Douglas Street-Eastwards. Progress Report on Forman McInnes on the N.E. Branch of the N.W. Sewer.

From start, 31st July, 1916, to date, 25th September, 1916

Total	Expen- diture	.; €	175.55	176.20	1377.75		
Concreting Wall Miscel- Teamirg	Total	 ••	1	3.30	45.40		
Miscel-	Total	ن •	13.85	5.90	133.30		
Wall	Cub.	° 0	1	1	1		
reting	Cub.	Yds.	1	1	+		
Conc	Total	0	1	1	62.85		
	Total Each Total	: ••	1	1	1		
Manholes		No.	1	1	1		
	Total	⇔ c.	2.75	31,25	31.80		
Dow	Lin. Total Cub. Total		981.	.10	145 1		
Backfilling	1	Yds.	130 0	218 0	050 0		
Back	otal	ö	.75	.95	56	07:	
	T.	9#	4 17	1 21	150	107	
36	Lin.	Ft.	0.07	0.08	000		
Pipelaying		Lin. Ft.	204	221	1075	CIRI	
	Total	9	15.20	17.90	200	198.99	
ration	Per Cub.	¥d.	. 1	i		200	
lardpan Exca		Cub.	1			1	
	Total	66	, 1			1	The state of the s
on . I	Per Cub. Total	Cub. Yd. Cub.	0 63	0000	0.437	0.545	
Dirt Excavation . Hardpan Exc		Cub.	000	104	661	1274	
	Total	Cub. Yd.	196 00 900 0 63	00.007	764.0 661 06.68 —	693.20 1274 0.545	
tion	Per Cub.	.by	;		1	1	-
Rock Excavation		Cub.	ins.	1	1	1	-
Rock	Total		; •	1	1	1-	The same of
			0.00.	Week ending 18-9-10	Week ending 25-9-16	Total to date 25-9-16	The state of the s
				Week	Week	Total	

2

Fig.

6 in.

ending 18-9-16=7 ft.

week

for

excavation

Average depth of

25-9-16=8 ft.

The cost of material is not given as the foreman is interested primarily in the labor cost only. However, on concrete work the weekly reports show the quantity of cement, sand and gravel estimated and the quantity actually used, as a check upon his material.

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It is impressed upon the foremen that the first requisite, and the one insisted upon, is first-class workmanship, and they are to neither waste nor go short on material.

The foremen make any explanatory notes they consider necessary and return the reports which are filed in the office.

Upon the completion of a job a final report is made out, giving all particulars.

The weekly reports from time to time have indicated unsatisfactory conditions which, upon investigation, showed among other things, that one foreman persisted in employing old friends on his gang at the expense of efficiency; that another foreman, though conscientious and a hard worker, had not the ability to lay out his work and handle his men to get the desired results; that a third foreman in concrete work was not placing his aggregate to the best advantage, necessitating wheeling uphill at added expense, and in the above cases changes were made.

On the other hand, the reports revealed that foremen were using every means they could think of to reduce the cost of work. One foreman on rock tunnel work was taking his lunch at a different hour from his men so that he could keep the drill running while they were off, and in other ways was laying out his work to the best advantage with the view of bettering his last week's records.

A plant account was kept and all jobs charged a rental for tools and equipment used; small tools on a basis of 5 per cent. per month and large plant at a rental sufficient to cover maintenance and depreciation.

Foremen were required to sign for and return all equipment to the city yards, no matter in what condition.

All old tools were scrapped at the yard and sold for junk.

All the large plant, such as concrete mixers, compressors, rollers, rock crushers and motor trucks, were numbered and a separate account, in detail, kept for each.

When the maintenance cost of any equipment became excessive the cause either lay with the mechanic in charge or it was time to dispose of the machine and purchase a new one. Fig. No. 3 is the 1915 report upon motor trucks.

Besides the above reports, curves were plotted for garbage collection, pumping costs, engineering expenses, etc., with costs, or quantities and costs as ordinates and the months of the year as abscissae, from which the data from year to year could be compared and any undue variation noted.

The curves for garbage collection for the years 1913 to 1916 are shown in Fig. No. 4.

Some of the practical results obtained will be of interest. A comparison of the cost of oiling streets for the years 1913, 1914 and 1915 will be described at some length to illustrate what was accomplished. One improvement suggested lead to another and each was directly attributable to the interest taken in the work on account of the detail cost data kept.

In 1913 the cost per square yard was 1.12 cents, but this included labor, material and teaming charges for oiling only. Dust removal was charged to street cleaning and no sand was used. The oil was delivered in drums, hoisted onto a platform and emptied into horse-drawn tank wagons.