

Quantity × Manhour / Quantity = Hour
Hours ÷ Manhour / Quantity = Quantity
Hours ÷ Quantity = Manhour / Quantity

Foreman: _____

Page 1 is priority work

1 WEEK SCHEDULE

Week Ending Date:

Component ID/ Work Item Desciption	WBS	UOM	Claiming Step Name	%	CE Unit	Plan This Week QTY	Plan This Week HRS	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Comp (Y/N)	Reason No	Comments
PRIORITY WORK																	
						Total Planned Hours:	0.00	0	0	0	0	0	0	0			
						Planned Manpower (based on 50hr/week)		0	0	0	0	0	0	0			
						RELIABILITY FOR THIS WEEK (# Y / # WORK ITEMS)											

Component or Work Item Description listed out for each scheduled item

WBS or cost code for the item

Unit of measure for the item

Claiming step if item will not complete in a single day. If multiple day activity, break item into claiming step per day to ensure Hours planned per day , line up with total quantity required for that specific step.

% of overall unit rate the claiming step is worth

Current Estimate Unit rate/Goal rate = to the unit rate X the claiming step percentage

Total planned quantity for the item, for the scheduled period

Total hours planned for the week

Total planned hours based of the unit rate formula, Total quantity X Unit rate

hours planned foreach day the week

Hours planned on working per day for the item

This will not be marked until the following weeks one-week schedule review/approval meeting

Manpower required based of dividing hours planned per day/shift length

Use the Reason codes listed on page 2 of this form to identify factors associated with not be able to complete the item

Open comment box for identifying coordination items, special circumstances, or any other notes



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Foreman: _____

1 WEEK SCHEDULE

Week Ending Date:

WORKABLE BACKLOG / ALTERNATE PLAN

	Work Item	CE Unit	UOM	Plan This Week QTY	Plan This Week HRS	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Comments

This can be individual components or a broad work item description

The unit rate and unit of measure will be listed for workable backlog items, This is to facilitate having information needed for schedule/planning should the backlog work be required

This information will not be filled out until it is identified that alternate work must be done during the scheduled period. Once it is identified that that backlog work is required. Foreman will fill this information out just as priority work

Project Name: _____

Supervisor: _____

Reasons:

1	Personnel	4	Design Error	7	Rework
2	Material	5	Reassignment	8	Owner Delay
3	Equipment	6	Too Much Work Planned	9	Other

Trend Curves and Charts

Primary function of a trend chart is to record past progress in current time and also use the trend to forecast future job status.

There are few types of trend curves and charts. See below for the common ones we currently use.

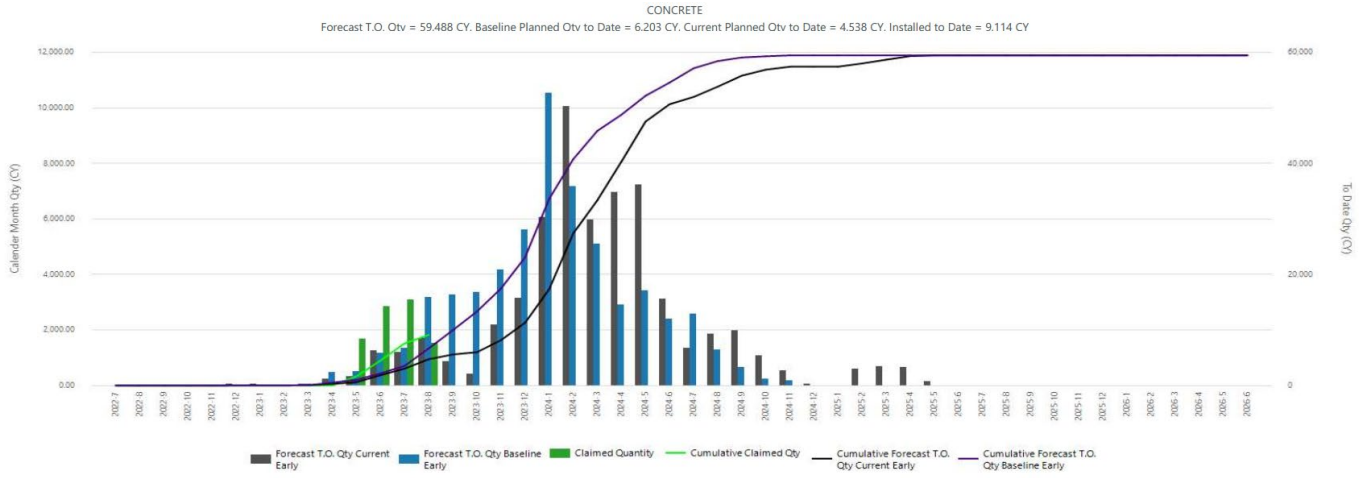
1. Commodity Charts and Curves – progress on quantities
2. Progress Curves – progress on manhours
3. FTE (Full Time Equivalent) Charts – manpower availability and need

1. Commodity Charts and Curves

Commodity charts and curves are generated out of schedule based on major quantities planned to be installed to complete the job on time.

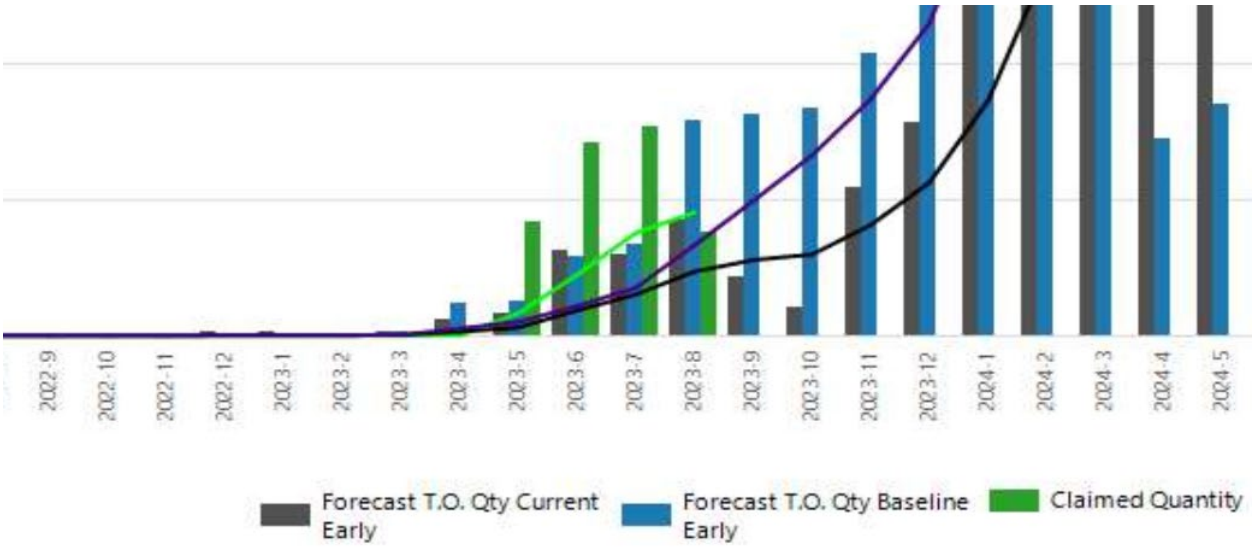
Examples could be cubic yards of concrete, linear feet of pipe and cables or each of mechanical widgets installed.

Here's an example of a commodity chart for CY of concrete on an active job. You can have your discipline specific commodity chart and curve.



MM/d d/yyy	2022-7	2022-8	2022-9	2022-10	2022-11	2022-12	2023-1	2023-2	2023-3	2023-4	2023-5	2023-6	2023-7	2023-8	2023-9	2023-10	2023-11	2023-12	2024-1	2024-2	2024-3	2024-4	2024-5	2024-6	2024-7	2024-8	2024-9	2024-10	2024-11	2024-12	2025-1
Current Early Calender	-	-	-	-	-	24.60	21.27	-	0.33	228.69	327.42	1,253.15	1,187.00	1,691.26	855.27	406.53	2,174.57	3,134.88	6,051.03	10,058.13	5,952.97	6,962.14	7,219.75	3,124.57	1,326.28	1,841.84	1,985.10	1,081.63	532.17	9.97	-
Current Early TD	-	-	-	-	-	25	46	46	46	275	602	1,855	3,042	4,734	5,589	5,996	8,170	11,305	17,356	27,414	33,367	40,329	47,549	50,674	52,000	53,842	55,827	56,908	57,441	57,451	57,451
Baseline Early Calender	-	-	-	-	-	-	-	-	58.67	469.52	489.55	1,172.39	1,343.47	3,161.97	3,272.84	3,359.62	4,161.47	5,602.72	10,532.23	7,159.82	5,094.16	2,908.63	3,414.30	2,376.64	2,582.70	1,289.57	651.86	219.50	166.56	-	-
Baseline Early TD	-	-	-	-	-	-	-	-	59	528	1,018	2,190	3,534	6,696	9,968	13,328	17,490	23,092	33,624	40,784	45,878	48,787	52,201	54,578	57,161	58,450	59,102	59,322	59,488	59,488	59,488
Claimed Qty Calender	-	-	-	-	-	-	-	-	-	-	1,660.70	2,852.57	3,080.29	1,520.06																	
Claimed Qty TD	-	-	-	-	-	-	-	-	-	-	1,661	4,513	7,594	9,114																	

A closer look at this commodity chart below shows that for the months of May, June and July we have installed (claimed aka earned) more quantities (green line) than planned (black line). On the other hand, in months of April and August, we still have some catch up to do.



2. Progress Curves

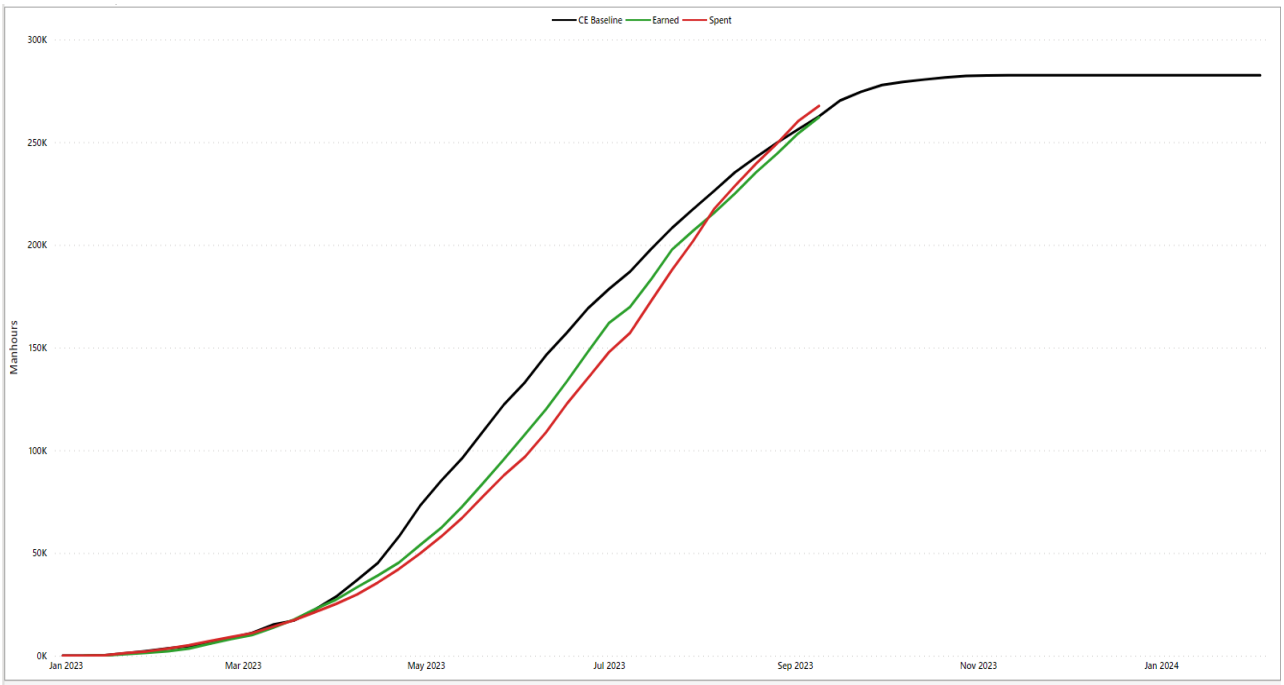
Progress curves are intended to roll up different quantities and unit rates in disciplines and show your discipline progress in manhours, hence called Progress Curves.

You can also have all direct, indirect, and major subcontract progress on one sheet of paper.

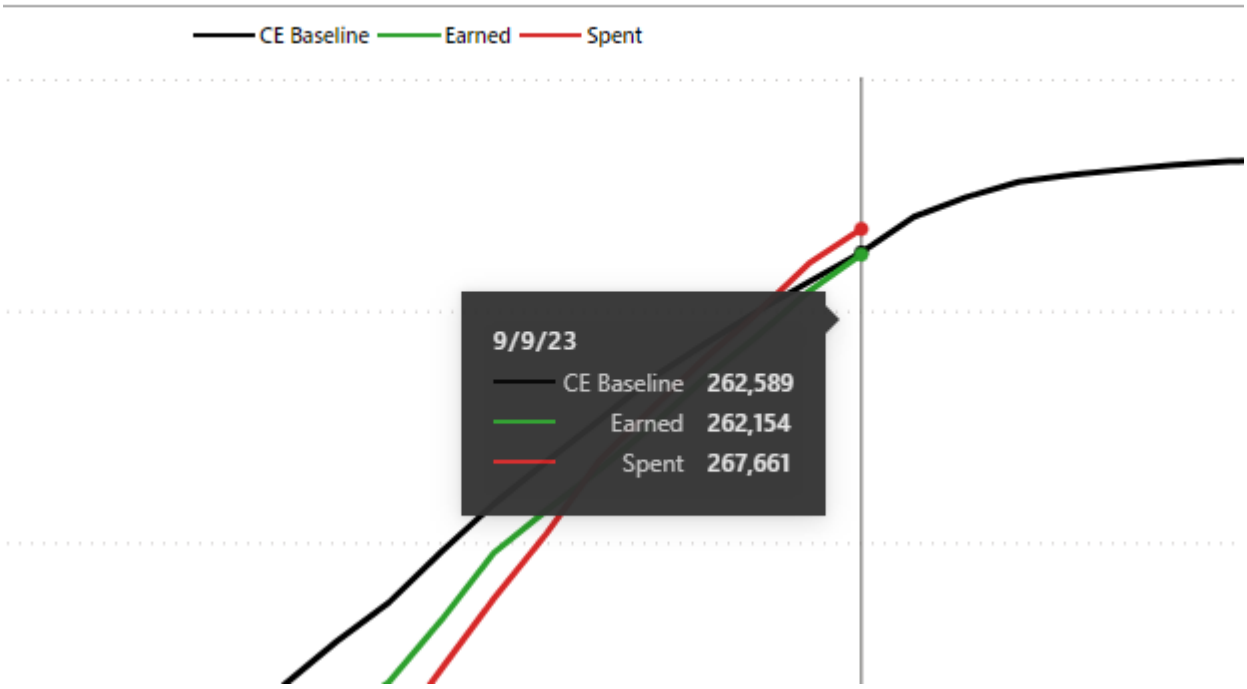
Below is an example of a Progress Curve snapshot for an active job that shows the following criteria telling us if a job is ahead or behind the schedule and also, budget over run or under run.

- Baseline – project plan that progress is compared against
- Earned – comes from quantities claimed
- Spent – total number of actual hours on timecards (daily plan) approved to be paid





Now, let's take a closer look at the progress and understand where we are.



First, to see if we are ahead or behind the schedule, we compare Earned and Baseline. Earned (green line) is almost touching the Baseline (black line). This tells you we're almost on schedule and digging into the numbers, we have earned 262,154 manhours but the plan was 262,589. The difference of 435 is the number of manhours we are behind.

Secondly, to see if we are over budget or under budget, we compare Earned (green line) and Spent (red line). Here since we have 5,507 more manhours Spent than Earned, we show over budget. Remember, if you divide your Earned by Spent, you have PF, which is 0.98 in this case.

Progress Curves have data table under each graph that calculate this value for you, and you just need to read them off the table. See below for the green box that shows as of September 9th, the PF (Productivity Factor) is 0.98.



Directs - Cumulative Manhours (Thousands)

Type	/23	6/17/23	6/24/23	7/1/23	7/8/23	7/15/23	7/22/23	7/29/23	8/5/23	8/12/23	8/19/23	8/26/23	9/2/23	9/9/23	9/16/23	9/23/23	9/30/23	10/7/23	10/14/23	10/21/23	10/28/23	11/4/23	11/1
CE Baseline	6.3	157.3	169.1	178.5	187.0	197.9	208.3	217.4	226.3	235.4	242.7	249.7	256.2	262.6	270.3	274.6	277.8	279.3	280.5	281.5	282.2	282.5	
Earned	9.9	133.6	148.0	162.0	169.8	183.2	197.7	206.8	215.5	225.1	235.3	244.4	254.2	262.2									
Spent	8.7	122.7	135.2	147.8	157.1	172.6	187.8	201.8	217.4	228.8	239.6	249.4	260.2	267.7									

KPIs

	0/23	6/17/23	6/24/23	7/1/23	7/8/23	7/15/23	7/22/23	7/29/23	8/5/23	8/12/23	8/19/23	8/26/23	9/2/23	9/9/23	9/16/23	9/23/23	9/30/23	10/7/23	10/14/23	10/21/23	10/28/23	11/4/23	11/
Delta Earn-CE	-26.4	-23.7	-21.1	-16.5	-17.2	-14.7	-10.6	-10.6	-10.8	-10.3	-7.4	-5.3	-2.0	-0.4									
SP Index	0.82	0.85	0.88	0.91	0.91	0.93	0.95	0.95	0.95	0.96	0.97	0.98	0.99	1.00									
PF	1.10	1.09	1.10	1.10	1.08	1.06	1.05	1.02	0.99	0.98	0.98	0.98	0.98	0.98									

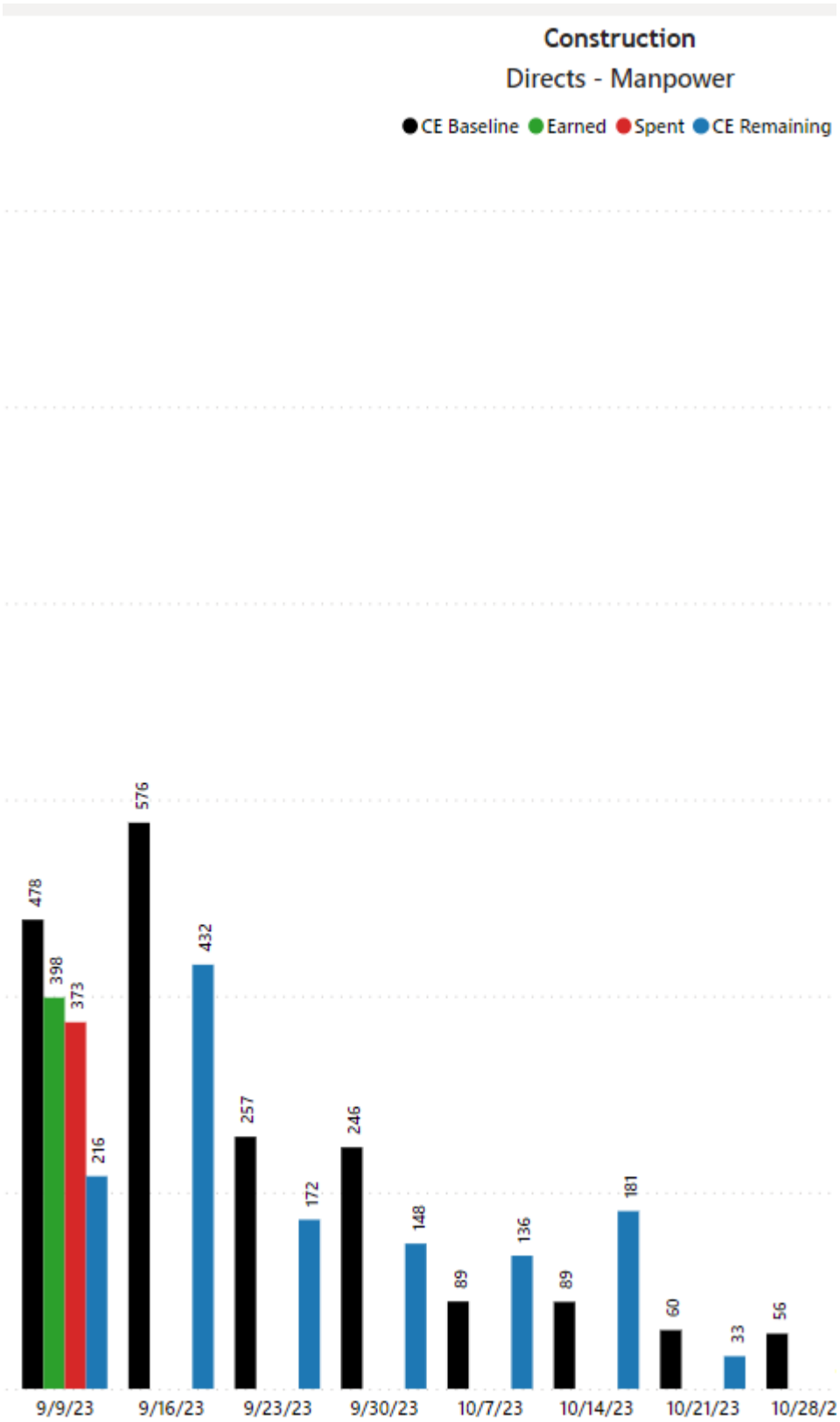
Directs - Cumulative % of Current Estimate

Type	0/23	6/17/23	6/24/23	7/1/23	7/8/23	7/15/23	7/22/23	7/29/23	8/5/23	8/12/23	8/19/23	8/26/23	9/2/23	9/9/23	9/16/23	9/23/23	9/30/23	10/7/23	10/14/23	10/21/23	10/28/23	11/4/23	11/
CE Baseline	51.8	55.7	59.9	63.2	66.2	70.1	73.7	76.9	80.1	83.3	85.9	88.4	90.7	92.9	95.7	97.2	98.3	98.9	99.3	99.6	99.9	100.0	
Earned	42.5	47.3	52.4	57.3	60.1	64.8	70.0	73.2	76.4	79.7	83.4	86.6	90.1	92.9									
Spent	38.5	43.4	47.8	52.3	55.6	61.1	66.5	71.4	77.0	81.1	84.9	88.4	92.2	94.8									

3. FTE (Full Time Equivalent) Charts

FTE or Full Time Equivalent charts as the name suggests, are a tool to analyze manpower availability and needs. Number of craft on FTE charts show you how many craft you have in your discipline and at a higher level for the whole project.

Just like Progress Curve, FTE charts have Baseline, Earned and Spent which mean the same as in Progress Curves. For future number of craft needed, see below for a snapshot of an FTE chart from an active project.



This is a useful visualization for craft ramp up and ramp down. This chart translates remaining quantities to be installed to number of craft needed to install them on time and on budget.

This chart is as of week ending 9/9/23. To know your current available number of craft, you can use the red bar which is Spent. This number shows full time equivalent of number of craft that showed up at the turnstile that week, which is approved actual hours on timecards (Daily Plan).

As you see after this week you have the blue line that shows you number of craft you need to meet your planned manhours.