

31 23 Excavation and Fill

31 23 19 - Dewatering

31 23 19.40 Wellpoints

1910 the pump operator, and one stand-by pump.

31 23 23 - Fill

31 23 23.13 Backfill

0010	BACKFILL										
		R312323-30									
0015	By hand, no compaction, light soil	1 Clab	14	.571	L.C.Y.		26			26	39
0100	Heavy soil		11	.727	"		33			33	49.5
0300	Compaction in 6" layers, hand tamp, add to above		20.60	.388	E.C.Y.		17.70			17.70	26.5
0400	Roller compaction operator walking, add	B-10A	100	.120			6.65	1.37		8.02	11.4
0500	Air tamp, add	B-9D	190	.211			9.70	1.87		11.57	16.4
0600	Vibrating plate, add	A-1D	60	.133			6.10	1.88		7.98	11.1
0800	Compaction in 12" layers, hand tamp, add to above	1 Clab	34	.235			10.75			10.75	16
0900	Roller compaction operator walking, add	B-10A	150	.080			4.44	.91		5.35	7.6
1000	Air tamp, add	B-9	285	.140			6.45	1.16		7.61	10.9
1100	Vibrating plate, add	A-1E	90	.089			4.05	1.52		5.57	7.7
1300	Dozer backfilling, bulk, up to 300' haul, no compaction	B-10B	1200	.010	L.C.Y.		.55	1.12		1.67	2.0
1400	Air tamped, add	B-11B	80	.200	E.C.Y.		10.25	5.60		15.85	21.5
1600	Compacting backfill, 6" to 12" lifts, vibrating roller	B-10C	800	.015			.83	2.52		3.35	4.0
1700	Sheepsfoot roller	B-10D	750	.016			.89	2.37		3.26	3.9
1900	Dozer backfilling, trench, up to 300' haul, no compaction	B-10B	900	.013	L.C.Y.		.74	1.50		2.24	2.7
2000	Air tamped, add	B-11B	80	.200	E.C.Y.		10.25	5.60		15.85	21.5
2200	Compacting backfill, 6" to 12" lifts, vibrating roller	B-10C	700	.017			.95	2.88		3.83	4.5
2300	Sheepsfoot roller	B-10D	650	.018			1.02	2.74		3.76	4.5
2350	Spreading in 8" layers, small dozer	B-10B	1060	.011	L.C.Y.		.63	1.27		1.90	2.3

31 23 23.14 Backfill, Structural

0010	BACKFILL, STRUCTURAL										
0011	Dozer or F.E. loader										
0020	From existing stockpile, no compaction										
1000	55 HP wheeled loader, 50' haul, common earth	B-11C	200	.080	L.C.Y.		4.24	1.64		5.88	8.10
2000	80 HP, 50' haul, sand & gravel	B-10L	1100	.011			.61	.49		1.10	1.4
2010	Sandy clay & loam		1070	.011			.62	.50		1.12	1.48
2020	Common earth		975	.012			.68	.55		1.23	1.62
2040	Clay		850	.014			.78	.63		1.41	1.86
2400	300' haul, sand & gravel		370	.032			1.80	1.45		3.25	4.27
2410	Sandy clay & loam		360	.033			1.85	1.49		3.34	4.35
2420	Common earth		330	.036			2.02	1.62		3.64	4.75
2440	Clay		290	.041			2.30	1.85		4.15	5.45
3000	105 HP, 50' haul, sand & gravel	B-10W	1350	.009			.49	.49		.98	1.27
3010	Sandy clay & loam		1325	.009			.50	.50		1	1.30
3020	Common earth		1225	.010			.54	.54		1.08	1.40
3040	Clay		1100	.011			.61	.60		1.21	1.56
3300	300' haul, sand & gravel		465	.026			1.43	1.42		2.85	3.65
3310	Sandy clay & loam		455	.026			1.46	1.45		2.91	3.78
3320	Common earth		415	.029			1.60	1.59		3.19	4.14
3340	Clay		370	.032			1.80	1.78		3.58	4.64
4000	200 HP, 50' haul, sand & gravel	B-10B	2500	.005			.27	.54		.81	.95
4010	Sandy clay & loam		2435	.005			.27	.55		.82	1.02
4020	Common earth		2200	.005			.30	.61		.91	1.12
4040	Clay		1950	.006			.34	.69		1.03	1.27
4400	300' haul, sand & gravel		805	.015			.83	1.68		2.51	3.07
4410	Sandy clay & loam		790	.015			.84	1.71		2.55	3.13
4420	Common earth		735	.016			.91	1.83		2.74	3.37
4440	Clay		660	.018			1.01	2.04		3.05	3.75