders/Backhoes	0.02	8	Diesel		
Funks Reservoir-0604	F.E. Loader, W.M., 5.5 C.Y.	Tractors/Loaders/Backhoes	1.97	8	Diesel		
Funks Reservoir-0604	Truck Tractor, 6x4, 380 H.P.	Off-Highway Tractors	1.70	8	Diesel		

Note:

1. Number of equipment/day = Total Equipment Hours / 8 hours per day / Total number of days of the Sub-package.
2. Number of equipment in this table represents averages throughout each sub-package. It does not represent a typical day or peak day conditions.

Jacobs Calculations for #/days

Package		Equipment	total hours (Engineering Data)	hours per day	total equipment days @listed hours per day	total number of working days/phase	Number of equipment/day @ listed hours per day
		Hyd. Excavator, .75 C.Y.	157.40	8	20	262	0.08
		Trowel, 48" Walk-Behind	15.93	8	2	262	0.01
		Hyd. Crane, 12 Ton	12.39	8	2	262	0.01
		Hydraulic Crane, 25 ton	14.17	8	2	262	0.01
		S.P. Crane, 4x4, 5 Ton	17.27	8	2	262	0.01
		Grader, 30,000 Lbs.	2.92	8	0	262	0.00
		Concrete Pump (Small)	10.14	8	1	262	0.00
		Grout Pump, 50 C.F./hr.	24.27	8	3	262	0.01
		Vibratory Roller, Towed, 23 Ton	58.02	8	7	262	0.03
		Dozer, 200 H.P.	58.02	8	7	262	0.03
		Gas Engine Vibrator	46.14	8	6	262	0.02
		Welder, Gas Engine, 300 amp	6.11	8	1	262	0.00
		Hyd. Excavator, .75 C.Y.	62.96	8	8	262	0.03
		Trowel, 48" Walk-Behind	12.74	8	2	262	0.01
		Hyd. Crane, 12 Ton	10.00	8	1	262	0.00
		Hydraulic Crane, 25 ton	1.27	8	0	262	0.00
		Grader, 30,000 Lbs.	2.33	8	0	262	0.00
		Concrete Pump (Small)	8.31	8	1	262	0.00
		Grout Pump, 50 C.F./hr.	34.95	8	4	262	0.02
		Vibratory Roller, Towed, 23 Ton	23.21	8	3	262	0.01
		Dozer, 200 H.P.	23.21	8	3	262	0.01
		Gas Engine Vibrator	25.52	8	3	262	0.01
		Welder, Gas Engine, 300 amp	15.70	8	2	262	0.01
		Hyd. Excavator, .75 C.Y.	62.96	8	8	131	0.06
		Hyd. Excavator, 2.5 C.Y.	139.17	8	17	131	0.13
		Rammer/Tamper, Gas, 15"	28.72	8	4	131	0.03
		Trowel, 48" Walk-Behind	14.44	8	2	131	0.01
		Crawler Crane, 75 Ton	36.00	8	5	131	0.03
		Lattice Boom Crane, 90 Ton	7.87	8	1	131	0.01
		Hydraulic Crane, 25 ton	14.31	8	2	131	0.01
		Grader, 30,000 Lbs.	2.65	8	0	131	0.00
		Concrete Pump (Small)	50.21	8	6	131	0.05
		Tandem Roller, 5 Ton	4.84	8	1	131	0.00
		Vibratory Roller, Towed, 23 Ton	23.21	8	3	131	0.02
		Sheepsfoot Roller, 240 H.P.	36.13	8	5	131	0.03
		Dozer, 200 H.P.	23.21	8	3	131	0.02
		F.E. Loader, W.M., 5.5 C.Y.	181.50	8	23	131	0.17
		Truck Tractor, 220 H.P.	34.10	8	4	131	0.03
		Truck Tractor, 6x4, 380 H.P.	156.92	8	20	131	0.15
		Gas Engine Vibrator	109.32	8	14	131	0.10
		Welder, Gas Engine, 300 amp	96.28	8	12	131	0.09
		Clamshell Bucket, 1 C.Y.	12,880.00	8	1610	522	3.08
		Backhoe Loader, 48 H.P.	1,583.25	8	198	522	0.38
		Crawler Crane, 25 Ton	12,880.00	8	1610	522	3.08
		Hydraulic Crane, 25 ton	80.00	8	10	522	0.02
		20' Suction Hose, 6"	12,880.00	8	1610	522	3.08
		50' Discharge Hose, 6"	257,600.00	8	32200	522	61.69
		Centr. Water Pump, 6"	12,880.00	8	1610	522	3.08
		Sheepsfoot Roller, 240 H.P.	648.00	8	81	522	0.16
		S.P. Scraper, 21 C.Y.	897.60	8	112	522	0.21
		Dozer, 200 H.P.	3,894.57	8	487	522	0.93
		Dozer, 300 H.P.	224.40	8	28	522	0.05
		Crawler Loader, 3 C.Y.	80.00	8	10	522	0.02
		F.E. Loader, W.M., 5.5 C.Y.	8,236.98	8	1030	522	1.97
		Truck Tractor, 6x4, 380 H.P.	7,098.73	8	887	522	1.70

Jacobs Equipment Types

Equipment	General Type	Fuel Type
Asphalt Paver, 130 H.P.	Pavers	Diesel
Horz. Boring Csg. Mch.	Bore/Drill Rigs	Diesel
Hyd. Excavator, 1.5 C.Y.	Excavators	Diesel
Hyd. Excavator, 2.5 C.Y.	Excavators	Diesel
Backhoe Loader, 48 H.P.	Tractors/Loaders/Backhoes	Diesel
Crawler Crane, 75 Ton	Cranes	Diesel
Hydraulic Crane, 25 ton	Cranes	Diesel
Hyd. Crane, 55 Ton	Cranes	Diesel
S.P. Crane, 4x4, 12 Ton	Cranes	Diesel
Grader, 30,000 Lbs.	Graders	Diesel
Concrete Pump (Small)	Pumps	Diesel
Grout Pump, 50 C.F./hr.	Pumps	Diesel
Roller, Vibratory, 25 Ton	Rollers	Diesel
Tandem Roller, 10 Ton	Rollers	Diesel
Roller, Pneum. Whl., 12 Ton	Rollers	Diesel
Sheepsfoot Roller, 240 H.P.	Rollers	Diesel
S.P. Scraper, 14 C.Y.	Scrapers	Diesel
Dozer, 200 H.P.	Rubber Tired Dozers	Diesel
Dozer, 300 H.P.	Rubber Tired Dozers	Diesel
F.E. Loader, Crl, 1.5 C.Y.	Tractors/Loaders/Backhoes	Diesel
F.E. Loader, W.M., 5.5 C.Y.	Tractors/Loaders/Backhoes	Diesel
Dump Truck, 12 C.Y., 400 H.P.	Off-Highway Trucks	Diesel
Water Tank Trailer, 5000 Gal.	Off-Highway Trucks	Diesel
Dump Trailer, 20 C.Y.	Off-Highway Trucks	Diesel
Truck Tractor, 220 H.P.	Off-Highway Tractors	Diesel
Truck Tractor, 6x4, 380 H.P.	Off-Highway Tractors	Diesel
Truck Tractor, 6x4, 450 H.P.	Off-Highway Tractors	Diesel
Gas Engine Vibrator	Other Construction Equipment	Gasoline
Welder, Electric, 300 amp	Welders	Electric
Welder, Gas Engine, 300 amp	Welders	Gasoline
Rammer/Tamper, Gas, 15"	Other Construction Equipment	Diesel
Trowel, 48" Walk-Behind	Other Construction Equipment	Diesel
Lattice Boom Crane, 40 Ton	Cranes	Diesel
Tandem Roller, 5 Ton	Rollers	Diesel
Clamshell Bucket, .5 C.Y.	Other Construction Equipment	Diesel
Crawler Crane, 15 Ton	Cranes	Diesel
20' Suction Hose, 6"	Pumps	Diesel
50' Discharge Hose, 6"	Pumps	Diesel
Centr. Water Pump, 6"	Pumps	Diesel
Clamshell Bucket, 1 C.Y.	Other Construction Equipment	Diesel
Crawler Crane, 25 Ton	Cranes	Diesel
Crawler Loader, 3 C.Y.	Tractors/Loaders/Backhoes	Diesel
Dist. Tanker, 3000 Gallon	Off-Highway Trucks	Diesel
Dump Truck, 8 C.Y., 220 H.P.	Off-Highway Trucks	Diesel
Dump Truck, Off Hwy., 65 Ton	Off-Highway Trucks	Diesel
Hyd. Crane, 12 Ton	Cranes	Diesel
Hyd. Excavator, .75 C.Y.	Excavators	Diesel
Lattice Boom Crane, 90 Ton	Cranes	Diesel
S.P. Crane, 4x4, 5 Ton	Cranes	Diesel
S.P. Scraper, 21 C.Y.	Scrapers	Diesel
Vibratory Roller, Towed, 23 Ton	Rollers	Diesel

Vehicle Inventory for**Funks Reservoir****06**

Code	Vehicle	Primary Trip Purpose/Location (within construction footprint vs. offsite)	# of Vehicles
Funks Reservoir-0601	Dump Truck, 8 C.Y., 220 H.P.	Onsite	1
Funks Reservoir-0602	Dump Truck, 8 C.Y., 220 H.P.	Onsite	1
Funks Reservoir-0603	Dump Truck, 8 C.Y., 220 H.P.	Onsite	1
Funks Reservoir-0603	Water Tank Trailer, 5000 Gal.	Onsite	1
Funks Reservoir-0603	Dump Trailer, 20 C.Y.	Onsite	1
Funks Reservoir-0604	Dist. Tanker, 3000 Gallon	Onsite	1
Funks Reservoir-0604	Dump Truck, 12 C.Y., 400 H.P.	Onsite	1
Funks Reservoir-0604	Dump Truck, Off Hwy., 65 Ton	Onsite	1
Funks Reservoir-0604	Dump Trailer, 20 C.Y.	Onsite	1
Funks Reservoir-0603	Dump Truck - 20 cy	Offsite/Haul	1
Funks Reservoir-0604	Dump Truck - 20 cy	Offsite/Haul	1

Note:

1. Onsite water truck and dump truck numbers and miles per trip were set to 1.
2. The one-way trips/day were estimated by dividing the total number of trips by the number of days of the sub-package.
3. Number of trips per day in this table represents averages throughout each sub-package. It does not represent a typical day or peak day conditions.

One-Way Trips/Day	Miles per Trip	Fuel Type	Fuel (gal/day) (if known)
0.4	1	Diesel	
0.2	1	Diesel	
0.3	1	Diesel	
2.6	1	Diesel	
12.0	1	Diesel	
8.3	1	Diesel	
3.1	1	Diesel	
129.3	1	Diesel	
127.7	1	Diesel	
1.2	25	Diesel	
12.5	25	Diesel	

Jacobs assumptions

	Equipment	total hours (Engineering Data)	total number of working days/phase	average hours/day	Miles/day (assume 10 miles/hour)
	Dump Truck, 8 C.Y., 220 H.P.	9.87	262	0.04	0.4
	Dump Truck, 8 C.Y., 220 H.P.	3.95	262	0.02	0.2
	Dump Truck, 8 C.Y., 220 H.P.	3.95	131	0.03	0.3
	Water Tank Trailer, 5000 Gal.	34.10	131	0.26	2.6
	Dump Trailer, 20 C.Y.	156.92	131	1.20	12.0
	Dist. Tanker, 3000 Gallon	432.00	522	0.83	8.3
	Dump Truck, 12 C.Y., 400 H.P.	160	522	0.31	3.1
	Dump Truck, Off Hwy., 65 Ton	6748.3	522	12.93	129.3
	Dump Trailer, 20 C.Y.	6666.73	522	12.77	127.7
	Total amount	Assumption	One-way trips total	Number of days	
	1530	Assume 20 cy per load	153	131	
	65000	Assume 20 cy per load	6,500	522	

Employees Required to Construct**Funks Reservoir****06**

Code	Vehicle Type	# of Employees/Day	One-Way Trips/Day	Miles per Trip
Funks Reservoir-0601	Employee	3	6	60.0
Funks Reservoir-0602	Employee	2	4	60.0
Funks Reservoir-0603	Employee	6	12	60.0
Funks Reservoir-0604	Employee	29	58	60.0

Note:

1. Worker trips assumed that the trips would be from Sacramento (68 miles), Willows (19 miles), Williams (9 miles), and Red Bluff (60 miles). One-way distance of 60 miles.
2. Number of trips per day in this table represents averages throughout each sub-package. It does not represent a typical day or peak day conditions.

Jacobs Calculations

Subpackage	Total labor hours (Engineering Data)	Hours per employee/day	Total days of construction	#employees/d ay	one-way Trips/day
01	4814	8	262	3	6
02	2667	8	262	2	4
03	5901	8	131	6	12
04	118575	8	522	29	58

miles was used.

Earthmoving/Paving Assumptions for

Funks Reservoir 06

Code	<i>Daily</i>				
	Stripping or Grading (acres/day)	Borrow/Excavate (cy/day)	Dredge (cy/day)	Paving (sf/day)	Stripping or Grading (total acres)
Funks Reservoir-0601	0.598	8.3	0.0	0.0	78.3
Funks Reservoir-0602	0.0	3.7	0.0	0.0	0.1
Funks Reservoir-0603	0.001	389.8	0.0	0.0	0.1
Funks Reservoir-0604	0.0486	3636.0	2467.4	0.0	12.690

Note:

1. Daily amounts were estimated using 50% of construction days.

Total

Borrow/Excavate (total cy)	Dredge (total cy)	Paving (total sf)
1093.8	0.0	0.0
483.9	0.0	0.0
25533.9	0.0	0.0
949000.0	644000.0	0.0

Jacobs Calculations

Total # days/subpackage	Total # days/earthmoving -paving
262	131
262	131
131	65.5
522	261