

# Assignment – resource constraint

1



Table

presents site preparation and foundation project won by Pardis-e Kish construction company:

	WBS	Task	Predecessor	Resource	Estimated Duration
1	1	<b>Site Grading and Utilities</b>			
2	1-1	Clear and grub site		Dozer (2)	2w
3	1-2	Stone site access and temporary parking area	2	Dozer (1), Stone (10 truck bucket)	1w
4	1-3	Rough grade site (cut and fill)	2	Dozer (1)	4w
5	1-4	Install storm drainage	4	Excavator (1), Crane (1)	1w
6	1-5	Install exterior fire line and building fire riser	4	Excavator (1), Crane (1)	3w
7	1-6	Perform final site grading	4	Dozer (1)	1w
8	1-7	Erect building batter boards and layout building	5SS+1w, 7	Crane (1), Installation crew(1)	2w
9	2	<b>Foundations</b>			
10	2-1	Excavate foundations	8	Excavator (3)	2w
11	2-2	Excavate elevator pit	8	Excavator (1)	1w
12	2-3	Form column piers and spread foundations	11	Form-Concrete crew (2)	2w
13	2-4	Rough-in electric and plumbing in elevator	12	Electrical crew (2)	2w
14	2-5	Form elevator pit walls	13	Form-Concrete crew (1)	2w
15	2-6	Set reinforcing and anchor bolts	13FF+2w,14	Form-Concrete crew (1)	1w
16	2-7	Pour column piers and foundations	15	Form-Concrete crew (1)	3w
17	2-8	Pour concrete elevator walls	16	Form-Concrete crew (2)	1w
18	2-9	Cure elevator wall concrete	17+1d	Labour (0.1)	2w
19	2-10	Cure piers and foundations	18	Labour (0.1)	2w
20	2-11	Strip wall forms	18	Form-Concrete crew (1)	1w
21	2-12	Strip column piers and foundation forms	19	Form-Concrete crew (2)	2w
22	2-13	Install pneumatic tube in elevator pit	21	Elevator crew (1)	1w
23	2-14	Prepare and pour concrete floor in elevator pit	22,20	Form-Concrete crew (1)	1w

# Assignment – resource constraint

2



Every working week is 5 working days (Saturday to Wednesday). The work starts from Azar 3<sup>rd</sup>.

- 1 – **(Mark: 20%)** Set up an MS Project file for the project and develop the initial schedule! (submit a separate MSP file for it.)
- 2 – **(Mark: 50%)** Follow Minimum Moment Technique steps for leveling “Form-Concrete crew” resources (NOT using MSP!)
- 3- **(Mark: 10%)** Use MSP’s resource leveling feature to level all resources!
- 4- **(Mark: 20%)** Suppose we have maximum “Form-Concrete crew” of 2 (we can employ enough number of resources for the rest). Remove all over allocations, finalize the schedule and save it as the baseline!

***Due date one week***