

Council chamber, Ann Arbor, Mich.,  
Jan. 20, 1913. Regular session.

Meeting called to order by the president. Present: Ald. Schmid, Koernke, Flynn, Ramsay, Lindenschmitt, Schultz, Prochnow, Pipp, Rash, Lutz, Pres. Mills, 11. Absent: Ald. Hochrein, Manwaring, Murray, Sherk, 4. Minutes of previous meeting approved.

### Communications.

From the Mayor—

Ann Arbor, Mich., Jan. 18, 1913.

The Honorable Common Council: Gentlemen—According to the special water committee's report, submitted to you at your last regular meeting, there appears to be an unlimited supply of good spring water on the Steere property, on which the city has an option. I believe that our citizens should have the benefit of this good water, either by it being used in the present system, or in another one. I would therefor recommend that the council request the Ann Arbor Water company to furnish this water to our citizens, and if satisfactory arrangements cannot be made with the company, then I believe that we should take steps toward building a plant of our own. Our people should have the benefit of all the good pure spring water that can be secured, and I believe that the water on the Steere property should be furnished to our people, rather than to allow it to run to waste in the county ditches. I would therefore recommend that the special water committee confer with the water company and ascertain the best terms that they will agree to, so that this water will be furnished to our people.

Respectfully submitted, William L. Walz, Mayor.

Moved by Ald. Lindenschmitt, that the matter be referred to the special water committee. Adopted.

### Petitions.

Petition of Horace Barnard, et al, for arc street light on Jackson av. to city limits, received and referred to lighting committee.

Deed from Mr. and Mrs. L. D. Carr to city, conveying right to construct a sanitary sewer through a certain piece of land in Ferdon addition, presented by the city attorney as correct. Moved by Ald. Lutz, that deed be accepted. Adopted as follows: Yeas, Ald. Schmid, Koernke, Flynn, Ramsay, Lindenschmitt, Schultz, Prochnow, Pipp, Rash, Lutz, Pres. Mills, 11. Nays, none.

### Committee Reports.

#### FINANCE REPORT.

Ann Arbor, Mich., Jan. 16, 1913.

To the Finance committee of the Common Council: Gentlemen—I have examined the following accounts against the city of Ann Arbor, and I hereby certify that they are correct to the best of my knowledge.

ROSS GRANGER, City Clerk

#### Fire Fund.

Chas. J. Andrews, salary .....	\$ 41.66
Eugene Williams, salary .....	38.50
Geo. Hoelzle, salary .....	38.50
Ralph Edwards, salary .....	38.50
Henry McLaren, salary .....	36.50
Fred Jolly, salary .....	36.50
Jacob Gwinner, salary .....	35.00
Arthur Clark, salary .....	35.00
Max Wittlinger, salary .....	35.00
Harley Wise, salary .....	35.00
Martin Noll, salary .....	35.00
Geo. Isbel, salary .....	35.00
Mat. Heininger, salary .....	35.00
John Behr, salary .....	35.00
James Smith, salary .....	35.00
Frank Markey, salary .....	35.00
Thomas Sharp, salary .....	30.00
Clyde Carpenter, salary .....	30.00
Chas. Carroll, salary .....	23.00
Frank Kapp, salary .....	23.00

Total salaries for 1-2 month of  
January .....

#### Police Fund.

Theo. C. Apfel, salary .....	\$ 41.66
Thos. O'Brien, salary .....	40.00
Wm. J. Aprill, salary .....	35.00
Gustave Meyer, salary .....	35.00
Wm. Blackburn, salary .....	35.00
Rex Barnett, salary .....	35.00
Edw. Kuhn, salary .....	35.00
Reuben Armbruster, salary .....	35.00

Total salaries for 1-2 month of  
January .....

#### Contingent Fund.

M. C. Ryan, salary .....

#### Bridge, Culvert & Crosswalk Fund.

Wm. Clark, labor .....	\$22.75
John Dalgliesh, labor .....	1.50
Sam. Kalmbach, labor .....	4.75
Matt. Luippold, labor .....	5.00
J. G. Mack, labor .....	20.25
Geo. Miley, labor .....	8.00
Geo. Roberts, labor .....	5.75
Geo. Schaible, labor .....	6.50
Adam Stoll, labor .....	15.25
Jos. Wallacker, labor and cart .....	11.38
Wm. Wild, labor .....	1.00
C. C. Bargdill, snow plowing .....	6.50
Koch Bros., snow plowing .....	10.00
Mrs. Herman Marquardt, snow plowing .....	10.00
G. L. Mullison, snow plowing .....	10.00
E. R. Schaffer, snow plowing .....	14.00
C. J. Snyder & Sons, snow plowing ..	10.00
G. W. Weeks, snow plowing .....	5.00
M. M. Wheelock, snow plowing .....	10.00
Jos. Williams, snow plowing .....	5.00

Total labor .....

Mich. Cent. R. R. Co., freight.....	3.35
Bridge, culvert and crosswalk fund total .....	\$185.98

**Recapitulation.**

Fire fund .....	\$686.16
Police .....	291.66
Contingent .....	30.00
Bridge, culvert and crosswalk.....	185.98
<b>Total .....</b>	<b>\$1,193.80</b>

Ann Arbor, Mich., Jan. 20, 1913.

To the Honorable, the Common Council: Gentlemen—Your Finance committee have reviewed the foregoing report of the city clerk. Warrants for salaries were drawn Jan. 16, 1913. We recommend that same be approved and that warrants be ordered drawn for the foregoing accounts. Geo. Lutz, E. E. Schmid, Finance Committee.

Ald. Lutz moved the adoption of the report. Adopted as follows: Yeas, Ald. Schmid, Koernke, Flynn, Ramsay, Lindenschmitt, Schultz, Prochnow, Pipp, Rash, Lutz, Pres. Mills, 11. Nays, none.

(Enter Ald. Sherk.)

**Officers' Reports.**

**CITY FUNDS—Treasurer's Report for Month Ending December 31st—**

**Cemetery Fund—**

Burial permits .....	\$6.00
Care of lots .....	1.00
<b>Total .....</b>	<b>\$7.00</b>

**Building Sidewalk Fund—**

Taxes collected .....	\$171.89
Sidewalk construction .....	49.60

**Total .....** \$221.49

**Rejected Tax Fund—**

Taxes collected .....	\$65.82
Sprinkling District No. 11—	
Taxes collected .....	\$54.00
Sprinkling District No. 12—	
Taxes collected .....	\$225.51

**Uncollected City Tax Fund—**

Taxes collected .....	\$15,347.00
<b>State Tax Fund—</b>	
Taxes collected .....	\$28,304.97
<b>County Tax Fund—</b>	
Taxes collected .....	\$11,988.00
<b>School Tax Fund—</b>	
Taxes collected .....	\$80,900.00

**Total .....** \$143,085.22

**Overdraft .....** 1,717.77

**Balance .....** \$141,367.45

**Warrants paid .....** 38,799.32

**On hand Jan. 1st .....** \$102,568.13

**Warrants Paid—**

Contingent fund .....	\$1,874.82
City Cemetery fund .....	80.00
Dog license fund .....	22.70
Fire department fund.....	1,890.06
Poor fund .....	144.72
Police fund .....	688.42
Park fund .....	386.98
Street Light fund .....	1,255.00
Sidewalk fund .....	328.52

**Bridge, culvert and crosswalk fund 2,128.09**

**School tax fund .....** 30,000.00

**Condition of City Funds on the First Day of January, 1913.**

**On Hand—**

Contingent fund .....	\$2,812.46
City cemetery fund .....	578.87
Dog license fund .....	498.01
State dog tax fund .....	100.00
Fire department fund .....	1,940.27
Poor fund .....	674.09
Police fund .....	3,884.93
Street fund .....	.63
Water fund .....	4,171.73
Park fund .....	238.65
Street Light fund .....	4,555.96
Sidewalk fund .....	19.06
Bridge, Culvert and Crosswalk fund	405.86
State tax fund .....	28,304.97
County tax fund .....	11,988.00
School Tx fund .....	50,900.00
Rejected Tax fund .....	134.26

**Total .....** \$111,207.75

**Overdrawn—**

Sidewalk Building fund .....	\$ 292.18
Uncollected City Tax fund .....	4,861.64
Delinquent Tax fund .....	3,322.31
Sprinkling District No. 11 .....	74.66
Sprinkling District No. 13 .....	88.83

**Total .....** \$8,639.62

**Warrants Outstanding—**

Contingent fund .....	\$556.35
Fire Department fund .....	.57
Police fund .....	113.66
Park fund .....	.85
Sidewalk fund .....	12.45
Bridge, Culvert and Crosswalk fund	403.29

**CITY FUNDS—Treasurer's Report For Month Ending Dec. 31, 1912—**

**Money Received—**

**Contingent Fund—**

City scales .....	\$ 14.00
Dray and hack licenses .....	22.00
Peddlers' licenses .....	9.00
Pool licenses .....	4.00
Bowling licenses .....	30.00
Theater licenses .....	80.00
Fees on taxes .....	708.54
Interest on Bank bal.....	108.70

**Total .....** \$976.24

**B. and C. W. Fund—**

Transfer from Lab. Pav. 20.....	\$1,000.00
Driveway construction .....	83.69
Entrance Athletic field .....	15.02
Labor paving districts .....	6.50
Repairs .....	13.22
Tile .....	14.00
Manhole .....	17.00

**Total .....** \$1,149.43

**Police Fund—**

Officers' fees .....	\$19.95
Doty's fines, 4th quarter .....	76.00

**Total .....** \$95.95

**Delinquent Tax Fund—**

Delinquent taxes from county treasurer .....	\$3,739.31
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**Dog License Fund—**

Dog licenses .....	\$10.50
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**PAVING FUNDS—Treasurer's Report for Month Ending Dec. 31st—**

Tax acct. paving No. 5, taxes collected .....	\$ 33.75
Tax acct. paving No. 7, taxes collected .....	26.12
Tax acct. paving No. 8, taxes collected .....	51.38
Tax acct. paving No. 9, taxes collected .....	29.36
Tax acct. paving No. 10, taxes collected .....	37.14
Tax acct. paving No. 12, taxes collected .....	27.47
Tax acct. paving No. 14, taxes collected .....	105.69
Tax acct. paving No. 15, taxes collected .....	95.31
Tax acct. paving No. 16, taxes collected .....	34.03
Tax acct. paving No. 17, taxes collected .....	49.27
Tax acct. paving No. 18, taxes collected .....	218.42
Tax acct. paving No. 24, taxes collected .....	31.34
Tax acct. paving No. 19, taxes collected .....	73.61
Tax acct. paving No. 21, taxes collected .....	91.19
Tax acct. paving No. 25, taxes collected .....	13.42

collected .....	18.06
Tax acct. sewer No. 31, taxes collected .....	9.28
Tax acct. sewer No. 32, taxes collected .....	12.02
Tax acct. sewer No. 34, taxes collected .....	187.63
Tax acct. lateral sewer No. 37, taxes collected .....	29.61
Tax acct. sewer No. 38, taxes collected .....	60.08
Tax acct. sewer No. 39, taxes collected .....	57.73
Tax acct. sewer No. 40, taxes collected .....	23.23
Tax acct. sewer No. 41, taxes collected .....	8.65
Tax acct. sewer No. 43, taxes collected .....	61.90
Tax acct. sewer No. 46, taxes collected .....	5.12

Total .....\$ 569.94  
Overdraft Dec. 1st..... 4,382.06

Balance .....\$3,812.12  
Warrants paid ..... 521.88

Overdraft Jan. 1st.....\$4,334.00  
Warrants Paid—

Labor acct. lateral sewer No. 50.....\$521.88  
Total .....\$521.88

Condition of Sewer Funds on the First Day of January, 1913—

On Hand—

Tax acct. lateral sewer No. 35.....\$	212.66
Tax acct. lateral sewer No. 37.....	40.99
Tax acct. lateral sewer No. 38.....	40.44
Tax acct. lateral sewer No. 41.....	410.06
Tax acct. lateral sewer No. 42.....	165.29
Tax acct. lateral sewer No. 43.....	230.47
Tax acct. lateral sewer No. 44.....	139.99
Tax acct. lateral sewer No. 45.....	207.41
Tax acct. lateral sewer No. 46.....	212.62
Tax acct. lateral sewer No. 47.....	187.98
Tax acct. lateral sewer No. 50.....	2.25
Labor acct. lateral sewer No. 49...	57.11
Labor acct. lateral sewer No. 50...	1,081.67

Total .....\$2,988.94  
Overdrawn—

Tax acct. lateral sewer No. 27.....\$	84.03
Tax acct. lateral sewer No. 29.....	16.66
Tax acct. lateral sewer No. 30.....	82.20
Tax acct. lateral sewer No. 31.....	60.96
Tax acct. lateral sewer No. 32.....	1,608.94
Tax acct. lateral sewer No. 33.....	88.25
Tax acct. lateral sewer No. 34.....	3,048.89
Tax acct. lateral sewer No. 36.....	50.46
Tax acct. lateral sewer No. 39.....	132.31
Tax acct. lateral sewer No. 40.....	144.95
Labor acct. lateral sewer No. 42.....	170.03
Labor acct. lateral sewer No. 43....	161.63
Labor acct. lateral sewer No. 44....	204.26
Labor acct. lateral sewer No. 45....	247.32
Labor acct. lateral sewer No. 46....	538.53
Labor acct. lateral sewer No. 47....	532.71
Labor acct. lateral sewer No. 48 ...	150.81

Total .....\$7,322.94  
Recapitulation—

City funds on hand .....\$102,568.13  
Paving districts on hand ..... 15,259.00

Total .....\$117,827.13

Total .....\$917.50  
On hand Dec. 1st.....\$15,404.52

Total .....\$16,322.02  
Warrants paid ..... 1,063.02

On hand Jan. 1st.....\$15,259.00  
Warrants Paid—

Labor acct. pavement No. 20.....\$1,059.39  
Labor acct. pavement No. 27..... 3.63

Condition of Paving Funds on the First Day of January, 1913—

On Hand—

Tax acct. pavement No. 5.....\$	814.16
Tax acct. pavement No. 6.....	63.10
Tax acct. pavement No. 7.....	38.49
Tax acct. pavement No. 8.....	466.57
Tax acct. pavement No. 10.....	182.12
Tax acct. pavement No. 11.....	787.70
Tax acct. pavement No. 13.....	486.99
Tax acct. pavement No. 14.....	1,219.92
Tax acct. pavement No. 15.....	1,285.63
Tax acct. pavement No. 16.....	1,175.69
Tax acct. pavement No. 17.....	603.70
Tax acct. pavement No. 18.....	2,719.75
Tax acct. pavement No. 19.....	1,728.40
Tax acct. pavement No. 21.....	2,323.14
Tax acct. pavement No. 22.....	152.25
Tax acct. pavement No. 23.....	580.98
Tax acct. pavement No. 24.....	221.74
Tax acct. pavement No. 25.....	258.81
Labor acct. pavement No. 20.....	705.13
Tax acct. pavement No. 27.....	3.34

Overdrawn—

Tax acct. pavement No. 9.....\$ 369.54  
Tax acct. pavement No. 12..... 107.16  
Tax acct. pavement No. 20..... 83.91

Warrants Outstanding—  
Tax acct. pavement No. 24 .....\$6.64

SEWER FUNDS—Treasurer's Report for Month Ending Dec. 31st—

Money Received—  
Tax acct. sewer No. 27, taxes collected .....

.....\$ 96.63  
Tax acct. sewer No. 30 taxes

Sewer districts overdrawn ..... 4,334.00  
 Balance .....\$113,493.13  
 Bank certificate .....\$77,745.12  
 Cash on hand ..... 35,748.01  
 Total .....\$113,493.13  
 Respectfully submitted: E. G. MANN, City Treasurer.

Bank Certificate—  
 State Savings Bank, Ann Arbor, Mich.,  
 Jan. 2, 1913. To whom this may concern:  
 This is to certify that there was on deposit,  
 to the credit of E. G. Mann, City Treasurer,  
 at the close of business on Dec. 31st,  
 1912, the sum of \$77,745.12.  
 Respectfully, C. J. WALZ, Cashier.

**Report of the City Clerk and Comptroller.**

Condition of CITY FUNDS.	Balance on Hand Jan. 1st, 1913.	Liabilities Contracted	Available.	Deficit.
Bridge, Culvert and Crosswalk ...\$	2.57	\$ 1,860.00	.....	\$ 1,857.43
Contingent .....	2,256.11	5,929.92	.....	3,673.81
City Cemetery .....	578.87	240.00	338.87	.....
Dog License .....	498.01	.....	498.01	.....
State Dog Tax .....	100.00	.....	100.00	.....
Fire Department .....	1,939.70	8,233.92	.....	6,294.22
Poor .....	674.09	150.00	524.09	.....
Police .....	3,771.27	3,499.92	271.35	.....
Street .....	.63	.....	.63	.....
Water .....	4,171.73	5,079.76	.....	908.03
Park .....	237.80	.....	237.80	.....
Street Lighting .....	4,555.96	7,530.00	.....	2,974.04
Sidewalk .....	6.61	.....	6.61	.....
<b>Total .....</b>	<b>\$18,793.35</b>	<b>\$32,523.52</b>	<b>\$ 1,977.36</b>	<b>\$15,707.53</b>

ROSS GRANGER, City Clerk.

**Street Commissioner's Report.**

Office of Street Commissioner, Ann Arbor, Mich., Jan. 2, 1913.

Hon. Board of Public Works, Wirt Cornwall, Esq., President: Gentlemen—The following is a report of the work done by the Street Department during the month of December, 1912:

Dec. 29-Dec. 11; Dec. 12-31—Cleaning paved streets, labor .....\$288.12  
 Grading, graveling and patching streets, labor ..... 198.17  
 (Ferdon road; Chubb road; patching holes in the several wards; Hill at Washtenaw av.; Wells st.; 7th st.)  
 Cleaning gutters, labor ..... 23.36  
 (S. Ashley; Mosely; roadway; S. University; Washtenaw E. of pavement; Ann at N. Observatory.)  
 Cleaning and repairs catch basins, inlets, gutter boxes, etc., labor ..... 12.54  
 Cleaning No. 1 bridge and M. C. overhead crossing, labor ..... 2.85  
 Miscellaneous work and repairs, labor ..... 20.60  
 (Lowering water gate Medallion and Oswego, \$0.90; making street sweeper brooms, 17.70; work on snow plows, \$2.00.)  
 Repairs sidewalks, labor ..... 5.76  
 (Driveway Kingsley bet. Main and Ashley; cinders Catherine bet. Ingalls and Glen; driveway Feleh bet. 1st and Spring; Koch driveway, Broadway.)  
 Cleaning crosswalks, labor ..... 8.58  
 Repairs and cleaning culverts, labor 7.20  
 (Railing culverts 5th av. and Edwin st., \$1.00; cleaning culverts Allen's creek and 4th bet. Liberty and Jefferson, \$620.)  
 Taking care of snow:

Cleaning snow from crosswalks, gutters, gutters, etc., labor .....\$24.38  
 Cleaning snow from crosswalks, gutters, labor ..... 1.63  
 Plowing snow from sidewalks, labor 24.50

Total .....\$50.51  
 Grand total .....\$617.70  
 Respectfully submitted, J. WISNER, Street Commissioner.

Reports from city treasurer, city clerk and street commissioner for month of December, 1912, and annual report of board of public works received. Moved by Ald. Lindenschmitt, that reports be printed with the proceedings.

Adopted as follows: Yeas, Ald. Schmid, Koernke, Flynn, Ramsay, Lindenschmitt, Schultz, Prochnow, Pipp, Sherk, Rash, Lutz, Pres. Mills, 12. Nays, none.

**Resolutions.**

By Ald. Lutz: Resolved, that warrant No. 14365, drawn in favor of Peerless Portland Cement company for \$370.22, in settlement of account to Nov. 4, 1912, be and the same is hereby cancelled.

Resolved, further, that the city clerk draw warrant in favor of the said company for \$203.52, in settlement of account to date.

Adopted as follows: Yeas, Ald. Schmid, Koernke, Flynn, Ramsay,

Lindenschmitt, Schultz, Prochnow, Pipp, Sherk, Rash, Lutz, Pres. Mills, 12. Nays, none.

By Ald. Lutz: Resolved, that the matter of electric light at the intersection of Twelfth and North University av. be referred to the lighting committee Adopted.

#### Miscellaneous Business.

##### Sewer Committee Report—

To the Honorable, the Common Council: Gentlemen—Your committee on sewers have had the petition of Stanislaus J. Zowski, et al, referred to them, and deeming the construction of a sanitary sewer in the following location a necessary public improvement, would recommend to your Honorable Body that a sanitary sewer be constructed on Washtenaw av., from about 150 feet northwesterly from the northwest line of Valley st., to the city limits, and from Washtenaw av. southwesterly to Ferdon road, through Austin av. and land deeded to the city for such purpose by Mr. and Mrs. L. D. Carr.

I. L. Sherk, Chairman of Sewer Committee.

Ald. Ramsay moved the adoption of the report.

Adopted as follows: Yeas, Ald.

Schmid, Koernke, Flynn, Ramsay, Lindenschmitt, Schultz, Prochnow, Pipp, Sherk, Rash, Lutz, Pres. Mills, 12. Nays, none.

By Ald. Ramsay: Resolved, that the construction of lateral sewer herein-after designated is deemed and declared to be a necessary public improvement, and the construction of the same is hereby ordered, that is to say: on Washtenaw av. from about 150 feet northwesterly from the northwest line of Valley st. to the city limits and from Washtenaw av. southwesterly to Ferdon road. Through Austin av. and Carr property as per deed.

Resolved, further, that the city engineer cause all needful surveys, maps, measurements and estimates to be made and report the same to the council with all convenient dispatch.

Adopted as follows: Yeas, Ald. Schmid, Koernke, Flynn, Ramsay, Lindenschmitt, Schultz, Prochnow, Pipp, Sherk, Rash, Lutz, Pres. Mills, 12. Nays, none.

Moved by Ald. Lindenschmitt, that the Oswego street grade be referred to the street committee and city engineer. Adopted.

The council adjourned.

ROSS GRANGER, Clerk.

# Annual Report of the Board of Public Works

January 6, 1913.

City Engineer's and Street Commissioner's Detailed Reports  
For Year 1913.

## CITY ENGINEER'S REPORT

To the Board of Public Works, Ann Arbor, Michigan: Sirs—I beg to submit the following report of work done, under your direction, in the Engineer's Department during the year ending Dec. 31st. 1912.

Very respectfully,  
MANLEY OSGOOD.

### PAVING.

All the paving laid this year was seven inch concrete pavement, the bottom five inches, mixed eight parts of bank run gravel to one part cement, and the top two inches, mixed two parts of bank run gravel to one part cement. Expansion joints one inch wide are left along each curb and one-half inch wide transversely, every fifty feet along the pavement.

Cement cost 92c per bbl. net, f. o. b. cars in Ann Arbor; gravel \$1.15 on Mary and Ashley sts. and \$1.25 on Hill st., per load of 1 1-3 cu. yds. delivered on the street; water 25c per 100 cu. ft. paving; day labor averaged about 25c per hour, and teams 50c; refined tar cost 9c per gal. f. o. b. Ann Arbor, and unrefined tar 5c per gal; pitch filler cost \$10.50 per ton

f. o. b. Chicago, and asphalt filler \$21.80 per ton f. o. b. Ann Arbor. The asphalt filler is much lighter than the pitch filler. The washed sand for wearing surface cost about \$1.138 per load of 1 1-3 cu. yds. unloaded from the cars in Ann Arbor.

**MARY ST.**—District No. 26, from the south line of Packard st. to the north line of Edwin st., was the first pavement laid this year. Setting stakes for this pavement was started on July 22d, 1912, and laying the concrete was finished on Aug. 17th. Joints were filled Aug. 29th to Sept. 4th, and the tar and sand top spread Sept. 12th to 19th. The joints were all filled with coal tar pitch filler. For the wearing surface, tar from four different concerns was used, the location of each kind on the street being given elsewhere in this report. There were 2,407.4 sq. yds. of paving, and 1,349.5 lin. ft. of curbing in this district. The total cost, as shown in my report of Oct. 9th, 1912, was \$2,703.08, and the unit costs were as follows:

Total cost per sq. yd . . . . .	\$1.123
Cost of grading and paving per sq. yd. . . . .	0.98

COMMON COUNCIL—JANUARY 20, 1913.

Concrete pavement and wearing surface, per sq. yd.....	0.888
Concrete pavement, only, per sq. yd.....	0.782
Filling joints and wearing surface, per sq. yd.....	0.106

**ASHLEY ST.**—District No. 27, from the north line of William st. to the south line of Catherine st., excepting the intersections at Washington st. and Huron st., was started about Aug. 21st, and the laying of concrete finished about Oct. 14th. The wearing surface, due to scarcity of labor and rainy weather, was not finished until Nov. 15th. The joints from Huron st. south to about fifty feet south of Washington st., and from the north side of Ann st. to Catherine st., are filled with coal tar pitch filler, and all the other joints on this pavement with Pioneer Asphalt filler. For the wearing surface, tar from three different concerns was used, the location of each kind on the street being given elsewhere in this report.

There was some complaint made about the progress in applying the wearing surface and about the side slope given the pavement just north and south of the Liberty st. intersection, but I believe that in both instances existing conditions were met in the best possible manner.

There are 7,710.88 sq. yds. of paving and 3,396.3 lin. ft. of curbing in this district. One hundred feet of this curbing, after its first building, was taken out and replaced on account of a change of grade to make this pavement meet a future pavement on Catherine st. The total cost, as shown in my report of Dec. 4th, 1912, was \$9,071.92, and the unit costs were as follows:

Total cost per sq. yd.....	\$1.176
Cost of grading and paving, per sq. yd. ....	1.062
Concrete pavement and wearing surface, per sq. yd....	0.913
Concrete pavement, only, per sq. yd. ....	0.806
Filling joints and wearing surface, per sq. yd. ....	0.107

**HILL AND OSWEGO STS.**—A part of District No. 20, was graded from Oxford road, to where it was completed and reported upon in 1911, to Geddes av., and paved from Oxford road to about seventy feet east of Cambridge road. The grading was done during the time Ashley st. was being paved, and the laying concrete was started Oct. 16th and finished Oct. 25th. Filling joints and tarring was started Nov. 15th and completed

Nov. 21st. The transverse joints were all filled with coal tar pitch filler, and the joints along the curbing with road tar from the Chatfield Mfg. Co., mixed with sand. For the wearing surface, "Tarcoat," a road tar from the Chatfield Mfg. Co., and unrefined tar from the Ann Arbor Gas Co., were used, the location of each kind on the street being given elsewhere in this report. The curbing for this entire district was laid in 1911 and reported upon in the report for that year. In 1912, there was laid 1,418.7 sq. yds. of pavement, the cost being distributed as follows:

Labor grading and mixing and laying concrete ....	\$1,015.05
Labor tarring .....	69.42
Gravel and hauling same ...	384.70
Cement, 389.5 bbl. at 92c..	358.34
Pitch filler .....	13.44
Refined tar for wearing surface and filling joints along curbing .....	49.56
Unrefined tar for wearing surface .....	4.85
Monument castings .....	7.75
Lumber, forms, etc. ....	15.80
Plow points, \$3.10; coal \$5.94 .....	9.04
<b>Total .....</b>	<b>\$1,927.95</b>

**RESURFACING PAVEMENTS—**

Previous to September, \$416.40 was expended by the Street Commissioner's Department for resurfacing paved streets, as shown by his report.

On Sept. 6th to 12th, Maynard st., the first Ann Arbor Tar-Concrete pavement, laid in 1909, was entirely resurfaced. The cost of this work was as follows:

Labor and superintendence..	\$ 69.98
500 gal. Dolarway Bitumen (approx.) .....	40.00
1 1-2 bbl. "Tarco" .....	6.90
8 loads washed gravel .....	9.10
Wood for heating tar kettles	1.25
Depreciation of tools, etc., estimated at 1-2c per sq. yd.	9.42
<b>Total .....</b>	<b>\$136.65</b>

This pavement has a surface of 1,883 sq. yds., making the cost of resurfacing 7 1-4c per sq. yd. It required about 0.305 gal. of tar and 0.0057 cu. yds. of gravel per sq. yd. of surface.

On Nov. 22d to 26th, the spots on Washtenaw av., from East University av. to Forest av., from which the tar had peeled, were resurfaced. This pavement was laid in 1911, is one course paving, and quite a thin

mixture, and it must be kept surfaced at all times to prevent raveling of the concrete. The cost of resurfacing done on this street was as follows:  
 Labor and superintendence...\$36.62  
 Tar: 200 gal. (estimated) at 5c 10.00  
 2 loads washed gravel ..... 2.28

Total .....\$48.90

On Huron st., from Main st. to Fifth av., on Fourth av., from Huron st. to Liberty st., on State st. between Liberty st. and William St., and on E. Liberty st. near State st., it was found advisable to remove some of the more worn asphalt blocks and replace same with vitrified paving blocks. This is reported upon by the Street Commissioner, who shows the total cost to be \$160.79.

At the corner of E. Liberty st. and Division st., the cover was lost off the street monument box, making it necessary to replace the entire box at a cost of \$4.50.

**WEARING SURFACE**—For the wearing surface of pavements this year, tar from the following concerns was used: "Dolarway Bitumen" from the Dolarway Co., New York, and on hand at the beginning of the season; "Tarco," a road tar from the Phillip Carey Co., Cincinnati, Ohio; "Tarcoat," a road tar from The Chatfield Mfg. Co., Carthage, Ohio; "Lewis Road Tar," from F. J. Lewis Mfg. Co., Chicago; and unrefined coal tar from the Ann Arbor Gas Co. The location of each of the above products on the various streets is given as follows:

**Mary St.—**

From Packard st. to 157 ft. south ..... "Tarco"  
 From 157 ft. to 282 ft. south of Packard st. .... "Tarcoat"  
 From 282 ft. to 494 ft. south of Packard st. ... "Lewis Road Tar."  
 From 494 ft. south of Packard st. to Edwin st. .... Unrefined Tar

**Ashley St.—**

From Huron st. intersection 66.5 ft. south ..... "Lewis Road Tar"  
 From 66.5 ft. to 126.5 ft. south of Huron st. .... "Tarcoat"  
 From 126.5 ft. to 183.5 ft. south of Huron st. .... "Tarco"  
 From 183.5 ft. south of Huron st. to Washington st. "Lewis Road Tar" (1-2 bbl. "Tarcoat" used to finish this section.)  
 From Washington st. intersection 103 ft. south ... "Lewis Road Tar"

From 103 ft. to 186 ft. south of Washington st. .... "Tarco"  
 From 186 ft. south of Washington St. to S. line Liberty st. intersection ..... "Tarcoat"  
 From south line Liberty st. intersection 163 ft. south ..... "Tarco"  
 From 163 ft. to about 320 ft. south of Liberty st. .... "Tarcoat"  
 From about 320 ft. south of Liberty st. to William st. intersection ..... "Lewis Road Tar"  
 From Huron st. intersection about 125 ft. north.... "Lewis Road Tar"  
 From about 125 ft. to about 240 ft. north of Huron st. ... "Tarco"  
 From about 240 ft. north of Huron st. to the end of the pavement at Catherine st. .... "Tarcoat"  
**Maynard St.—**

From William st. intersection 435 ft. north .... "Dolarway Bitumen"  
 From Liberty st. intersection 65 ft. south ..... "Tarco"

The repairing and resurfacing of paved streets prior to Sept. was all done with "Dolarway Bitumen." The repairing on Washtenaw av. was done with unrefined coal tar from the local Gas Co.

It is as yet too early to draw conclusions as to which of these products will be the best suited for use on our tar-concrete pavements, but at some future time I will submit a report of the results.

**GENERAL**—On preliminary work for pavements to be laid in the future, \$3.67 was expended, and, due to the N. Main st. pavement, laid in 1911, a bill of \$81.88 for moving a fire hydrant was approved. For tools, etc., for paving work, \$56.45 was expended through this office, but such items are recovered to the city in the 10c per sq. yard charged against each pavement for engineering, superintendence, tools, etc.

A summary of pavements laid in the city of Ann Arbor to date is given in the following table. During the year 1911, there was laid on Hill st., District No. 20, 1,780 sq. yds. of pavement and 3,962 lin. ft. of curbing at a cost of \$2,575.66, and during the year 1912 there was laid on this same street 1,419 sq. yds. of pavement and the grading was finished, to the grade established when the curbing was set in 1911, at a cost of \$1,927.95. These items do not appear in this table. To complete this district, there is yet to lay about 2,180 sq. yds of pavement



**SUMMARY OF PAVING DONE IN 1912.**

<b>Streets and Limits.</b>	<b>District</b>	<b>Width, Ft.</b>	<b>Kind of Pavement.</b>	<b>Nature of Work Done.</b>	<b>Tot. Cost.</b>	<b>City to Pay.</b>	<b>Prop'ty to Pay</b>	<b>Sq. yds. p'vt</b>	<b>Lin. ft. Curb</b>	<b>Cost of Excavation.</b>	<b>Total cost per sq. yd.</b>	<b>Cost, paving only per sq. yd.</b>
Hill st. ....	20	24	A. A. Tar concrete	New paving	\$1,927.95	District not yet completed.						
Mary st., Packard st. to Edwin st. ....	26	30	A. A. tar concrete	New paving	2703.08	840.80	\$1862.28	2407.4	1349.5	\$221.56	\$1.123	\$0.888
Ashley st., William st. to Catherine st. ....	27	40-42	A. A. tar concrete	New paving	9071.92	2570.22	6501.70	7710.9	3396.3	1058.57	1.176	0.913
Maynard st. William st. to Liberty st. ....	12.	34	A. A. tar concrete	Re-surfacing	136.65	136.65		1883.0			0.0725	
Washtenaw av. ....	16	34	A. A. tar concrete	Patching surface	48.90	48.90						

Other re-surfacing and patching of wearing surface on tar concrete pavements and replacing of asphalt blocks with vitrified brick in asphalt block pavements done by Street Commissioner's Department.

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SUMMARY OF PAVEMENTS IN THE CITY OF ANN ARBOR.

District No.	Street.	When laid	No. sq. yds.	Total cost	Total cost per sq. yd.	Cost per sq. yd pavement only	Kind.
142	Main .....	1898	12730	\$31375.15	\$2.46	\$1.64	Brick on concrete
3	Washington, Ashley to 5th av..	1899	5140	11345.17	2.27	1.73	Brick on concrete
4	Huron, Ashley to State .....	1900	10791	27845.38	2.58	2.17	Asphalt bl'k on sand
5	State, Huron to Monroe .....	1902	12484	31778.98	2.55	2.16	Asphalt bl'k on sand
6	Ann, Main to 4th av.....	1902	1589	2860.70	1.80	1.39	Brick on sand
7	Liberty, Ashley to State .....	1903	9140	24486.03	2.68	2.19	Asphalt bl'k on sand
8	Fourth av., Huron to Liberty..	1903	2431	6490.80	2.67	2.19	Asphalt bl'k on sand
9	William .....	1907	7519	19092.01	2.54	2.03	Bitulithic
10	N. University .....	1905	5045	10720.16	2.03	1.63	Brick on concrete
11	Alley .....	1908	350	672.74	1.92	1.50	Brick on concrete
12	Maynard .....	1909	1883	1930.13	1.03	.78	A. A. tar concrete
13	N. Fourth av., Huron to Ann..	1910	1159	1351.34	1.17	.88	A. A. tar concrete
14	E. Huron and Twelfth .....	1910	6765	6685.50	.99	.76	A. A. tar concrete
15	Washington, 5th av. to 12th...	1910	8633	8189.73	.95	.71	A. A. tar concrete
16	Washtenaw av.....	1911	12032	12392.81	1.03	.78	A. A. tar concrete
17	State, Packard to Arch .....	1911	2587	2372.49	1.03	.84	A. A. tar concrete
18	S. Main and Packard .....	1911	20826	23172.05	1.11	.78	A. A. tar concrete
19	N. Main, Catherine st. north...	1911	10117	11110.86	1.10	.82	A. A. tar concrete
20	Hill and Oswego	District	not completed.				A. A. tar concrete
21	Fifth av.....	1911	10483	11678.31	1.12	.84	A. A. tar concrete
22	Alley .....	1911	293	314.84	1.07	.84	A. A. tar concrete
23	Alley .....	1911	920	1029.38	1.12	.77	A. A. tar concrete
24	Arch and Thayer .....	1911	1833	1747.35	.95	.77	A. A. tar concrete
25	State, Monroe to Packard .....	1911	3158	3181.57	1.01	.78	A. A. tar concrete
26	Mary .....	1912	2407	2703.08	1.12	.89	A. A. tar concrete
27	Ashley .....	1912	7711	9071.92	1.18	.91	A. A. tar concrete
Totals .....		158085	\$234198.51				

NOTE—The pavement between the rails of the street car track on Washtenaw av. and between the rails and for a distance of 18 in. out on either side of the track on Packard and Main sts. is of brick on concrete and is not included in the above statement.

Statement of kinds of pavement in Ann Arbor—

Brick on Concrete.....23,265 sq. yds.  
 Brick on sand ..... 1,589 sq. yds.  
 Asphalt block on sand..34,846 sq. yds.  
 Bitulithic ..... 7,519 sq. yds.  
 Ann Arbor Tar-Concrete:  
 Laid in 1909..... 1,883 sq. yds.  
 Laid in 1910.....16,557 sq. yds.  
 Laid in 1911.....64,089 sq. yds.  
 Laid in 1912.....11,537 sq. yds.  
 Total Ann Arbor Tar-Concrete .....94,066 sq. yds.

Total of all kinds of paving .....161,285 sq. yds.

The total cost of paving done in Ann Arbor to date, exclusive of Macadamizing Detroit St., but with the cost of what work has been done on Hill and Oswego sts. in District No. 20 included, is \$268,702.12.

SANITARY SEWERS.

All of the sanitary sewers laid this year were of eight inch vitrified pipe, and all empty into sewers of the same type and size previously laid. Hochrein & Reimold were awarded the contracts for all of the sanitary sewers laid in 1912. The house connections were all run in to the curb line.

**Murray Av. Sewer**, District No. 48, between Washington st. and Liberty st., emptying into W. Washington st. sewer, District No. 22, was started Sept. 17th and completed Oct. 4th.

**Olivia Av. Sewer**, District No. 49, a continuation of sewer running north from Minerva road, District No. 46, was started Oct. 5th and completed Nov. 18th.

**Myrtle St. Sewer**, District No. 50, east from Oswego st. to the city limits, emptying into sewer on Hill st., at

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Oswego st., District No. 24, was started on Oct. 12th, 1912, and was not completed until Jan. 6th, 1913. There is considerable dirt to go back into this sewer trench which cannot be put in until the frost goes out of the ground in the spring, but the 5 per cent. retained on the final estimate, as well as the bond, provides for any failure of the contractors to care for this.

**COSTS**—Table No. 3 shows the costs of the foregoing sewers, together with the general data concerning them.

**REPAIRS, ETC.**—Repairs to sanitary sewers and flushing, exclusive of the amount paid to the Ann Arbor Water Co., has cost \$110.24 during the year, including the amount shown in the Street Commissioner's report. In addition to this, it was found necessary to repair a tile drain belonging

to the Come-Packt Furniture Co. and running across Hill st. from land owned by the above company to a sewer through the land of F. C. Weinberg. This drain was broken when the sanitary sewer on Hill st. was laid and was not repaired at that time. The total cost of this work was \$18.38, of which \$8.37 was billed against the Come-Packt Furniture Co. for repairs made to the drain which were not necessitated by any act of the city's agents or employees.

For preliminary work on sanitary sewers to be constructed in the future, \$5.20 was expended; and for additions to and blue printing the map of the general sanitary sewerage system, \$3.30 was expended.

**SUMMARY OF SANITARY SEWERS**—Table No. 4, which follows, is a tabulation of data and costs of the sanitary sewers laid in Ann Arbor to date:

SUMMARY OF SANITARY SEWERS BUILT DURING 1912.

Streets and Limits.	District	Number house connections	Total length house connections	Length of main	Manholes	Flush tanks	Light holes	Total cost	City to pay	Property to pay	Amount of contract	% per cent. retained on contract	When due.	Contractors.
Murray av., Wash. st. to Liberty st.....48	31	27	350 ft.	724 ft.	4	1	1	\$ 982.94	\$157.00	\$ 825.94	\$ 969.27	\$48.46	Oct. 7, 1913	Hochrein & Reimold
Olivia av. north of Minerva road.....49		8	102 ft.	157 ft.	1	1	1	298.62	36.00	262.62	278.62	13.93	Nov. 18, 1913	Hoch'n & Reimold
Myrtle st., Oswego st. to city limits .....50		17	370 ft.	651 ft.	1	1	1	1795.69	44.68	1651.01	1684.65	84.23	Jan. 6, 1914	Hochrein & Reimold

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SUMMARY OF SANITARY SEWERS IN THE CITY OF ANN ARBOR.

District No.	Street.	Date	Total length of main	No. manholes	No. flushtanks	No. light holes	8-inch tile	10-inch tile	No. of house connections	Length of house conn	Total cost
	Main sewer.....	1893		No	record						\$41252.83
1	Liberty, E. of main sewer.....	1894		No	record						3954.44
2	Washington, E. of main sewer.....	1894		No	record						6831.09
3	Hill st. district E. of main sewer...	1895		No	record						27912.80
4	Huron, E. of main sewer.....	1895		No	record						4303.19
5	William, E. of main sewer.....	1896		No	record						8454.98
6	Detroit.....	1897		No	record						12587.00
7	W. Liberty, to near Seventh .....	1897	1804	5	1	5	1804	...	63	998	1887.84
8	E. Catherine, Division to State .....	1900	631	1	1	1	631	...	22	256	527.43
9	Ann, Huron, 13th and 14th .....	1901	1370	4	2	..	1370	...	50	988	2163.43
10	14th and Volland.....	1901	1263	3	1	..	1263	...	35	630	1541.47
11	First, Madison to Jefferson .....	1903	918	3	1	..	613	305	27	508	1169.51
12	W. William st.....	1903	1527	4	1	..	583	944	40	678	2083.02
13	Beakes, 4th av., 5th av., Kingsley.	1904	4204	8	7	..	2703	1498	137	2316	5024.40
14	N. Main, main sewer to Catherine.	1905	1393	3	2	..	1393	...	69	1444	2322.48
15	Cambridge, Washtenaw, Vinewood, Ferdon .....	1905	1487	4	2	..	1487	...	28	707	1735.64
16	W. Lib'ty ext. to city limits....	1903	1352	3	1	..	1352	...	40	726	1265.68
17	Third, William to Jefferson.....	1905	602	1	1	..	602	...	19	328	590.84
18	W. Huron .....	1903	3509	8	1	..	2942	567	102	2056	4111.52
19	Church .....	1903	444	1	1	..	444	...	22	376	574.76
20	Miller av.....	1903	2224	9	1	..	1737	487	57	987	2147.27
21	Spring, Miller to Hiscock.....	1907	1252	4	..	..	688	564	*32	...	1070.92
22	W. Washington and 3rd.....	1907	2834	8	2	..	2834	...	*88	...	2369.03
23	S. Division .....	1903	200	1	..	..	200	...	8	160	250.09
24	Geddes av., Hill & Oswego.....	1907	1730	5	2	..	1730	...	*30	...	1520.70
25	State and Dewey av.....	1907	3134	9	2	..	2882	242	*88	...	2186.67
26	Broadway and Wall st.....	1907	5682	20	2	..	3571	2111	*143	...	4989.01
27	Second ward .....	1908	11470	24	13	..	3540	1930	*337	...	8035.98
28	Belser, Observatory, Volland .....	1907	2380	4	3	..	2380	...	*39	...	1895.59
29	Spring st. extension .....	1908	896	3	1	..	896	...	*26	...	632.32
30	E. Catherine and Clark .....	1908	1498	3	2	..	1498	...	*38	...	1148.33
31	Fuller and Elizabeth .....	1907	1080	2	2	..	1080	...	*22	...	\$ 943.60
32	S. Main, Mosley, Ashley .....	1909	3679	8	3	..	3108	571	*98	...	2229.03
33	Arch, White, McKinley .....	1909	1458	3	..	..	1458	...	*58	...	513.49
34	Packard, Granger, Ferdon .....	1909	10128	27	7	..	7030	3098	*376	...	6200.06
35	Second, William to Liberty .....	1909	321	1	..	..	321	...	*12	...	240.69
36	N. 5th av. and E. Summit .....	1910	891	2	2	..	891	...	*27	...	741.70
37	Cambridge, Washtenaw to Hill...	1910	1200	3	2	..	1200	...	*34	...	911.39
38	Hill, Division to Main .....	1910	1320	3	1	..	1320	...	*40	...	1037.00
39	Fuller, Glen to State .....	1910	1197	3	1	..	1197	...	*19	...	815.93
40	Ashley, Kingsley to Ann .....	1910	771	2	1	..	771	...	*30	...	637.77
41	Felch, Fountain, Hiscock, Chapin and Cherry .....	1910	4979	8	6	4	3328	742	*122	...	3229.79
42	N. Main, Summit to A. A. R. R. ....	1911	651	2	1	..	651	...	17	230	680.14
43	4th av., Beakes to Summit .....	1911	869	2	1	..	869	...	*21	...	643.55
44	Depot, 4th av. to Main .....	1911	335	1	..	..	335	...	*9	...	204.26
45	White and McKinley .....	1911	345	1	1	..	345	...	*18	...	247.32
46	Olivia av. and Minerva road....	1911	733	2	1	..	733	...	*29	...	538.53
47	E. Ann, Glen to Ingalls .....	1911	655	1	1	..	655	...	*28	...	532.71
48	Murray av., Wash'ton to Liberty	1912	724	4	1	1	738	...	27	350	982.94
49	Olivia av., N. of Minerva road...	1912	157	1	1	1	163	...	8	192	298.62
50	Myrtle, Oswego to City Limits...	1912	651	1	1	1	668	...	17	370	1795.69
	Total.....										\$180103.95

NOTE—District No. 23 never accepted by the City. The above data is from Engineer's approximate estimate. District No. 50, one 8-inch house connection 28 feet long included in above length of house connections.

\*Ys only.

**STORM SEWERS AND CARE OF STORM WATER.**

**Church St. and Willard St.**—During the past year, only one storm water sewer was built, being on Church st. from S. University av. to Roosevelt av., where it empties into the concrete storm water sewer running west from the corner of Church St. and Roosevelt av. across private property. This Church st. sewer is a twenty inch vitrified tile sewer from the outlet to the man hole on Church st. 219 ft. north of the center line of Willard st. A fifteen inch tile runs north from here to the storm sewer manhole at S. University av. and Church st., and is arranged for an overflow for this manhole; i. e., so that if the manhole starts to fill up above its outlet the water will run off down Church st. In connection with this Church st. sewer, a storm water sewer was built on Willard st., emptying into the Church st. sewer and running from there west 144 ft. This was necessary to care for water which formerly overflowed the curb and sidewalk and ran over private land and into cellars. Hochrein & Reimold were awarded the contract for building these sewers. The costs were as follows:

**On Church St.—**

1936 ft. of 20 inch sewer pipe at 58c .....	\$1,122.88
220 ft. of 15 inch sewer pipe at 46c .....	101.20
720 ft. of 12 inch sewer pipe at 38c .....	273.60
8 manholes at \$25.00 .....	200.00
22 inlets at \$8.00 .....	176.00
2030 ft. of excavation less than 6 ft. deep at 25c ...	507.50
930 ft. of excavation between 6 ft. and 8 ft. deep at 30c	279.00
<b>Total for contract work....</b>	<b>2,660.18</b>
Engineering and laying tile	116.25

Total cost of sewer .....\$2,776.43

**On Willard St.—**

144 ft. of 15 inch sewer pipe at 46c .....	\$ 66.24
28 ft. of 12 inch sewer pipe at 38c .....	10.64
1 manhole at \$25.00 .....	25.00
2 inlets at \$8.00 .....	16.00
172 ft. of excavation less than 6 ft. deep at 25c .....	43.00
<b>Total for contract work....</b>	<b>160.88</b>
Engineering and laying tile..	7.65

Total cost of sewer .....\$168.53  
Of the above contract price, in

each case, 5 per cent. was retained for one year's time. The amount of this retent and the date on which the payment of same falls due are as follows:

Sewer, Church st.; amount of 5 per cent retained, \$133.00; date when due, Oct. 7th, 1913; contractors, Hochrein & Reimold.

Sewer, Willard st.; amount of 5 per cent. retained, \$8.04; date when due, Nov. 18th, 1913; contractors, Hochrein & Reimold.

**Mary St.**—In connection with the pavement on Mary st., one additional inlet was set and connected with the storm sewer. The other inlets on this street needed slight adjusting to fit the grade and line of the curb. The total cost for care of storm water on this improvement was \$23.80.

**Ashley St.**—In connection with the pavement on Ashley st., five new inlets were set in the curb line, two at the corner of Catherine st. and three at the corner of Ann st., and one new inlet was set in the center of the alley running east and west between Liberty and Washington sts. just east of the Ashley st. line. All of these inlets were connected with the storm sewers on the nearest east and west street. To care for the water formerly discharged into the gutters on Ashley st. from the roofs of store buildings, two short extensions of storm water sewers were made, one from Liberty st. south and one from Ann st. south. The owners of property benefitted paid directly a part of the cost of these short extensions. The total cost to the city for care of storm water on this improvement was \$267.00.

**Hill and Oswego Sts.**—On the corner of Hill and Oswego sts., an inlet was set at a cost of \$1.32.

**W. Liberty St.**—In the center of the alley running north and south between Ashley st. and First st., just north of the Liberty st. line, an inlet was set to keep the water from running down the Liberty st. sidewalk. The total cost of this was \$30.15, including the building up of a manhole on Liberty st. which was left, at the time the sewer was constructed, only partly built and covered with a large stone slab.

**General**—The engineer cost in connection with other work, done by the Street Commissioner's Department, in caring for storm water, was \$12.98. The total amount expended for care of storm water during the year, ex-

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clusive of the storm water sewers on Church st. and Willard st., in both the Street Commissioner's and the Engineer's Department, was \$483.08. This does not include a bill of \$29.75 approved for water used in 1911 in building storm water culvert on State, Arch, McKinley, White and Packard.

The following table shows the cost of storm water sewers built in the city of Ann Arbor to date:

**Table showing cost of storm water sewers build in Ann Arbor to date.**

Date	Sewer	Cost.
Built prior to 1900		\$26,411.72
1902	State st.	1,667.22
1902	Ann st.	543.95
1905	N. University av.	361.00
1905	E. William st.	3,014.67
1906 and 1907	Roosevelt av. and across Judson's land	1,710.41
1906	E. Washington st.	3,781.82
1909	Hill st. and Washtenaw av.	653.90
1910	Washington st., east of State st.	536.37
1911	Ann st. and Alley B. 1 N., R. 4 E.	443.14
1911	Alley in B. 3 S., R. 3 E.	250.92
1911	Hill st., Oxford to Cambridge	116.87
1911	Packard st., Hill st. to Monroe st.	868.97
1911	Hill st., Cambridge to Oswego	325.92
1911	N. Main st.	207.47
1911	Mary st. and Benjamin (including work done in 1912 in connection with paving Mary st.)	884.78
1911	Church st., Washtenaw av. to S. University av.	1,291.44
1911	Concrete culvert on state, Arch, White, McKinley, Packard	3,422.95
1911	Other storm water sewer work including the sewer on Packard st. at Dewey av.	1,552.01
1912	Church st., S. University av. to Roosevelt av.	2,776.43
1912	Willard st., Church st. west 144 ft.	168.53
1912	Ashley st., in connection with pavement, see above	267.00
1912	W. Liberty st., inlet set in alley west of Ashley st.	30.15
Total		\$51,287.64

The total cost of pavements and sewers built in Ann Arbor to date is as follows:

Pavements	\$268,702.12
Sanitary sewers	180,106.95

Storm water sewers ..... 51,287.64

Total ..... \$500,096.71

Cost of pavements and sewers in Ann Arbor by years:

Prior to 1900	\$176,616.21
1900	28,372.81
1901	3,704.93
1902	36,850.85
1903	34,229.39
1904	5,024.40
1905	18,744.79
1906	12,986.96
1907	34,931.94
1908	10,489.40
1909	11,867.30
1910	24,166.12
1911	82,089.30
1912	20,022.31
Total	\$500,096.71

**GENERAL**

**Sprinkling Streets**—Three districts were sprinkled during the season, the streets sprinkled, cost for each district and contractor being given below:

District No. 11: State st. from Washington st. to William st., N. University av. from State st. to Thayer st., and Liberty st. from State st. to Maynard st. Cost for the season, \$528.00. Contractor W. J. Clancey.

District No. 12: Hill st. from Oxford road to Church st., Oxford road from Hill st. to Washtenaw av., Lincoln av. from Hill st. to Cambridge road, Olivia av. from Hill st. to Cambridge road, and Forest av. from South University av. to Cambridge road. Cost for the season, \$792.00. Contractor, W. J. Clancey.

District No. 13: Hill st. from the east line of Church st. to Tappan st., Tappan st. from Hill st. to East University av., and East University av. from Tappan st. to Hill st. Established July 1st, 1912; cost for the balance of the season, \$351.00. Contractor, W. J. Clancey.

**Cemeteries**—In the City Cemetery, known otherwise as Fairview Cemetery or the Fifth ward cemetery, a vault was constructed during the year. The contract for building this vault was let to Harry M. Grooms, who started work August 19th and completed same about Sept. 30. The contract price was 600.00 and the cost of engineering and inspection was \$3.01, making the total cost \$603.01. This does not include the work of designing or drawing plans.

**Hammond Beef Co. Survey**—To assist the City Attorney in his suit

COMMON COUNCIL—JANUARY 20, 1913.

against the Hammond Beef Co. and the Michigan Central Railroad Co., to gain recognition of the city's ownership of that portion of N. Fifth av. now occupied by the Hammond Beef Co. building, I made a survey and map of that locality. The map is on file in my office. The total cost of this work was \$24.25.

**Sidewalks, Curbing, etc.**—The engineering cost, since July 1st, for establishing grades for and setting stages for sidewalks, curbing, etc., exclusive of curbing built in connection with pavements, was \$147.24.

**Work at Steere Farm**—This work has been fully covered in my report

to the Special Water Committee, under date of Jan. 6th, 1913.

**Engineer's Office**—Since August 1st, the amount properly chargeable directly to your Engineer's office has been \$320.45. This includes all supplies bought and all that part of my own time and the time of the men working in the Engineer's department spent in numbering houses, repairing or adjusting instruments, keeping up general office records, attending Board and Council meetings, attending to office correspondence and extending necessary courtesies to visitors who come to Ann Arbor to see our pavements, etc.



# STREET COMMISSIONER'S REPORT

Office of the Street Commissioner, Ann Arbor, Mich., Jan. 6, 1913.  
To the Hon. Board of Public Works, Wirt Cornwell, Esq., President: Gentlemen—  
I herewith submit to your honorable body the annual report of the work done in my department during the year ending December 31, 1912, including the care of streets and sidewalks, construction of culverts, inlets, spill connections, etc., sidewalk extensions and crosswalks, street paving and the cement, gravel and other materials purchased under your direction and used during the year:

STREET WORK—		
Cleaning paved streets, labor .....		\$4935.47
April \$743.58; May, \$462.45; June, \$471.30; July, \$651.30; Aug., \$530.06; Sept., \$661.22; Oct., \$627.07; Nov., \$500.36; Dec., \$288.13.		
Sprinkling paved and dirt streets (in addition to sprinkling for street sweeping), labor .....		59.00
Taking care of snow, labor—		
Cleaning snow from crosswalks, gutters and inlets..	\$1441.39	
(Jan., \$234.83; Feb., \$428.10; March, \$754.08; Dec., \$24.38.)		
Clearing ice from creek, 5th street.....	15.50	
(Jan., \$225; Feb., \$13.25.)		
Sanding extensions and sidewalks, (Jan.).....	8.26	
Plowing snow from sidewalks .....	557.00	
(Jan., \$170.00; Feb., \$214.50; March, \$148.00; Dec., \$24.50.)		
Plowing snow from gutters .....	8.17	
(Jan., \$5.17; Feb., \$3.00.)		
Cleaning snow from park walks .....	42.13	
(Jan., \$13.75; Feb., \$19.75; March, \$7.00; Dec., \$1.63.)		
Sand for sanding extensions, 2 loads @ 0.25 .....	0.50	
41 bbl. salt for clearing inlets, culverts, etc.....	45.10	2,118.05
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Repairs paved streets, labor .....	\$92.23	
3895 paving blocks @ \$17.00 per M .....	66.22	
8 sacks cement, 2 bbl. @ 0.92 .....	1.84	
2 loads sand @ 0.25 .....	0.50	160.79
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(Labor on above—April, \$7.88; May, \$4.54; June, \$28.18; July, \$3.00; Oct., \$26.43; Nov. \$22.20.)		
Tarring old concrete pavements, labor, .....	\$220.99	
(April, \$1.80; May, \$45.32; June, \$60.22; July, \$10.25; Aug., \$51.87; Sept., \$49.03; Oct., \$2.50.)		

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Tar from city tank, 1500 gals. (Est.) @ .08.....	120.00	
3 cars Torpedo gravel (Chilson) .....	33.43	
Special top at Washington W. of State N. side and State bt. Hill and Monroe, E. side, labor, .....	\$8.31	
150 gals. tar @ \$0.05.....	7.50	
4 lds. gravel @ \$1.13 .....	4.52	
8 sks. cement 2 bbl. @ 0.92 .....	1.84	
19 gals. kerosene oil @ 0.09 1-2 .....	1.81	\$23.98
		<u>398.40</u>
(Tarring acct. not complete—Balance of labor, tar and gravel acct. kept by City Engineer)		
Heating city tar tank, labor .....	42.79	
April, \$5.23; May, \$18.34; June, \$10.00; July, \$4.00; Aug., \$5.22.)		
Coke, (\$7.88; \$7.61; \$1.31) .....	16.80	59.59
Grading, graveling and patching streets in the several wards, labor .....	\$2,483.97	
(March, \$3.00; April, \$418.00; May, \$248.90; June, \$242.95; July, \$405.22; Aug., \$87.93; Sept. \$163.76; Oct., \$228.81; Nov., \$287.23; Dec., \$198.17.)		
1258 loads gravel .....	232.20	
148 lds @ 0.10 .....	\$ 14.80	
114 lds @ 0.15 .....	17.10	
992 lds @ 0.20 .....	198.40	
3 lds @ 0.25 .....	0.75	
1 ld (including hauling) .....	1.15	
		<u>\$232.20</u>
Grading streets with scraper, labor, (April) .....	122.90	
Grading streets with street drag, labor .....	83.64	2,922.71
(April, \$54.76; Aug., \$4.38; Oct., \$24.50.)		
Cleaning gutters on dirt streets in the several wards labor .....		3,071.85
(April, \$305.62; May, \$259.89; June, \$1340.72; July \$131.22; Aug., \$165.68; Sept., \$203.47; Oct., \$129.53; Nov., \$512.36; Dec., \$23.36.)		
Cutting weeds in streets and from lawn extensions in the several wards, labor .....		352.01
(May, \$16.40; June, \$174.42; July, \$70.99; Aug., \$35.20; Sept., \$40.00; Oct., \$15.00.)		
		<u>\$14,077.87</u>
Total street work .....		\$14,077.87
CULVERTS—		
Culvert in Edwin street at entrance to Ferry Field, labor, .....		\$ 72.61
71 sacks cement, \$17.75 bbl. @ 0.92 .....	\$16.33	
10 lds gravel @ 0.25 .....	2.50	
1 load torpedo gravel .....	1.14	19.97
		<u>\$ 92.58</u>
Less paid by U. of M. for top (sidewalk) .....		15.02
		<u>\$ 77.56</u>
Cost of culvert .....		\$ 77.56
Cleaning culverts and Allen's creek, labor .....		48.61
(July, \$17.47; Aug., \$17.74; Nov., \$7.20; Dec., \$6.20.)		
Repairs culverts, labor .....		6.62
(Fence city property cul. 5th st.; railing cul. 5th st.; railing culs. 5th ave. and Edwin st.) (Jan., \$3.26; Nov., \$2.36; Dec., \$1.00.)		
Total culvert work, .....		\$ 132.79
SIDEWALKS—		
Grading for sidewalks in the several wards, labor .....		\$ 863.81
(April, \$49.51; May, \$338.35; June, \$16.20; July, \$309.13; Aug., \$24.48; Sept., \$44.31; Oct., \$80.33; Nov., \$1.50.)		

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Repairs cement and tar sidewalks in the various wards, labor, (Abt. 500 holes repaired) .....	\$139.88	
(Jan., \$0.58; April, \$3.30; May, \$17.85; July, \$104.42; Nov., \$7.97; Dec., \$5.76.)		
67 sacks cement, 16.75 bbls. @ 0.92 .....	15.41	
Gravel, 19 lds @ 0.25 (Packard) .....	\$4.75	
Gravel, 8 loads from car (Chilson) .....	4.09	8.84
		<hr/>
Less cash collected from property owners.....	\$17.25	164.13
Less bills sent to property owners .....	27.79	45.04
		<hr/>
		119.09

Sidewalks built by city—under contract—

Tar—C. M. Thompson & Son—

S. Side Summit bet. Main st. and A. A. R. R.		
5 rods @ \$4.75 .....	\$23.75	
3 0303 rods @ 4.75 .....	14.39	
9.9393 rods @ 4.75 .....	47.21	
6.4191 rods @ 4.75 .....	30.49	
E. side Ferdon rd. bet. Washtenaw ave. and Norway st.		
Part lot 60, 4.1896 rods at \$4.75 .....	19.90	
Lot 59, 2.6424 rods, at \$4.75 .....	12.55	
Lot 58, 3.0303 rods, at \$4.75 .....	14.39	
Lots 57, 56, 6.0606 rods, at \$4.75 .....	28.79	
E. side Ferdon rd. bet. Norway st. and Granger av.—		
Lots 53, 52, 51, 9.0909 rods, at \$4.75 .....	43.18	
Lot 50, 3.0303 rods, at \$4.75 .....	14.39	
Lot 49, 3.0303 rods, at \$4.75 .....	14.39	
W. side Dewey south of Packard—		
10.7575 rods, at \$5.00 .....	53.79	
S. side Hill bet. Division and 5th av.—		
11.8728 rods, at \$5.00 .....	59.37	
W. side Elm bet. S. University and Mack rd.—		
12.6969 rods, at \$5.00 .....	63.49	
E. side N. 4th av. bet. Beakes and Summit—		
3.2121 rods, at \$5.00 .....	16.06	
E. side N. Main bet. Summit and Depot—		
4.0351 rods, at \$5.00 .....	20.18	
927 North Main st.—		
5.4393 rods, at \$5.00 .....	27.20	
W. side Forest bet. Woodlawn and Granger—		
3.0048 rods, at \$5.00 .....	15.03	
E. side Cambridge rd. bet. Forest and Olivia—		
7.1615 rods, at \$5.00 .....	35.81	
1334 Belser st.—		
2.1161 rods, at \$5.00 .....	10.58	
		<hr/>
		564.94

Cement—C. M. Thompson & Son—

207 S. Main, 246.5 sq. ft., at \$0.10.....	\$24.65	
422 E. Washington, 317.5 sq. ft., at \$0.10 .....	31.75	
330 Maynard, 230 sq. ft., at \$0.10 .....	23.00	
332 Maynard, 200 sq. ft., at \$0.10 .....	20.00	
N. E. Cor. Packard and 5th av. on Packard, and on 5th av., 708.35 sq. ft., at \$0.10 .....	70.84	
E. side Washtenaw av. bet. S. University and Hill st., 559.15 sq. ft. at \$0.10 .....	55.92	226.16
		<hr/>

(Triangle, Washtenaw av. and Hill st.—two sidewalks and 4 extensions,  
1,567.91 sq. ft.—cost included under Extension and Crosswalk work.)

Total sidewalks laid, tar, 20; cement, 8—28.

For property owners, tar, 20; cement, 6—26.

For city, tar, 0; cement, 2—2.

Total, 28.

Total Sidewalk work .....

CROSSWALKS, EXTENSIONS, STORM WATER GUTTERS, REPAIRS  
BRIDGES, ETC.—

Building crosswalks, sidewalk extensions and storm water gutters at

COMMON COUNCIL—JANUARY 20, 1913.

street intersections in the several wards and repairs bridges, etc., including 20 new crosswalks, 78 extensions, 5 crosswalks relaid, 6 cement storm water gutters and 3 cement sidewalks, city property:

Labor .....		\$833.85	
Cement, 840 sacks, 210 bbls—			
93.25 bbl., at \$1.05 .....	\$97.91		
116.75 bbl. at \$0.92 .....	107.41	205.32	
			<hr/>
Gravel, 167 loads .....		52.45	
34 loads at \$0.15 .....	\$ 5.10		
18 loads, at \$0.20 .....	3.60		
57 loads, at \$0.25 .....	14.25		
2 1-6 cars, (58 loads) from Chilson .....	29.50		
			<hr/>
Total .....	\$52.45		
Lumber .....		57.95	
(Plank, Sauer, \$10.25, \$3.58, \$13.38; Forms, etc., Luick. \$5.00, \$39.12, \$44.12.)			
Forms, etc., Luick, \$5.00, \$39.12 .....	44.12		
Crossing Irons .....		48.20	
(A. A. Mach. Co., \$34.50; Wurster, \$2.75; Seybold & Esslinger, \$10.95.)			
Sand, 6 loads, at \$0.25 .....		1.50	
4,305 brick, at \$17.00 per M. ....		73.18	
			<hr/>
(Bal. of brick used, from crosswalks torn up for paving.)			\$1,272.35
Sidewalk extensions laid by contract—			
(Including 56 extensions, 5 extensions relaid and 2 sidewalks, city property.)			
N. E. Cor. Ann and 4th av., Koch Bros., 96.427 sq. ft. cement walk, \$0.10 .....		9.64	
Fifth av. and Catherine, Ann, Jefferson; Division and Ann; Willard and Forest; M. G. Richmond, 907 sq. ft. at \$0.10	\$90.71		
Less 9 bbl. cement, at \$1.10 .....	9.90	80.81	
			<hr/>
Cement—C. M. Thompson & Son—			
Part of extension N. E. Cor. Washington and State st., 137.415 sq. ft. at \$0.10 .....		13.74	
Washtenaw and Volland, Church, Forest, S. University; 110.348 sq. ft., at \$0.10 .....	\$110.35		
Less 20 bbl. cement, at \$1.10, \$22.00; less 2 trowels, at \$0.33,—\$0.66 .....	22.66	87.69	
			<hr/>
N. Main and Depot, Summit, Felch; Packard and 4th av. S. Main, 5th av.; opposite school house bet. 5th av. and Division; 1,705.04 sq. ft., at \$0.10 .....	\$170.51		
Less 24 bbl. cement, at \$1.10 .....	26.40	144.11	
			<hr/>
N. E. Cor. Lawrence and Thayer, 7.5 sq. ft., at \$0.10 .....		.75	
Triangle, intersection Washtenaw av. and Hill st., 2 sidewalks and 4 extensions—			
1,567.91 sq. ft., at \$0.10 .....	\$156.79		
Less 2 trowels, at \$0.30 .....	.60	156.19	
			<hr/>
Tar—			
S. E. Cor. Cambridge rd. and Forest av.—			
1.5 ft., 0.0909 rods, at \$5.00 .....	.45		
Repairs 3 extensions S. E., S. W. and N. W. Corners Ashley and William st. ....	2.00	2.45	
			<hr/>
Total .....		\$495.38	
Repairs Bridges—			
Replanking and repainting No. 1 bridge, labor .....	\$213.03		
Oak plank .....	403.73		
(A. A. Mach. Co., 4,134 ft. (1911) \$124.02; Simmons,			

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3,100 ft., \$259.20; Simmons, 641 ft., 2-inch and 3-inch, \$20.51.)	
Iron—187 ft. 6-inch by 8-inch by 1-4-inch, plate .....	38.00
3 bbl. tar .....	7.50
Nails, \$2.50; paint brushes, \$1.00 .....	3.50
Bolts (Fischer) \$7.50, \$0.60 .....	8.10
2 sacks cement, 1-2 bbl., at \$0.92 .....	.46
Lumber (Wood & Co.) for bridge sidewalk .....	41.40
Repairs bridge Division and Edwin st., labor .....	1.67
Cleaning inlets and catch basins, labor .....	88.17
(April, \$12.50; May, \$13.53; July, \$9.75; Aug. \$31.39; Sept., \$3.89; Oct., \$3.62; Nov., \$0.95; Dec., \$12.54.)	
Unloading cement, gravel, brick and tar; hauling cement for curbing, handling and shipping empty cement sacks, labor .	143.98
(Cement and sacks—Jan., \$0.50; May, \$6.22; July, \$8.53; Aug., \$21.24; Sept., \$15.85; Oct., \$13.86; Nov., \$5.11; Total, \$71.31.	
Gravel—April, \$3.20; (torpedo): May, \$9.27; June, \$11.33; Aug., \$10.62; Sept., \$13.10; (torpedo); Oct., \$4.26; (torpedo); total, \$51.78.	
Tar—Aug., \$0.90; Sept., \$10.50; total, \$11.40.	
Brick—Sept., \$8.78. Tile—Nov., \$0.71. Total, \$8.89.)	
Cleaning crosswalks, labor .....	45.71
(March, \$10.95; April, \$1.67; May, \$3.16; Oct., \$10.87; Nov., \$11.48; Dec., \$8.58.)	
Cleaning bridges, labor .....	19.61
(April, \$14.16; Nov., \$2.60; Dec., \$2.85.)	
Inspection house moving, labor .....	32.34
(July, \$19.67; Aug., \$12.67.)	
Laying and relaying pavements to match with new paving work, labor .....	20.51
(Aug., \$2.50; Sept., \$12.05; Oct., \$5.96.)	
Total Crosswalks, Extensions, Repairs Bridges, etc.....	\$2,836.44
<b>INLETS, STORM WATER SEWERS, ETC.—</b>	
Setting inlets and repairs inlets, spills and gutter boxes; resetting inlets for paving work and laying storm water sewers, labor .....	\$287.93
(April, \$48.02; May, \$20.23; June, \$19.85; July, \$40.78; Aug., \$30.91; Sept., \$120.92; Oct., \$2.34; Nov., \$5.28.)	
Cement, 47 sacks, 11.75 bbl., at \$0.92... ..	10.81
Tile, as follows—	
4-20—State and Dewey (Rohde) 16 pc. 8-inch .....	5.28
4-23—State and Lawrence, 1 pc. 8-inch .....	.33
4-23—Felch, bet. Spring-Fountain, 3 pc. 8-inch .....	.99
5-22—Olivia-Cambridge rd., 5 pc. 24-inch .....	5.53
5-31—5th av.-Madison (Rohde) 5 pc. 12-inch .....	2.80
7-26—Mary st. inlets (Rohde) 27 pc. 12-inch .....	6.72
9-6—Ashley, Liberty S. 2-12-inch L.....	1.14
3-12-inch by 12-inch T.....	2.28
1-12-inch T .....	.73
10-1 Ashley, etc., Bill Rohde .....	88.25
10-25—Cambridge rd. and Hill gutters, 5 pc. 12-inch .....	1.90
Total setting inlets, etc.....	\$414.72
Flushing sanitary sewers, making connections to sanitary sewers, etc., labor .....	77.91
(Jan., \$4.01; Feb., \$6.72; March, \$14.09; April, \$19.79; May, \$11.67; \$11.07; June, \$2.39; July, \$9.67; Sept., \$3.23; Oct., \$6.34.)	
Total Inlets, Storm Water Sewers, etc.....	\$492.63
(Note—Not complete—Part of acct. of labor and materials for inlets, spills and storm water sewers, has been kept by City Engineer.)	
<b>GENERAL WORK AND REPAIRS—</b>	
Repairs sweepers and snow plows; making new snow plows and street sweeper brooms, labor and materials .....	\$258.37
Work on sweepers and making brooms, labor .....	\$78.24
(Jan., \$6.00; Feb., \$28.45; March, \$26.19; Dec., \$17.70.)	

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Repairs sweepers .....	60 30
Brooms and repairs from mfrs.....	51.35
<b>Total .....</b>	<b>\$189.99</b>
Making repairs and storing snow plows, labor .....	\$54.68
(April, \$6.71; Nov., \$45.97; Dec., \$2.00.)	
Supplies, iron, bolts, etc.....	13.70
<b>Total .....</b>	<b>\$68.38</b>
Work on voting booths and polling places, labor .....	1.88
(Jan., \$1.17; Nov., \$0.71.)	
Repairs cement mixers, steam road roller city tar tank, etc., labor .....	\$91.12
(April, \$19.30; May, \$23.72; June, \$5.50; July, \$12.01; Aug., \$11.79; Sept., \$7.50; Oct., \$8.63; Nov., \$2.67.)	
Work at city yard, piling lumber, brick and other materials, labor..	16.82
(Jan., \$2.38; Aug., \$4.51; Oct., \$3.25; Nov., \$6.68.)	
Miscellaneous repairs at different points in the city, labor .....	31.89
(Jan., \$2.34; April, \$3.38; May, \$1.89; July, \$6.34; Aug., \$7.17; Oct., \$4.34; Nov., \$5.53; Dec., \$0.90.)	
<b>Total General Work and Repairs .....</b>	<b>\$400.08</b>

PAVING—

Paving to the amount of 11,536.98 square yards has been done under direction of your Honorable Board during the past season, as follows:

Paving Dist. No. 26, Mary, Packard to Edwin .....	\$2,703.08
Paving Dist. No. 27, Ashley, Catherine to William .....	9,071.92
Paving Dist. No. 20, Oswego and Hill, (unfinished, paving laid on Hill st., from Oxford road to a point about 66 feet east of Cambridge road.)	

Labor .....	\$1,084.47
Gravel .....	384.70
Cement, 389.5 bbl., at \$0.92 .....	358.34
Supplies .....	24.84 1,852.35
(Lumber, Luick, \$15.80; plow points, Benz, \$3.10; coal from city car, \$5.94.)	

**Total Paving... .. \$13,627.35**  
(Note—Tarring, labor acct. No. 20, included in above—

Tar and gravel top acct. kept by City Engineer.)

Paving District No. 20—

Work done in 1911, 1,780 sq. yds.....	\$2,575.66
Work done in 1912, 1,418.7 sq. yds.....	1,852.35

**Total to date, No. 20 .. .. \$4,428.01**  
(Grading and curbing for entire work has been finished.)

PAVING YARDAGE—

	Sq. Yards.
District No. 26, Mary .....	2,407.40
District No. 27, Ashley.....	7,710.88
District No. 20, Oswego and Hill .....	1,418.70
<b>Total .....</b>	<b>11,536.98</b>

SUPPLIES, REPAIRS, ETC.—

Supplies, repairs, etc., except as included in foregoing statement:

Street account .....	\$ 77.16
Contingent account .....	5.75
Bridge, culvert and crosswalk account .....	872.11
Sprinkling .....	240.00
<b>Total Supplies, Repairs, etc.....</b>	<b>\$1,195.02</b>

**RECAPITULATION.**

Street work .....	\$14,077.87
Culverts .....	132.79
Sidewalks .....	1,774.00
Crosswalks, extensions, bridges, etc.....	2,836.44
Inlets, storm water sewers, etc.....	492.63

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General work .....	400.08
Paving .....	13,627.35
Supplies, repairs, etc.....	1,195.02

Total .....	\$34,536.18
No. of culverts built .....	1
No. of crosswalks built .....	20
No. of extensions built (city) .....	78
No. of extensions built (by contract) .....	56
No. of sidewalks city property .....	3
No. of sidewalks, city property, (by contract) .....	2
No. of storm water cement gutters .....	6
(Length about 222 lin. ft.)	
No. of square yards of street pavement laid .....	11,536.98
No. of sidewalks built by city under contract .....	28
(Tar, 20; cement, 8.)	
Rods tar, 115.7592 or 1920.0268 lineal feet.	
Square feet cement (including triangle Washtenaw and Hill).....	3,829.41
No. of notices served to repair sidewalks .....	75
No. of notices served to clean snow from sidewalks .....	38
No. of notices served to remove obstructions from streets or fill holes in streets .....	27
No. of notices served to cut weeds .....	9

Total No. of notices served .....149

CROSSWALKS AND EXTENSIONS—

Following is the cost of each of the 20 new crosswalks, with their appurtenances (including one crosswalk raised and relaid with new extensions), built during the season, so far as the cost properly enters into the year's computation.

In most cases the brick and in many cases the iron crossing grates were old ones, the cost of which has been once charged to the city, and which had been taken out when crosswalks are torn up in the course of new paving work.

To get at the exact cost of a crosswalk, which, however, necessarily varies according to the conditions met with in each locality, from \$11.00 to \$20.00 should be added to the cost mentioned below except where brick and iron grates are specifically charged.

The cost of each crosswalk, with its extensions, follows:

Across Norway, east side Ferdon road—

Labor .....	\$14.10
Cement, 20 sacks, 5 bbl., at \$0.92 .....	4.60
Gravel, 4 loads, at \$0.25 .....	1.00
Hauling material, city team .....	4.00

Total .....

(Old brick used.)

Across alley south side Depot, bet. Detroit st. and 5th av.—

Labor .....	\$10.12
Cement, 10 sacks, 2 1-2 bbl., \$2.30; gravel, \$0.75.....	3.05
Team, hauling, (old brick used) .....	2.25

Total .....

Across alley south side Felch, bet. Spring and Fountain, (no extensions)—

Labor .....	\$6.10
3 pc. 8-inch pipe, \$0.99—1 load sand, \$0.25 .....	1.24
Team, hauling .....	2.00

Total ...

(Old brick used.)

Across Spring, south side Summit—

Labor .....	\$12.97
Cement, 12 sacks, 3 bbl. at \$0.92.....	2.76
3 loads gravel, \$0.75; team, \$4.00 .....	4.75

Total .....

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(Old brick used.)	
Across alley east side Lincoln bet. Cambridge road and Wells st.—	
Labor .....	\$6.31
Cement, 6 sacks, 1 1-2 bbl., \$1.38; 1 load gravel, \$0.25 .....	1.63
1 load sand, \$0.25; team, \$2.00 .....	2.25
Total .....	\$9.69
(Old brick used.)	
Across First st. north side Summit—	
Labor .....	\$14.71
Cement, 15 sacks, 3.75 bbl., at \$0.92 .....	3.75
3 loads gravel, \$0.75; team, \$4.00 .....	4.75
Total .....	\$22.91
(Old brick used.)	
Across Fountain south side Felch—	
Labor .....	\$8.97
Cement, 12 sacks, 3 bbl., at \$0.92 .....	2.76
Gravel, 2 loads, \$0.50; team, \$3.00 .....	3.50
Total .....	\$15.23
(Old brick used.)	
Across Summit west side Fountain—	
Labor .....	\$12.20
Cement, 12 sacks, 3 bbl., at \$0.92 .....	2.76
Gravel, 2 loads, \$0.50; team, \$3.00 .....	3.50
Total .....	\$18.46
(Old brick used.)	
Across Spring south side Cherry—	
Labor .....	\$18.30
15 sacks cement, 3.75 bbl., at \$0.92 .....	3.45
Gravel, 2 loads, \$0.50; team, \$4.00 .....	4.50
Total .....	\$26.25
(Old brick used.)	
Across Catherine bet. Glen av. and Clark st.—	
Labor .....	\$12.79
11 sacks cement, 2.75 bbl., at \$0.92 .....	2.53
2 loads gravel, \$0.50; team, \$3.00 .....	3.50
Total .....	\$18.82
(Old brick used.)	
Across Olivia south side Cambridge road—	
Labor .....	\$16.36
15 sacks cement, 3.75 bbl., \$3.45; 2 loads gravel, \$0.50 .....	3.95
600 brick at \$1.70, \$10.20; team, \$4.00 .....	14.20
Total .....	\$34.51
Across Geddes west side Observatory, (including long extension or cement sidewalk across park at intersection)—	
Labor (includes hauling) .....	\$35.35
Cement, 22 sacks, 5.5 bbl., at \$0.92 .....	5.06
4 loads gravel, \$1.00; 2 loads sand, \$0.50 .....	1.50
Total .....	\$41.41
(Old brick used.)	
Across 4th av. north side Summit (new extensions and raising crosswalk)—	
Labor .....	\$13.60
Cement, 12 sacks, 3 bbl., at \$0.92 .....	2.76
Gravel, 2 loads, \$0.50; team, \$3.00 .....	3.50
Total .....	\$19.86
(Old brick used.)	
Across Woodlawn south side Forest—	
Labor .....	\$9.60
Cement, 5 sacks, 1.25 bbl., at \$0.92 .....	1.15
405 brick at \$1.70 .....	6.89



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Gravel, 2 loads, \$0.50; team, \$3.00 .....	3.50
<b>Total</b> .....	<b>\$21.14</b>
Across Cambridge road west side Olivia—	
Labor .....	\$ 9.80
9 sacks cement, 2.25 bbl., at \$0.92 .....	2.07
2 loads gravel, \$0.50; 600 brick, \$10.20 .....	10.70
Team .....	4.00
<b>Total</b> .....	<b>\$26.57</b>
Across Benjamin, west side Sybil—	
Labor .....	\$12.60
12 sacks cement, 3 bbl. at \$0.92 .....	2.76
3 gravel, \$0.75; 900 brick, \$15.30 .....	16.05
Team .....	4.50
<b>Total</b> .....	<b>\$35.91</b>
Across Stoll (2 crosswalks) east and west sides Brown street—	
Labor .....	\$10.29
24 sacks cement, 6 bbl. at \$0.92 .....	2.92
1,800 brick, at \$17.00 per M. ....	25.50
6 loads gravel, \$1.50; 2 loads sand, \$0.50 .....	2.00
Team .....	6.00
<b>Total</b> .....	<b>\$46.71</b>
Across 4th av. north of Beakes street—	
Labor .....	\$6.69
Cement, 10 sacks, 2.5 bbl., at \$0.92 .....	2.30
2 loads gravel, \$0.50; team, \$3.00 .....	3.50
<b>Total</b> .....	<b>\$12.49</b>
(Old brick used.)	
Across alley Cambridge road bet. Forest and Olivia—(no extensions)—	
Labor .....	\$3.50
1 load sand, \$0.25; team, \$1.50 .....	1.75
<b>Total</b> .....	<b>\$5.25</b>
(Old brick used.)	

**GRAVEL ACCOUNT.**

Streets—		Loads.
Graveling and patching in the several wards,.....	1,257	
Graveling and patching (cost of gravel included in hauling).....	1	
<b>Total</b> .....	<b>1,258</b>	
Crosswalk and extension work .....	87	
2 1-6 cars bank gravel from Chilson .....	58	
<b>Total</b> .....	<b>135</b>	
City property, Summit st. sidewalk .....	12	147
Repairs and raising sidewalks .....	49	
Less 12 loads city property Summit St. sidewalk.....	12	37
Culvert Edwin street .....		10
Paving work—		
Mary st. paving No. 26 .....	366	
Ashley st. paving No. 27.....	1,373	
Oswego and Hill st. paving No. 20.....	286	2025
<b>Total</b> .....	<b>3,477</b>	

**RECAPITULATION.**

Street work .....	1,258	
Extensions, culvert, repairs, etc.....	194	
Paving .....	2,025	3477

**COMMON COUNCIL—JANUARY 20, 1913.**

**COST OF GRAVEL.**

Cost of gravel (not including paving work):

1,258 loads on streets .....	\$232.20	
194 loads extensions, culvert, repairs sidewalks, etc.....	61.29	\$289.40

**CEMENT ACCOUNT.**

Following is a detailed statement of the cement bought under order of the board and the purposes for which it was used:

	Bbbs.	Bbbs.
On hand Jan. 1, 1912 .....		103.25
Bought on contract:		
May .....	175	
July .....	175	
August .....	1665	
September .....	1095	
October .....	707	
Total .....	3817	
Less spoiled .....	39.5	
	<hr/>	
	3777.5	
Bought from Benz Bros.....	87.5	3865.00
Total .....		<hr/> 3968.25
Used as follows:	Bbbs.	Bbbs.
Paving—		
Mary st. No. 26.....	702.75	
Ashley st. No. 27 .....	2280.	
Oswego and Hill No. 20 .....	389.50	3372.25
Total .....		<hr/> 3772.50
Curbing—		
No. 26 Thompson .....	50.25	
No. 27, Richmond .....	110.00	
No. 27, Richmond .....	5.00	165.25
Total .....		<hr/> 165.25
Park board .....	246	
Sidewalk repairs.....	67	
Inlets and storm water sewers .....	47	
Tarring pavements .....	8	
Repairs con. pavement, 3 block pavement, 5 .....	8	
Used at Steere farm .....	30	
Extension and crosswalk work .....	760	
Extension and crosswalk (by contract) .....	212	
Culvert Edwin street.....	71	
Sold .....	174	
(Clark, 40; Koch Bros., 62; Sauer, 60; Major, 12.)		
Total sacks.....	1623	405.75
On hand Jan. 1st, 1913 .....		25.00
Total barrels .....		<hr/> 3968.25

Respectfully submitted, J. WISNER, Street Commissioner.

**INVENTORY STREET DEPARTMENT.**

1 two-wheeled scraper .....	\$	25.00
1 mixing board .....		3.00
2 hand saws .....		2.00
3 tool boxes .....		9.00
1 mortar box .....		1.50
3 scoop shovels, \$1.50; 6 shovels, \$3.00 .....		4.50
3 cement shovels .....		3.00
3 tamps .....		2.00
7 iron crow bars .....		3.50
3 hammers .....		1.50
3 wrenches .....		0.75
2 hatchets, \$1.50; 2 axes, \$1.00 .....		2.50
2 pounders, wood, .....		1.00

COMMON COUNCIL—JANUARY 20, 1913.

1 pump .....	10.00
1 pair bobs .....	20.00
2 street sweepers .....	350.00
Stencil and alphabet .....	1.00
1 hack .....	5.00
2 road scrapers .....	100.00
20 snow plows .....	300.00
1 steel snow plow (Moore) .....	25.00
1 team horses .....	150.00
1 double harness, \$20.00; 4 blankets, \$4.00 .....	24.00
1 steam road roller .....	1000.00
4 picks .....	2.00
1 50-gal. gasoline can .....	4.00
1 60-gal. kerosine oil can .....	4.00
3 5-gal. oil and gasoline cans .....	1.50
4 2-gal. and one-gal. cans .....	1.00
Tools for filling brooms for sweepers.....	9.00
2 pails .....	0.50
1 sidewalk building outfit .....	8.00
1 tar wagon .....	45.00
1 sand wagon .....	25.00
1 stone fork .....	0.60
2 paving hammers .....	1.00
2 brick hammers .....	1.00
150 feet hose .....	12.00
1 street drag .....	20.00
10 wood horses for blocking streets .....	10.00
50 sewer jacks .....	25.00
1 roter .....	8.00
8 bdls. bamboo splints .....	17.75
8 street brushes .....	3.25
3 steel trowels .....	1.50
9 wood trowels .....	3.00
1 stencil for marking cement, and letters. ....	6.00
20 empty barrels .....	18.00
2 ladders .....	2.00
1 bale hickory splints .....	2.00
6 street sweeper brooms .....	60.00
3 canvass for covering cement .....	11.25
20 lbs. bolts .....	1.00
Paint brushes .....	2.00
4 spindles for street sweeper brooms .....	12.00
3 large plows .....	6.00
2 sand screens .....	4.00
1 cross cut saw; 1 one-man saw .....	2.50
1 sprinkling wagon .....	150.00
3 carts .....	90.00
2 dump wagons .....	200.00
1 bolt cutter .....	1.00
Bits and brace .....	3.00
19 red lanterns .....	12.35
2 levels .....	1.00
Bag Carrier .....	2.50
15 steel wheelbarrows .....	52.50
8 grub hoes .....	4.00
4 scythes and snaths .....	4.00
2 snaths .....	0.50
1 sidewalk roller .....	5.00
1 iron vice and bench .....	3.00
1 set platform scales .....	150.00
1 lot sewer rods .....	85.00
1 tool box on wheels .....	20.00
1 Advance cement mixer .....	100.00
1 batch mixer .....	25.00

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2 Foote continuous mixers .....	1200.00
1 grindstone .....	4.00
4 closets .....	16.00
12 street shovels .....	6.00
5 tar cans .....	7.50
1 lot rope .....	4.00
1 lot 3-4" and 1" gal. iron pipe and fittings .....	50.00
2 garbage wagons .....	
2 Knowell's street scrapers .....	5.00
3 steel ice cleaners .....	1.50
1 hoe .....	0.50
6 Berry street brushes .....	5.00
<b>Total .....</b>	<b>\$4581.95</b>

Correct: J. WISNER, Street Commissioner.

Ann Arbor, Mich., Jan. 2, 1913.

**INVENTORY BUILDING MATERIAL, ETC.**

25 bbl cement .....	\$ 23.00
10 loads sidewalk stone .....	25.00
6000 ft. bridge timber, old .....	40.00
15 turned posts .....	7.50
50 12' wing bars for culverts .....	17.00
80 lbs. nails and spikes .....	2.00
500 ft. 4"x4" pine lumber .....	7.50
8 crosswalk grates (old) .....	15.00
1 lot, abt. 81 pc. old sewer pipe, 30", 20", 24", 8", 18" and 15" ...	60.00
1 lot 15", 18" and 20" tile .....	53.36
1 lot 4", 6" L, 6" T, 6", 6" curve, 12" Y and T, 12" L .....	22.05
300 wood paving blocks .....	5.00
1-2 ton old bridge iron .....	4.00
1 pc. 8" iron pipe .....	4.00
14 old manhole frames .....	70.00
3 spill grates .....	3.50
1 lot cobble and fence stone .....	10.00
4700' oak plank .....	130.00
<b>Total .....</b>	<b>\$ 498.91</b>

Correct: J. WISNER, Street Commissioner.

Ann Arbor, Mich., Jan. 2, 1913.