

Construction Schedule for

Dunnigan Pipelines - Alt 1 (CBD)

01

Subpackage

Phase	Code	Start Date	End Date	Working Days	Days/Week
01 Dunnigan Pipelines - Alt 1 (CBD)	Dunnigan Pipelines - Alt 1 (CBD)-01				
01.01 Dunnigan Pipeline - CBD	Dunnigan Pipelines - Alt 1 (CBD)-0101	12/19/2024	12/3/2025	250	5
01.02 Dunnigan - TCC Intake Structure	Dunnigan Pipelines - Alt 1 (CBD)-0102	12/19/2024	8/1/2025	161	5
01.03 Dunnigan - CBD Discharge Structure	Dunnigan Pipelines - Alt 1 (CBD)-0103	6/1/2025	12/3/2025	133	5

01

02

03

Offroad Equipment (Fossil Fuel) Inventory for

Code	Equipment Name
Dunnigan Pipelines - Alt 1 (CBD)-0101	Horz. Boring Csg. Mch.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Hyd. Excavator, 2.5 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Hydraulic Crane, 25 ton
Dunnigan Pipelines - Alt 1 (CBD)-0101	Hyd. Crane, 55 Ton
Dunnigan Pipelines - Alt 1 (CBD)-0101	Concrete Pump (Small)
Dunnigan Pipelines - Alt 1 (CBD)-0101	Grout Pump, 50 C.F./hr.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Sheepsfoot Roller, 240 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0101	F.E. Loader, W.M., 5.5 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Truck Tractor, 220 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Truck Tractor, 6x4, 380 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Gas Engine Vibrator
Dunnigan Pipelines - Alt 1 (CBD)-0101	Welder, Gas Engine, 300 amp
Dunnigan Pipelines - Alt 1 (CBD)-0102	Hyd. Excavator, 2.5 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Backhoe Loader, 48 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Rammer/Tamper, Gas, 15"
Dunnigan Pipelines - Alt 1 (CBD)-0102	Trowel, 48" Walk-Behind
Dunnigan Pipelines - Alt 1 (CBD)-0102	Lattice Boom Crane, 40 Ton
Dunnigan Pipelines - Alt 1 (CBD)-0102	Hydraulic Crane, 25 ton
Dunnigan Pipelines - Alt 1 (CBD)-0102	Grader, 30,000 Lbs.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Concrete Pump (Small)
Dunnigan Pipelines - Alt 1 (CBD)-0102	Tandem Roller, 5 Ton
Dunnigan Pipelines - Alt 1 (CBD)-0102	Sheepsfoot Roller, 240 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0102	F.E. Loader, W.M., 5.5 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Truck Tractor, 220 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Truck Tractor, 6x4, 380 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Gas Engine Vibrator
Dunnigan Pipelines - Alt 1 (CBD)-0103	Hyd. Excavator, 2.5 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Backhoe Loader, 48 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Rammer/Tamper, Gas, 15"
Dunnigan Pipelines - Alt 1 (CBD)-0103	Trowel, 48" Walk-Behind
Dunnigan Pipelines - Alt 1 (CBD)-0103	Crawler Crane, 75 Ton
Dunnigan Pipelines - Alt 1 (CBD)-0103	Hydraulic Crane, 25 ton
Dunnigan Pipelines - Alt 1 (CBD)-0103	Grader, 30,000 Lbs.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Concrete Pump (Small)
Dunnigan Pipelines - Alt 1 (CBD)-0103	Tandem Roller, 5 Ton
Dunnigan Pipelines - Alt 1 (CBD)-0103	Sheepsfoot Roller, 240 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0103	F.E. Loader, W.M., 5.5 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Truck Tractor, 220 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Truck Tractor, 6x4, 380 H.P.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Gas Engine Vibrator
Dunnigan Pipelines - Alt 1 (CBD)-0103	Welder, Gas Engine, 300 amp

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 ty

General Equipment Category	#/day	Hours/day/ equipment	Fuel Type	Engine Horsepower (if known)	Fuel (gal/day) (if known)
Bore/Drill Rigs	0.59	8	Diesel		
Excavators	2.66	8	Diesel		
Cranes	0.59	8	Diesel		
Cranes	3.11	8	Diesel		
Pumps	0.28	8	Diesel		
Pumps	0.87	8	Diesel		
Rollers	1.05	8	Diesel		
Tractors/Loaders/Backhoes	2.38	8	Diesel		
Off-Highway Tractors	0.79	8	Diesel		
Off-Highway Tractors	5.90	8	Diesel		
Other Construction Equipment	0.56	8	Gasoline		
Welders	0.59	8	Gasoline		
Excavators	0.06	8	Diesel		
Tractors/Loaders/Backhoes	0.01	8	Diesel		
Other Construction Equipment	0.02	8	Diesel		
Other Construction Equipment	0.01	8	Diesel		
Cranes	0.01	8	Diesel		
Cranes	0.00	8	Diesel		
Graders	0.00	8	Diesel		
Pumps	0.02	8	Diesel		
Rollers	0.00	8	Diesel		
Rollers	0.01	8	Diesel		
Tractors/Loaders/Backhoes	0.07	8	Diesel		
Off-Highway Tractors	0.01	8	Diesel		
Off-Highway Tractors	0.05	8	Diesel		
Other Construction Equipment	0.05	8	Gasoline		
Excavators	0.20	8	Diesel		
Tractors/Loaders/Backhoes	0.01	8	Diesel		
Other Construction Equipment	0.04	8	Diesel		
Other Construction Equipment	0.02	8	Diesel		
Cranes	0.05	8	Diesel		
Cranes	0.01	8	Diesel		
Graders	0.00	8	Diesel		
Pumps	0.07	8	Diesel		
Rollers	0.01	8	Diesel		
Rollers	0.06	8	Diesel		
Tractors/Loaders/Backhoes	0.25	8	Diesel		
Off-Highway Tractors	0.05	8	Diesel		
Off-Highway Tractors	0.19	8	Diesel		
Other Construction Equipment	0.15	8	Gasoline		
Welders	0.05	8	Gasoline		

:.
tical day or peak day conditions.

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

Vehicle Inventory for**Dunnigan Pipelines - Alt 1 (CBD)**

Code**Vehicle**

Dunnigan Pipelines - Alt 1 (CBD)-0101	Water Tank Trailer, 5000 Gal.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Dump Trailer, 20 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Water Tank Trailer, 5000 Gal.
Dunnigan Pipelines - Alt 1 (CBD)-0102	Dump Trailer, 20 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Water Tank Trailer, 5000 Gal.
Dunnigan Pipelines - Alt 1 (CBD)-0103	Dump Trailer, 20 C.Y.
Dunnigan Pipelines - Alt 1 (CBD)-0101	Dump Truck - 20 cy
Dunnigan Pipelines - Alt 1 (CBD)-0101	Pipe Hauling Trucks
Dunnigan Pipelines - Alt 1 (CBD)-0102	Dump Truck - 20 cy
Dunnigan Pipelines - Alt 1 (CBD)-0103	Dump Truck - 20 cy
Dunnigan Pipelines - Alt 1 (CBD)-0103	Pipe Hauling Trucks

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 num
3. Number of trips per day in this table represents averages throughout each sub-package

Primary Trip Purpose/Location (within construction footprint vs. offsite)	# of Vehicles	One-Way Trips/Day	Miles per Trip	Fuel Type	Fuel (gal/day) (if known)
Onsite	1	62.8	1	Diesel	
Onsite	1	471.9	1	Diesel	
Onsite	1	1.2	1	Diesel	
Onsite	1	3.9	1	Diesel	
Onsite	1	4.4	1	Diesel	
Onsite	1	15.4	1	Diesel	
Offsite/Haul	1	46	25	Diesel	
Offsite/Haul	1	4.7	120	Diesel	
Offsite/Haul	1	0.4	25	Diesel	
Offsite/Haul	1	1.1	25	Diesel	
Offsite/Haul	1	0.1	120	Diesel	

Number of days of the sub-package.

∴ It does not represent a typical day or peak day conditions.

Jacobs Assumptions

Equipment	total hours (Engineering Data)	total number of working days/phase	average hours/day	Miles/day (assume 10 miles/hour)
Water Tank Trailer, 5000 Gal.	1,570.45	250	6.28	62.8
Dump Trailer, 20 C.Y.	11,797.54	250	47.19	471.9
Water Tank Trailer, 5000 Gal.	18.90	161	0.12	1.2
Dump Trailer, 20 C.Y.	62.56	161	0.39	3.9
Water Tank Trailer, 5000 Gal.	58.45	133	0.44	4.4
Dump Trailer, 20 C.Y.	205.13	133	1.54	15.4
	Total amount	Assumption	One-way trips total	Number of days
	115025	Assume 20 cy per load	11,503	250
	20618	Assume avg 35' per load	1,178	250
	610	Assume 20 cy per load	61	161
	1465	Assume 20 cy per load	147	133
	213	Assume avg 35' per load	12	133

Employees Required to Construct Dunnigan Pipelines - Alt 1 (CBI 01

Code	Vehicle Type	# of Employees/Day	One-Way Trips/Day	Miles per Trip
Dunnigan Pipelines - Alt 1 (CBD)-0101	Employee	63	126	60.0
Dunnigan Pipelines - Alt 1 (CBD)-0102	Employee	3	6	60.0
Dunnigan Pipelines - Alt 1 (CBD)-0103	Employee	7	14	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-
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 conditio

Jacobs Calculations

Subpackage	Total labor hours (Engineering Data)	Hours per employee/day	Total days of construction	#employees/day	one-way Trips/day
01	125293	8	250	63	126
02	3240	8	161	3	6
03	7383	8	133	7	14

·way distance of 60 miles was used.

Earthmoving/Paving Assumptions for**Dunnigan Pipelines - .01**

Code	Daily			
	Stripping or Grading (acres/day)	Borrow/Excavate (cy/day)	Dredge (cy/day)	Paving (sf/day)
Dunnigan Pipelines - Alt 1 (CBD)-0101	0.0	6880.4	0.0	0.0
Dunnigan Pipelines - Alt 1 (CBD)-0102	4.9	157.5	0.0	0.0
Dunnigan Pipelines - Alt 1 (CBD)-0103	7.114	574.3	0.0	0.0

Note:

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

Total

Stripping or Grading (total acres)	Borrow/Excavate (total cy)	Dredge (total cy)	Paving (total sf)
0.0	860047.0	0.0	0.0
391.6	12680.0	0.0	0.0
473.1	38190.0	0.0	0.0

Jacobs Calculations

Total # days/subpackage	Total # days/earthmoving -paving
250	125
161	80.5
133	66.5

Demolition Assumptions for

Dunnigan Pipelines - Alt 1 01

Code	# of Structures Demolished	Demolition per day (sf)
Dunnigan Pipelines - Alt 1 (CBD)-0101	0	0
Dunnigan Pipelines - Alt 1 (CBD)-0102	1	940
Dunnigan Pipelines - Alt 1 (CBD)-0103	1	1218

Note:

1. Demolition data per day in the table represents the total amount of demolition of the entire sub-package. This can be used if a worse-case daily fugitive dust emission is needed. If average daily emissions are needed or if the emissions will be multiplied by the number of working days to get the total emissions, the value in the table need to be divided by the number of working days for that sub-package