the city of Lancaster
a city authentic

2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2019

Prepared by:

Gannett Fleming

*Excellence Delivered **As Promised***

CITY OF LANCASTER – SEWER FUND

Lancaster, Pennsylvania

2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2019

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Harrisburg, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

July 15, 2019

City of Lancaster – Sewer Fund
150 Pitney Road
Lancaster, PA 17601-5625

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant. The results of our study as of December 31, 2019, are presented in the attached report. The results of our study as of December 31, 2018, are presented in our report, "2018 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2018." The same methods, procedures and estimates are used in both studies.

The attached report sets forth a description of the methods and procedures upon which the studies were based, the estimates of survivor curves, and the calculated annual depreciation as of December 31, 2019.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

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TABLE OF CONTENTS

PART I. INTRODUCTION

CITY OF LANCASTER – SEWER FUND

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for the City of Lancaster – Sewer Fund to determine the annual depreciation accrual rates and amounts applicable to the original cost of wastewater plant as of December 31, 2019. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to wastewater plant in service as of December 31, 2019.

Part I, Introduction, contains statements with respect to the basis of the study and the development of original cost. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and methods used in the service life study. Part III, Service Life Considerations, presents the results of the average service life analysis. Part IV, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part V, Results of Study, presents summaries by depreciable group of annual depreciation accrual rates and amounts, as well as composite remaining lives. Part VI, Service Life Statistics presents the statistical analysis of service life estimates, and Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation.

BASIS OF THE STUDY

The purpose of the depreciation study was to determine the annual depreciation accruals applicable to the original cost of wastewater plant in service as of December 31, 2019. For most accounts, the straight line remaining life method using attained ages, the book depreciation reserve and estimated survivor curves, was the basis for the calculation of annual depreciation. For certain accounts, the annual and accrued amortization amounts were based on the age of the property and the selected amortization period.

The survivor curve estimates were based on judgment which incorporated (1) analyses of historical data related to wastewater property for all wastewater systems; (2) consideration of the character, use and location of the property; (3) probable future events and management plans; and (4) a general knowledge of wastewater property lives. The use of Iowa type survivor curves is a generally-accepted method of estimating average service life when the actual lives of individual property units are dispersed.

DEVELOPMENT OF ORIGINAL COST

The original cost as of December 31, 2018, represents a bringforward of the original cost as of December 31, 2011, used in the City's conversion to a new fixed asset system. The bringforward consisted of adjusting the December 31, 2011, balance for subsequent activity including additions and retirements. The original cost of additions during the period December 31, 2011 through December 31, 2018, was developed from accounting records. The original cost of additions during the future test year were based on the City's capital budget. The original cost of retirements was identified based on the location of the facility, the cost of the replacement, the vintages of past survivors, and combinations of these factors.

PART II. ESTIMATION OF SURVIVOR CURVES

PART II. ESTIMATION OF SURVIVOR CURVES

The calculation of annual depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. The estimation of survivor curves is discussed below and the development of net salvage is discussed in later sections of this report.

SURVIVOR CURVES

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages.

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1, the remaining life at age 30 is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval. It is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

This study has incorporated the use of Iowa curves developed from a retirement rate analysis of historical retirement history. A discussion of the concepts of survivor curves and of the development of survivor curves using the retirement rate method is presented below.

Iowa Type Curves

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements (or the portion of the frequency curve with the highest level of retirements) in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family. A higher number designates a higher mode curve.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125. These curve types have also been presented in subsequent

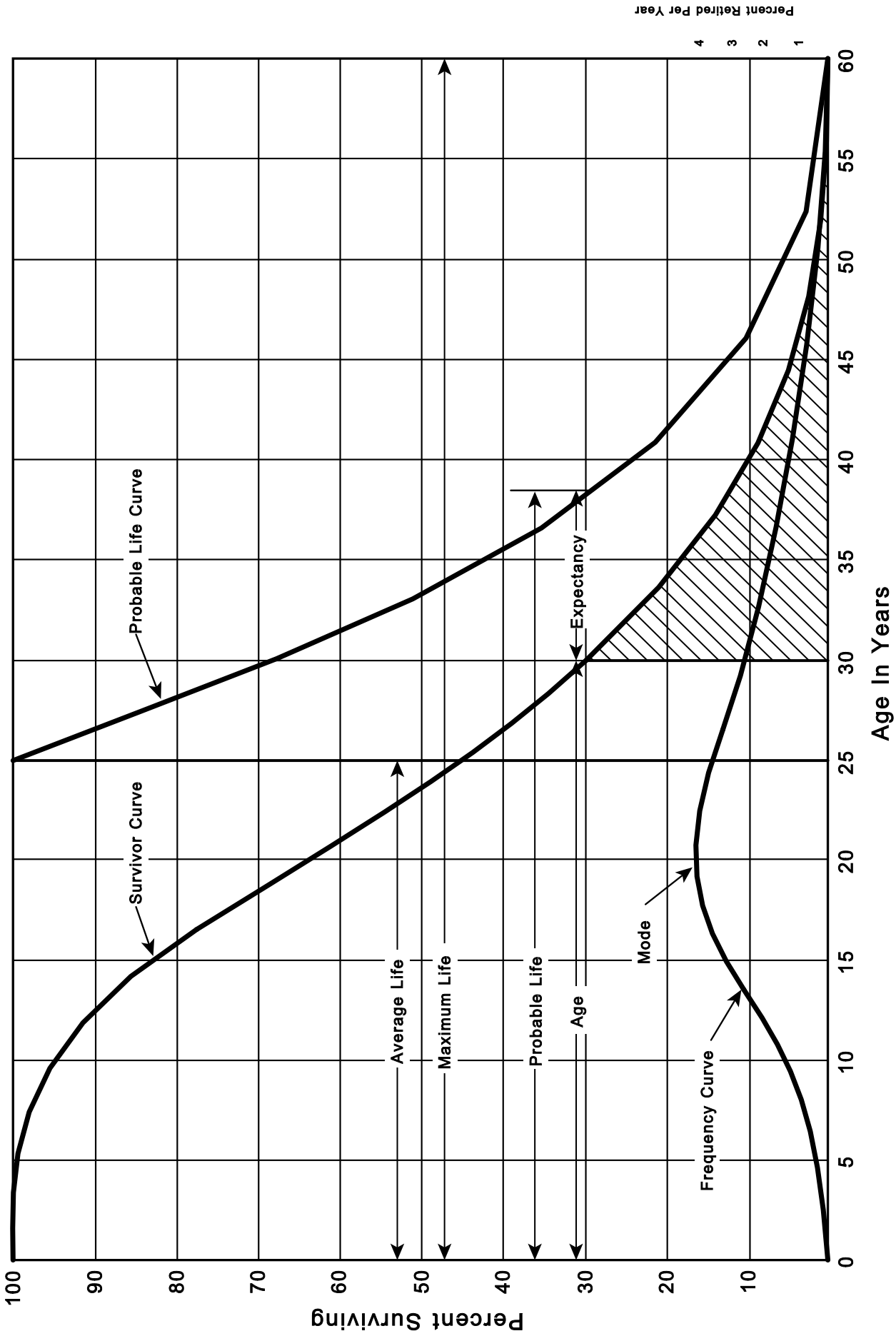


Figure 1. A Typical Survivor Curve and Derived Curves

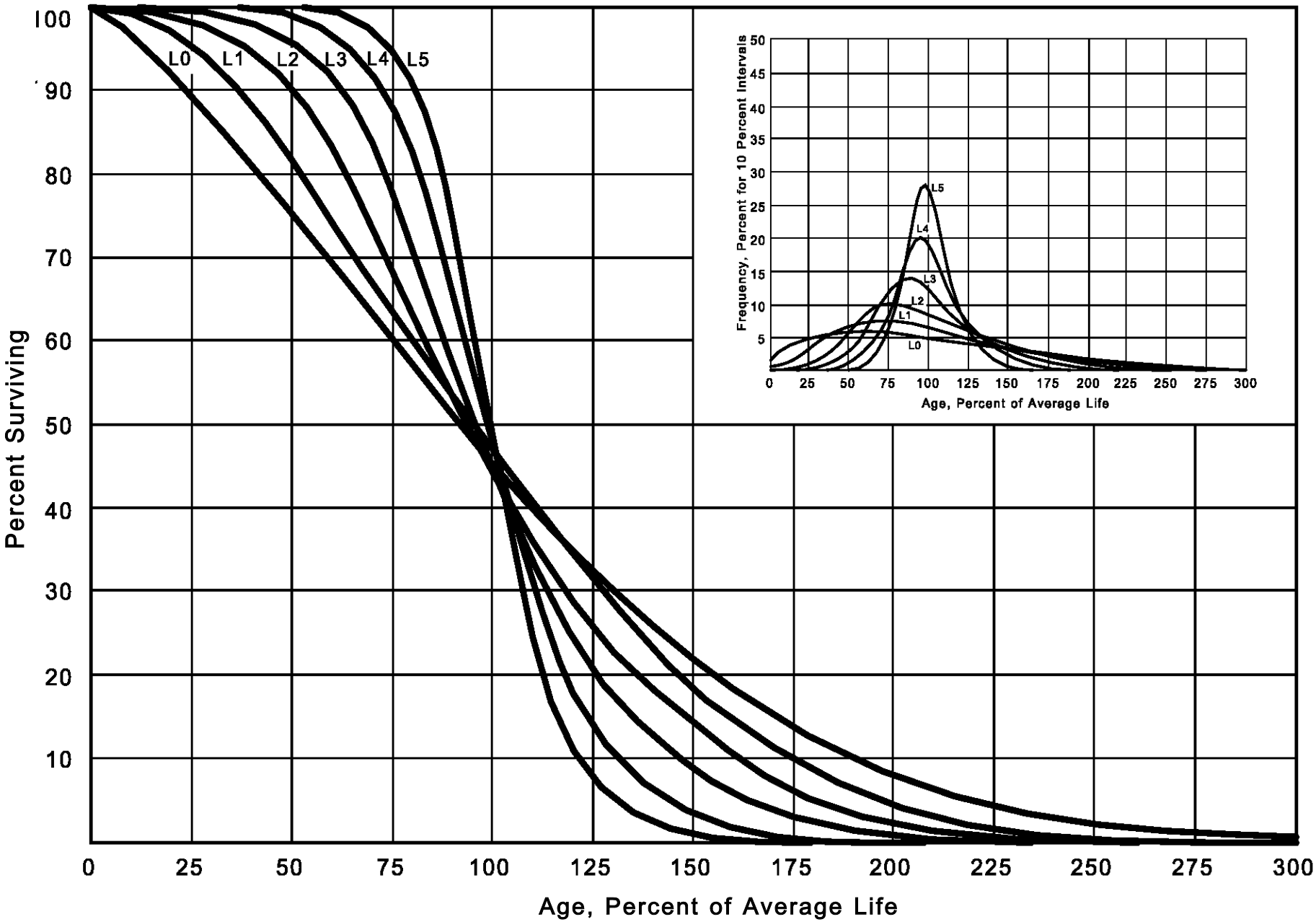


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

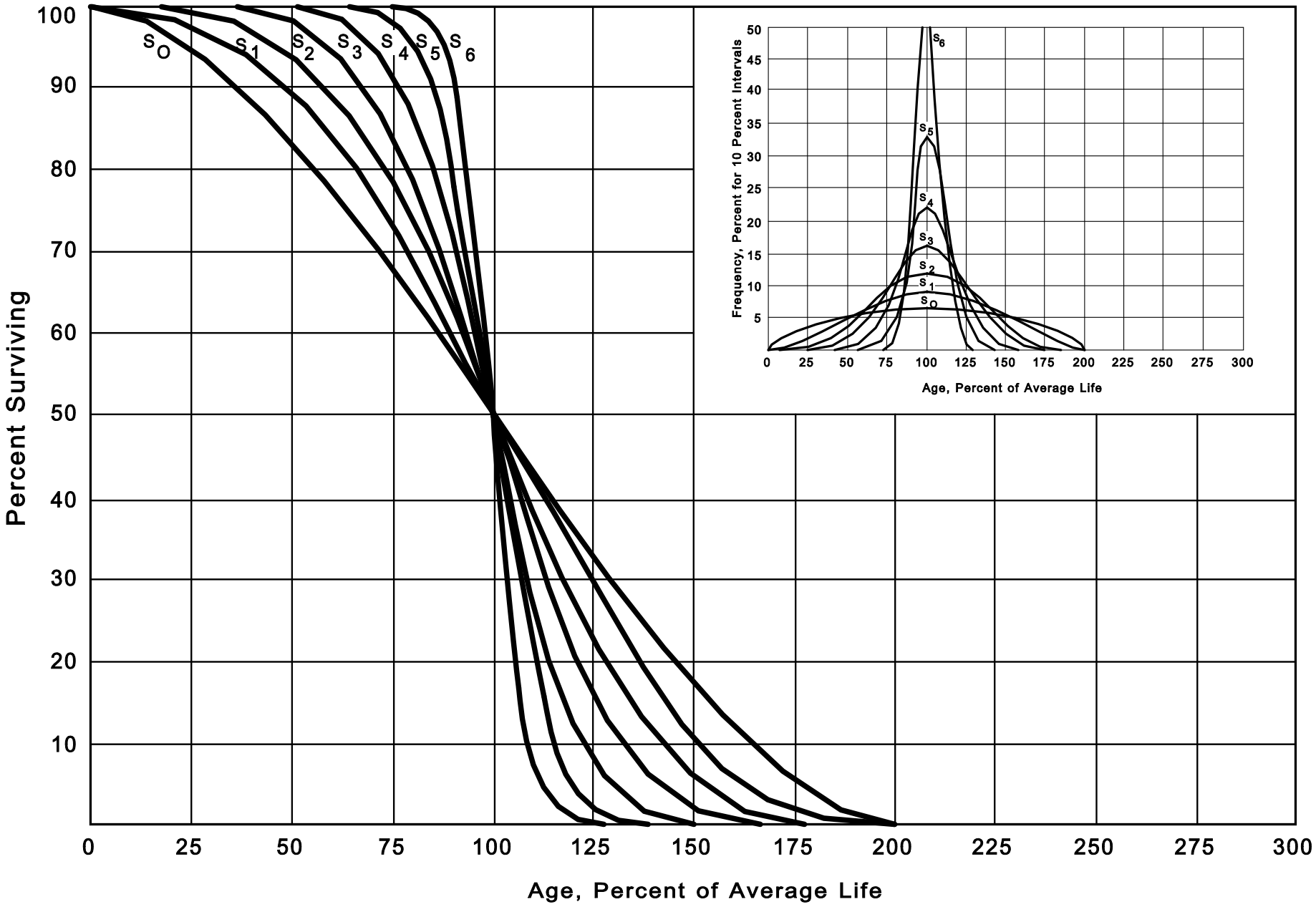


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

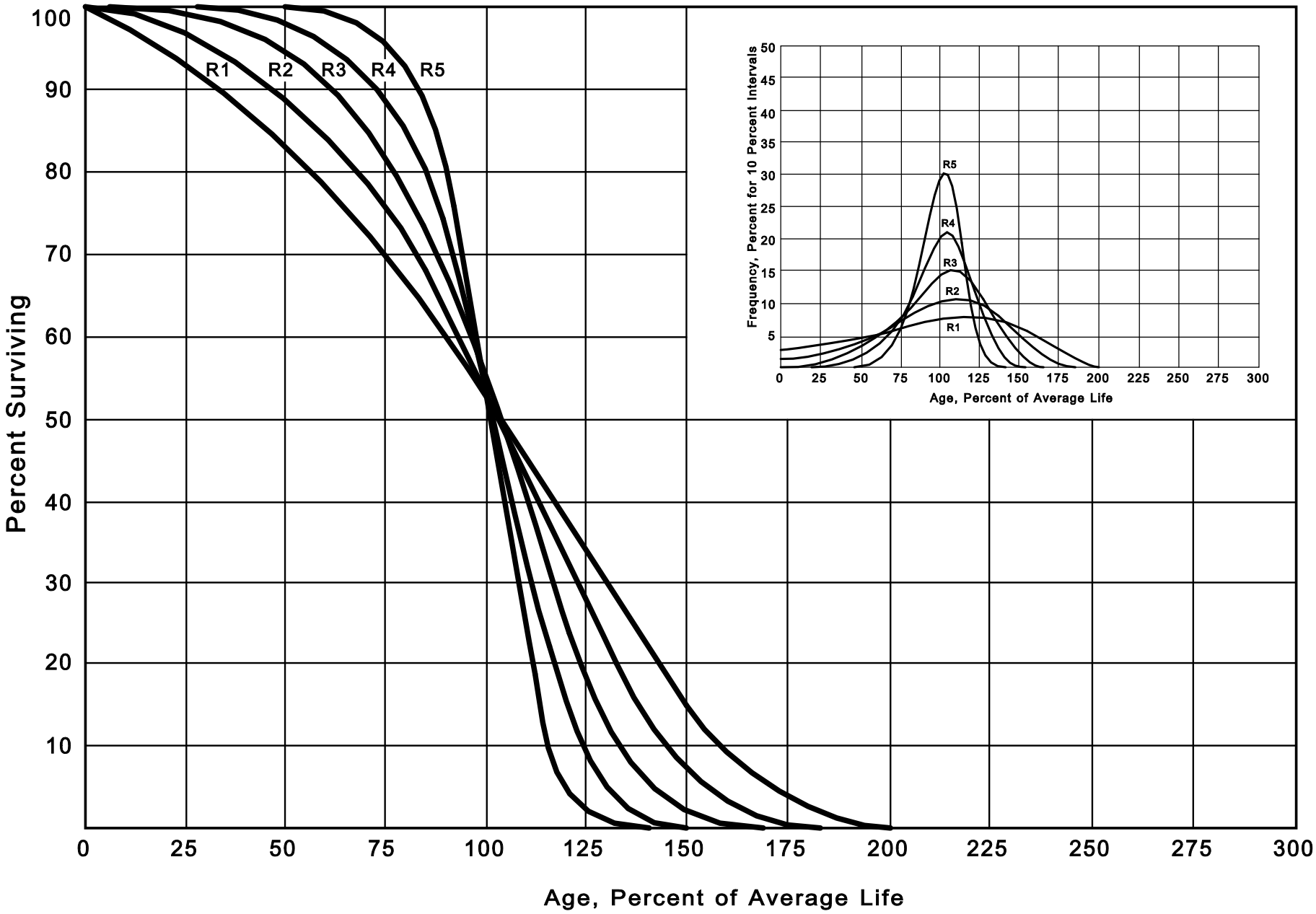


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

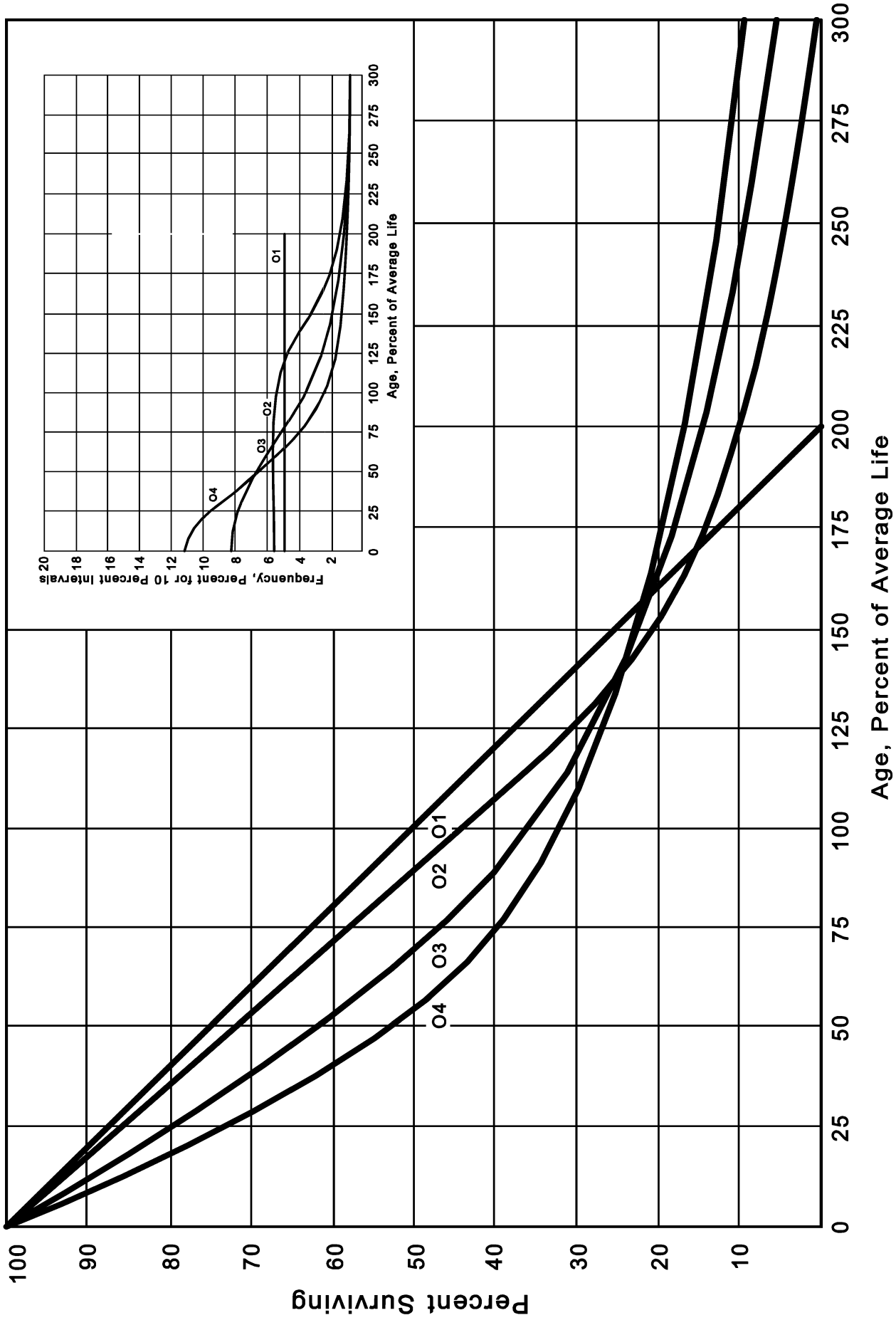


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."[1] In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student submitted a thesis presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,"[2] "Engineering Valuation and Depreciation,"[3] and "Depreciation Systems."[4]

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

[1]Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

[2]Winfrey, Robley, Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

[3]Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 1.

[4]Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

Schedules of Annual Transactions in Plant Records

A hypothetical property group is used to illustrate the retirement rate method. This property group is observed for the experience band 2009-2018 during which there were placements (or installations) during the years 2004-2018. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, year placed and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $10,000 of the dollars invested in 2004 were retired in 2009. The $10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2009 retirements of 2004 installations and ending with the 2018 retirements of the 2013 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2009-2018
SUMMARIZED BY AGE INTERVAL

Experience Band 2009-2018

Placement Band 2004-2018

Year Placed	Retirements, Thousands of Dollars During Year										Total During Age Interval	Age Interval
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2004	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2005	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2006	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2007	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2008	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2009	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2010		5	11	12	13	14	15	16	18	20	113	7½-8½
2011			6	12	13	15	16	17	19	19	124	6½-7½
2012				6	13	15	16	17	19	19	131	5½-6½
2013					7	14	16	17	19	20	143	4½-5½
2014						8	18	20	22	23	146	3½-4½
2015							9	20	22	25	150	2½-3½
2016								11	23	25	151	1½-2½
2017									11	24	153	½-1½
2018										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2009-2018
SUMMARIZED BY AGE INTERVAL

Experience Band 2009-2018 Placement Band 2004-2018

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars During Year										Total During Age Interval	Age Interval
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2004	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
2005	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2006	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2007	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2008	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2009	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2010		-	-	-	-	-	-	-	-	-	6	7½-8½
2011			-	-	-	-	-	-	-	-	-	6½-7½
2012				-	-	-	-	(12)[b]	-	-	-	5½-6½
2013					-	-	-	-	22[a]	-	-	4½-5½
2014						-	-	(19)[b]	-	-	10	3½-4½
2015							-	-	-	-	-	2½-3½
2016								-	-	(102)[c]	(121)	1½-2½
2017									-	-	-	½-1½
2018											-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

[a] Transfer Affecting Exposures at Beginning of Year

[b] Transfer Affecting Exposures at End of Year

[c] Sale with Continued Use

Parentheses Denote Credit Amount.

In Schedule 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements, but are used in developing the exposures at the beginning of each age interval.

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 2009 through 2018 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2014 are calculated in the following manner:

Exposures at age 0 = amount of addition	= $750,000
Exposures at age ½ = $750,000 - $ 8,000	= $742,000
Exposures at age 1½ = $742,000 - $18,000	= $724,000
Exposures at age 2½ = $724,000 - $20,000 - $19,000	= $685,000
Exposures at age 3½ = $685,000 - $22,000	= $663,000

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2009-2018
SUMMARIZED BY AGE INTERVAL

Experience Band 2009-2018

Placement Band 2004-2018

Year Placed	Exposures, Thousands of Dollars Annual Survivors at the Beginning of the Year 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total at Beginning of Age Interval	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2004	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2005	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2006	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2007	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2008	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2009	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2010		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2011			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2012				580[a]	574	561	546	530	501	482	3,057	5½-6½
2013					660[a]	653	639	623	628	609	3,789	4½-5½
2014						750[a]	742	724	685	663	4,332	3½-4½
2015							850[a]	841	821	799	4,955	2½-3½
2016								960[a]	949	926	5,719	1½-2½
2017									1,080[a]	1,069	6,579	½-1½
2018										1,220[a]	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

[a]Additions during the year

For the entire experience band 2009-2018, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.

Original Life Table

The original life table, illustrated in Schedule 4 on page II-16**,** is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e. one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15				
Exposures at age 4½	=	3,789,000				
Retirements from age 4½ to 5½	=	143,000				
Retirement Ratio	=	143,000	÷	3,789,000	=	0.0377
Survivor Ratio	=	1.000	-	0.0377	=	0.9623
Percent surviving at age 5½	=	(88.15)	x	(0.9623)	=	84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

SCHEDULE 4. ORIGINAL LIFE TABLE

CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2009-2018 Placement Band 2004-2018

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Beginning of Age Interval
(1)	(2)	(3)	(4)	(5)	(6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	167	26	0.1557	0.8443	42.24
14.5					35.66
Total	44,780	1,606			

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.
Column 3 from Schedule 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 Divided by Column 2.
Column 5 = 1.0000 Minus Column 4.
Column 6 = Column 5 Multiplied by Column 6 as of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Smoothing the Original Survivor Curve

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.

FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

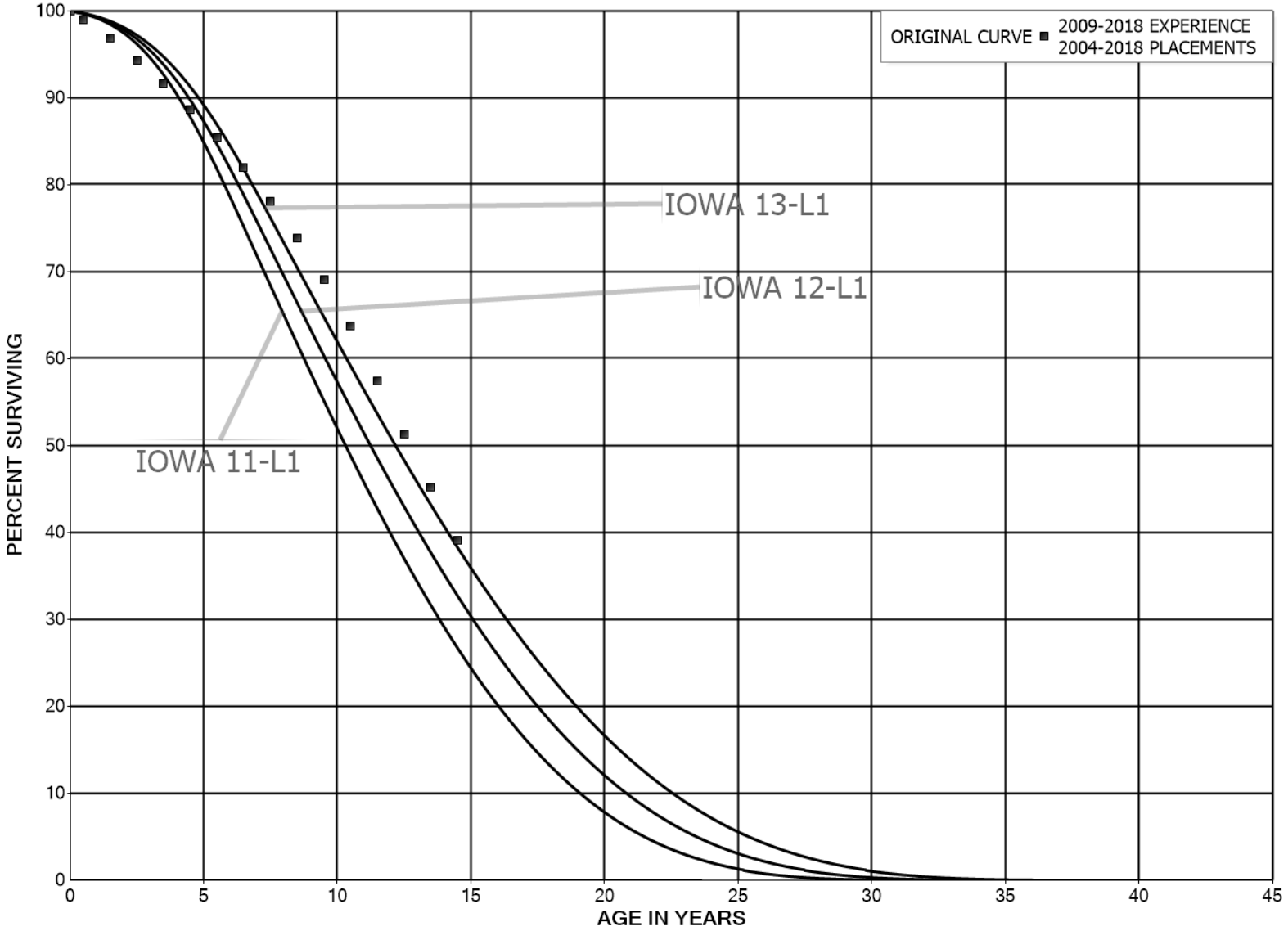


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

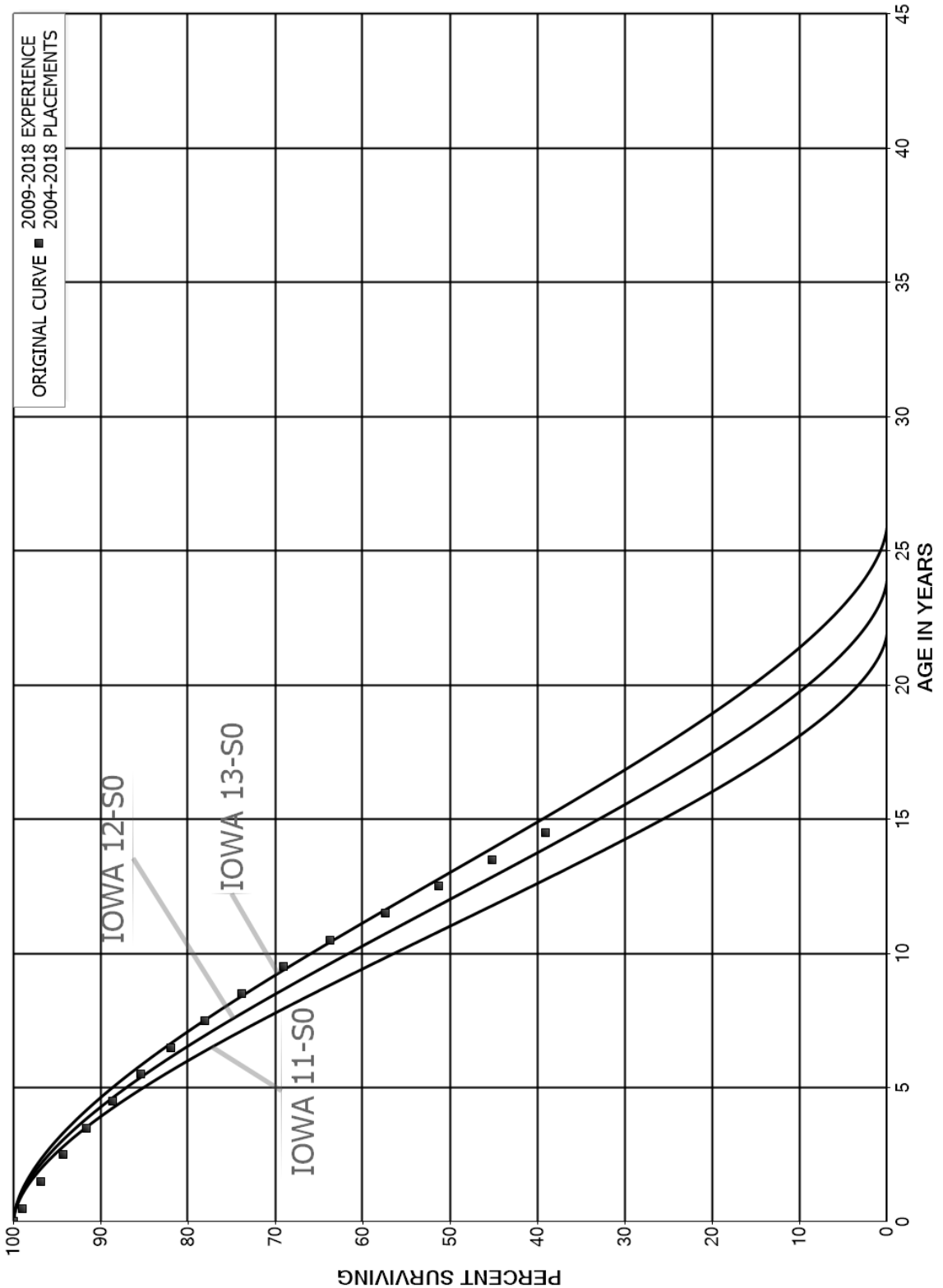


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

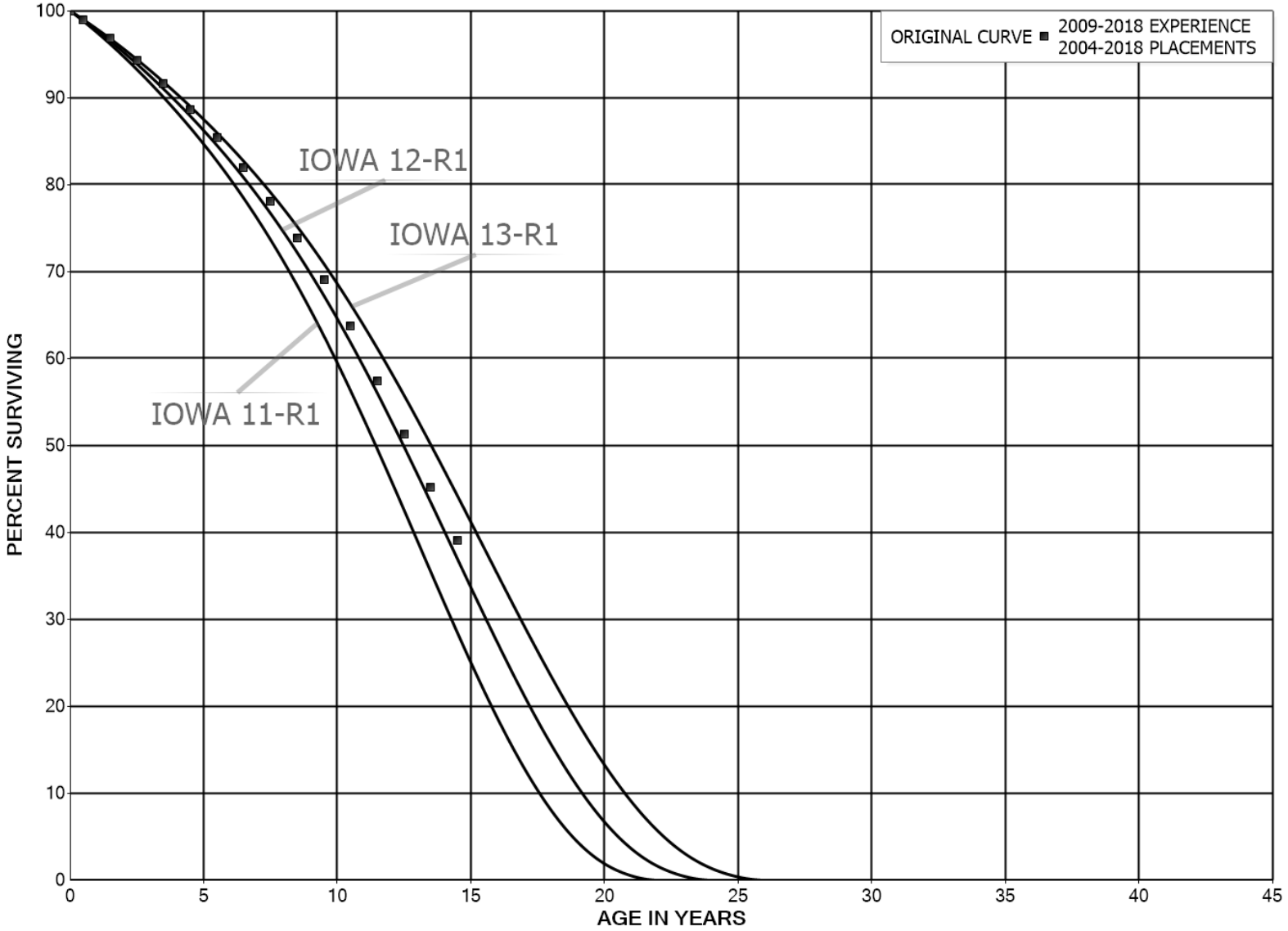
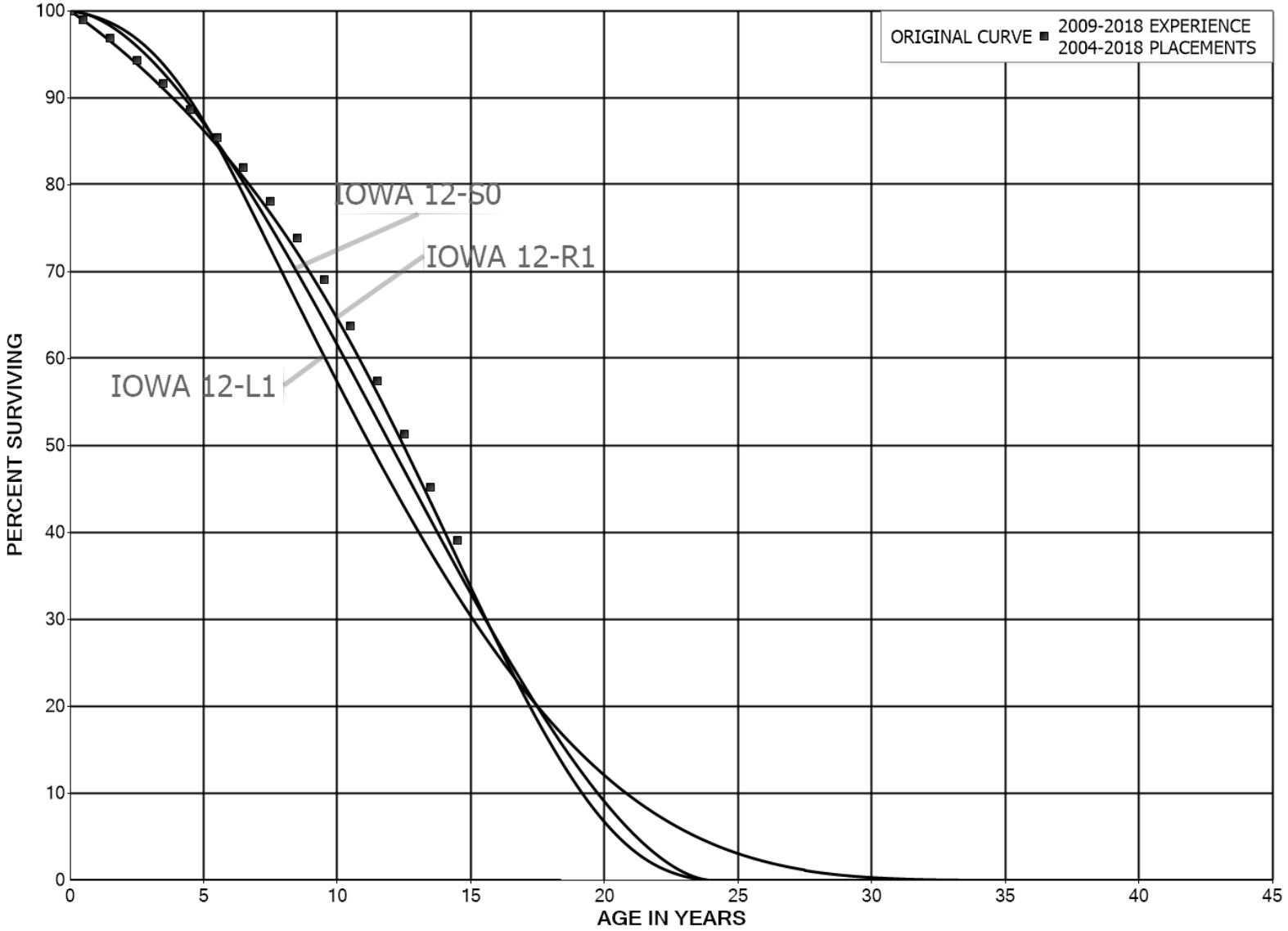


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III. SERVICE LIFE CONSIDERATIONS

PART III. SERVICE LIFE CONSIDERATIONS

FIELD TRIPS

In order to be familiar with the operation of the Company and observe representative portions of the plant, field trips are conducted for each study. A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements are obtained during field trips. This knowledge and information were incorporated in the interpretation and extrapolation of the statistical analyses.

The following is a list of the locations visited during the most recent field trips.

April 11, 2019
- Stevens Point Pump Station
- Conestoga Gardens Pump Station
- North Pump Station
- Maple Grove Pump Station
- Wastewater Treatment Plant

July 9, 2012
- Stevens Point Pump Station
- Conestoga Gardens Pump Station
- North Pump Station
- Wastewater Treatment Plant

Judgments. The survivor curve estimates were based on judgment which considered factors including statistical analyses of retirements, Company policies and outlook as determined during discussions with management, and survivor curve estimates from previous studies from other wastewater companies. For depreciable groups which consist of numerous similar items of property, the distribution of the lives of the units in the group was judged on the basis of an average survival pattern for the entire group.

Account 380, Treatment and Disposal Equipment, is used to illustrate the manner in which the study was conducted for the accounts in the preceding list. Aged plant accounting data have been compiled for the years through 2018. These data have been coded according to account or property group, type of transaction, year in which the transaction took place, and year in which the utility plant was placed in service. The retirements, other plant transactions and plant additions were analyzed by the retirement rate method.

The survivor curve estimate for this account is the 40-L2.5. The statistical analyses for the period 2005-2018 is set forth on pages VI-22 and VI-23, however does not set forth conclusive results of life characteristics. Based on industry expectations and management outlook a 40-year average life is reasonable.

The amortization periods selected for general plant Accounts 390 and 393 are discussed in the section, “Amortization of General Plant Accounts.”

PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

BOOK RESERVE

The book reserve as of December 31, 2018, is the result of a bringforward of the book reserves established by the Commission for all wastewater systems. The projected book reserve as of December 31, 2019, is a bringforward of the December 31, 2018 book reserve based on projected accruals and retirements.

GROUP DEPRECIATION PROCEDURES

A group procedure for depreciation is appropriate when considering more than a single item of property. Normally the items within a group do not have identical service lives, but have lives that are dispersed over a range of time. There are two primary group procedures, namely, average service life and equal life group. In the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

Single Unit of Property

The calculation of straight line depreciation for a single unit of property is straightforward. For example, if a $1,000 unit of property attains an age of four years and has a life expectancy of six years, the annual accrual over the total life is:

$$\frac{\$1{,}000}{(4 + 6)} = \$100 \text{ per year.}$$

The accrued depreciation is:

$$\$1{,}000 \left(1 - \frac{6}{10}\right) = \$400.$$

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of December 31, 2019, the depreciation reserve for each plant account is allocated among vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation follow. The detailed calculations as of December 31, 2019, are set forth in the Results of Study section of the report.

Average Service Life Procedure

In the average service life procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the average remaining life of the vintage. The average remaining life is a directly weighted average derived from the estimated future survivor curve in accordance with the average service life procedure.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

$$Ratio = 1 - \frac{Average\ Remaining\ Life}{Average\ Service\ Life}.$$

AMORTIZATION OF GENERAL PLANT ACCOUNTS

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Accounts 390 and 393; amounts capitalized in these accounts are amortized rather than depreciated. Amortization as defined in the Uniform System of Accounts is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized.

The primary reasons for the amortization of certain general plant accounts is that the effort required to unitize additions, periodically inventory equipment and determine amounts to be retired for equipment recorded in these accounts is disproportionate to the original cost of the equipment when compared to other wastewater plant accounts.

Accounting for such equipment using an amortization concept consists of capitalization of amounts to these accounts based on the same criteria as used previously under depreciation accounting, amortization of the asset over a fixed period, retirement of the equipment at the end of the amortization period and recognition of any net salvage related to disposition of equipment in these accounts as a gain or loss. For equipment in these accounts that was placed in service prior to implementation of amortization accounting, the net book value by vintage amortized over the remaining amortization period specified for each account and the original cost will be retired at the end of this period.

The amortization periods selected for each account or subaccount are based on a review of the existing depreciation rates for the accounts, typical service lives used for

each type of equipment and a consideration of the period during which it is anticipated that most of the benefit of the equipment will be realized. The amortization periods are as follows:

Account Number	Description	Amortization Period, Years
390	Office Furniture and Equipment	20
393	Tools, Shop and Garage Equipment	25

PART V. RESULTS OF STUDY

PART V. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

The results of the depreciation study are summarized in Table 1 which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to original cost. Table 2 presents the bringforward to December 31, 2019 of the book reserve as of December 31, 2018. Table 3 sets forth the calculation of estimated depreciation accruals for the twelve months ended December 31, 2019.

DESCRIPTION OF DETAILED TABULATIONS

Supporting statistical data for the estimates of average service lives and survivor curves as well as, the annual depreciation calculations are presented in two sections.

The section beginning on page VI-2 sets forth, for each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table plotted on the chart. A cumulative summary, by year installed, for utility plant and the supporting data for the original cost depreciation calculations are presented in the section beginning on page VII-2.

In the first section, the survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the type curve designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. In cases where only a segment of the estimated curve is used in the depreciation calculation, the numeral used for identification purposes is not a designation of the average life of the group. The titles of the charts indicate the group, the symbol used to plot the points of the original life

table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which the retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The tables of the calculated annual depreciation related to original cost are presented in account sequence in the second section and indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, allocated book reserve, remaining life expectancy, and the calculated annual accrual.

CITY OF LANCASTER - SEWER FUND

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE
AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2019

	ACCOUNT	SURVIVOR CURVE		ORIGINAL COST AS OF DECEMBER 31, 2019	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)		(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)=(5)/(6)
NONDEPRECIABLE PLANT									
353.00	LAND			1,484,823.87					
TOTAL NONDEPRECIABLE PLANT				**1,484,823.87**					
DEPRECIABLE PLANT									
354.30	STRUCTURES AND IMPROVEMENTS - COLLECTION								
	MAIN PUMP STATION	55-R3	*	2,861,094.02	1,122,409	1,738,685	68,572	2.40	25.4
	STEVENS PUMP STATION	55-R3	*	5,440,818.56	1,236,889	4,203,930	138,125	2.54	30.4
	NORTH PUMP STATION	55-R3	*	25,903,358.36	3,458,363	22,444,995	723,330	2.79	31.0
	MAPLE GROVE PUMP STATION	55-R3	*	915,549.03	304,615	610,934	23,691	2.59	25.8
	CONESTOGA GARDEN PUMP STATION	55-R3	*	2,252,065.82	530,551	1,721,515	65,989	2.93	26.1
	OTHER PUMP STATIONS AND AIR RELIEF PITS	55-R3	*	950,689.10	239,972	710,717	16,436	1.73	43.2
	TOTAL ACCOUNT 354.3			***38,323,574.89***	***6,892,799***	***31,430,776***	***1,036,143***	***2.70***	
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT								
	WASTEWATER TREATMENT PLANT	65-R2.5	*	43,605,468.89	12,613,114	30,992,355	867,908	1.99	35.7
354.50	STRUCTURES AND IMPROVEMENTS - GENERAL								
	WASTEWATER TREATMENT PLANT	55-R4		257,646.35	187,512	70,134	3,307	1.28	21.2
354.70	STRUCTURES AND IMPROVEMENTS - OTHER								
	WASTEWATER TREATMENT PLANT	50-R4		67,126.22	52,838	14,288	855	1.27	16.7
360.00	FORCE MAINS	60-R2.5		2,403,148.75	1,424,871	978,278	29,948	1.25	32.7
361.10	GRAVITY MAINS	55-R2.5		24,191,607.24	17,245,673	6,945,934	276,795	1.14	25.1
371.00	PUMPING EQUIPMENT	40-S1.5		7,001,142.46	2,036,733	4,964,409	158,523	2.26	31.3
380.00	TREATMENT AND DISPOSAL EQUIPMENT	40-L2.5		22,286,657.88	8,166,121	14,120,537	487,831	2.19	28.9
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ		268,916.00	113,709	155,207	9,537	3.55	16.3
391.10	TRANSPORTATION EQUIPMENT - AUTOMOBILES	12-R4		361,709.59	173,596	188,114	27,186	7.52	6.9
391.20	TRANSPORTATION EQUIPMENT - SMALL TRUCKS	13-R4		628,644.41	281,744	346,900	42,642	6.78	8.1
391.30	TRANSPORTATION EQUIPMENT - LARGE TRUCKS	12-R4		998,631.00	612,977	385,654	79,492	7.96	4.9
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ		318,090.03	104,990	213,100	12,378	3.89	17.2
395.00	POWER OPERATED EQUIPMENT	20-S1.5		895,113.65	443,537	451,577	39,507	4.41	11.4
TOTAL DEPRECIABLE PLANT				**141,607,477.36**	**50,350,214**	**91,257,263**	**3,072,052**	**2.17**	
CONTRIBUTIONS IN AID OF CONSTRUCTION									
354.30	STRUCTURES AND IMPROVEMENTS - COLLECTION								
	MAIN PUMP STATION	55-R3	*	1,581,814.22	530,391	1,051,423	41,360	2.61	25.4
	STEVENS PUMP STATION	55-R3	*	3,337,986.18	761,638	2,576,348	84,910	2.54	30.3
	NORTH PUMP STATION	55-R3	*	11,857,977.73	1,731,191	10,126,787	328,552	2.77	30.8
	CONESTOGA GARDEN PUMP STATION	55-R3	*	2,123,254.04	510,768	1,612,486	61,751	2.91	26.1
	OTHER PUMP STATIONS AND AIR RELIEF PITS	55-R3	*	264,429.77	26,015	238,415	4,805	1.82	49.6
	TOTAL ACCOUNT 354.3			***19,165,461.94***	***3,560,003***	***15,605,459***	***521,378***	***2.72***	

CITY OF LANCASTER - SEWER FUND

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE
AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2019

	ACCOUNT	SURVIVOR CURVE	ORIGINAL COST AS OF DECEMBER 31, 2019	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)=(5)/(6)
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT WASTEWATER TREATMENT PLANT	65-R2.5	12,677,123.03	4,282,570	8,394,553	242,751	1.91	34.6
354.50	STRUCTURES AND IMPROVEMENTS - GENERAL WASTEWATER TREATMENT PLANT	55-R4	110,942.52	68,504	42,439	2,001	1.80	21.2
354.70	STRUCTURES AND IMPROVEMENTS - OTHER WASTEWATER TREATMENT PLANT	50-R4	28,904.55	19,372	9,533	570	1.97	16.7
361.10	GRAVITY MAINS	55-R2.5	5,955,209.97	3,299,306	2,655,904	107,050	1.80	24.8
371.00	PUMPING EQUIPMENT	40-S1.5	3,599,493.97	1,041,086	2,558,408	89,065	2.47	28.7
380.00	TREATMENT AND DISPOSAL EQUIPMENT	40-L2.5	10,444,420.19	3,172,478	7,271,942	258,386	2.47	28.1
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ	26,867.94	2,015	24,853	1,343	5.00	18.5
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	23,212.80	2,322	20,891	928	4.00	22.5
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION			**52,031,636.91**	**15,447,656**	**36,583,982**	**1,223,472**	**2.35**	
TOTAL WASTEWATER PLANT			**91,060,664.32**	**34,902,558**	**54,673,281**	**1,848,580**	**2.03**	

* LIFE SPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE

CITY OF LANCASTER - SEWER FUND

TABLE 2. BRINGFORWARD TO DECEMBER 31, 2019 OF THE BOOK RESERVE AS OF DECEMBER 31, 2018

ACCOUNT		BOOK RESERVE AT BEGINNING OF YEAR	+	ACCRUALS	-	PROJECTED RETIREMENTS	=	BOOK RESERVE AT END OF YEAR	BOOK RESERVE AS A PERCENT OF ORIGINAL COST
(1)		(2)		(3)		(4)		(5)	(6)
DEPRECIABLE PLANT									
354.3	STRUCTURES AND IMPROVEMENTS - COLLECTION								
	MAIN PUMP STATION	1,053,743		68,666		0		1,122,409	39.23
	STEVENS PUMP STATION	1,098,692		138,197		0		1,236,889	22.73
	NORTH PUMP STATION	2,735,659		722,704		0		3,458,363	13.35
	MAPLE GROVE PUMP STATION	280,902		23,713		0		304,615	33.27
	CONESTOGA GARDEN PUMP STATION	464,565		65,986		0		530,551	23.56
	OTHER PUMP STATIONS AND AIR RELIEF PITS	223,525		16,447		0		239,972	25.24
	TOTAL ACCOUNT 354.3	*5,857,086*		*1,035,713*		*0*		*6,892,799*	
354.4	STRUCTURES AND IMPROVEMENTS - TREATMENT								
	WASTEWATER TREATMENT PLANT	11,760,228		865,386		12,500		12,613,114	28.93
354.5	STRUCTURES AND IMPROVEMENTS - GENERAL								
	WASTEWATER TREATMENT PLANT	184,188		3,324		0		187,512	72.78
354.7	STRUCTURES AND IMPROVEMENTS - OTHER								
	WASTEWATER TREATMENT PLANT	51,972		866		0		52,838	78.71
360	FORCE MAINS	1,394,591		30,280		0		1,424,871	59.29
361.1	GRAVITY MAINS	16,965,050		280,623		0		17,245,673	71.29
371	PUMPING EQUIPMENT	2,015,809		121,674		100,750		2,036,733	29.09
380	TREATMENT AND DISPOSAL EQUIPMENT	7,734,436		481,085		49,400		8,166,121	36.64
390	OFFICE FURNITURE AND EQUIPMENT	104,243		9,466		0		113,709	42.28
391.1	TRANSPORTATION EQUIPMENT - AUTOMOBILES	146,178		27,418		0		173,596	47.99
391.2	TRANSPORTATION EQUIPMENT - SMALL TRUCKS	238,430		43,314		0		281,744	44.82
391.3	TRANSPORTATION EQUIPMENT - LARGE TRUCKS	526,196		86,781		0		612,977	61.38
393	TOOLS, SHOP AND GARAGE EQUIPMENT	92,616		12,374		0		104,990	33.01
395	POWER OPERATED EQUIPMENT	403,078		40,459		0		443,537	49.55
TOTAL DEPRECIABLE PLANT		**47,474,101**		**3,038,763**		**162,650**		**50,350,214**	

CITY OF LANCASTER - SEWER FUND

TABLE 2. BRINGFORWARD TO DECEMBER 31, 2019 OF THE BOOK RESERVE AS OF DECEMBER 31, 2018

ACCOUNT (1)		BOOK RESERVE AT BEGINNING OF YEAR (2)	+	ACCRUALS (3)	-	PROJECTED RETIREMENTS (4)	=	BOOK RESERVE AT END OF YEAR (5)	BOOK RESERVE AS A PERCENT OF ORIGINAL COST (6)
CONTRIBUTIONS IN AID OF CONSTRUCTION									
354.3	STRUCTURES AND IMPROVEMENTS - COLLECTION								
	MAIN PUMP STATION	488,947		41,444		0		530,391	33.53
	STEVENS PUMP STATION	676,519		85,119		0		761,638	22.82
	NORTH PUMP STATION	1,402,725		328,466		0		1,731,191	14.60
	CONESTOGA GARDEN PUMP STATION	448,981		61,787		0		510,768	24.06
	OTHER PUMP STATIONS AND AIR RELIEF PITS	21,202		4,813		0		26,015	9.84
	TOTAL ACCOUNT 354.3	*3,038,374*		*521,629*		*0*		*3,560,003*	
354.4	STRUCTURES AND IMPROVEMENTS - TREATMENT								
	WASTEWATER TREATMENT PLANT	4,041,629		240,941		0		4,282,570	33.78
354.5	STRUCTURES AND IMPROVEMENTS - GENERAL								
	WASTEWATER TREATMENT PLANT	66,485		2,019		0		68,504	61.75
354.7	STRUCTURES AND IMPROVEMENTS - OTHER								
	WASTEWATER TREATMENT PLANT	18,794		578		0		19,372	67.02
361.1	GRAVITY MAINS	3,190,921		108,385		0		3,299,306	55.40
371	PUMPING EQUIPMENT	963,672		77,414		0		1,041,086	28.92
380	TREATMENT AND DISPOSAL EQUIPMENT	2,915,661		256,817		0		3,172,478	30.37
390	OFFICE FURNITURE AND EQUIPMENT	672		1,343		0		2,015	7.50
393	TOOLS, SHOP AND GARAGE EQUIPMENT	1,393		929		0		2,322	10.00
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION		**14,237,601**		**1,210,055**		**0**		**15,447,656**	
TOTAL UTILITY PLANT		**33,236,500**		**1,828,708**		**162,650**		**34,902,558**	

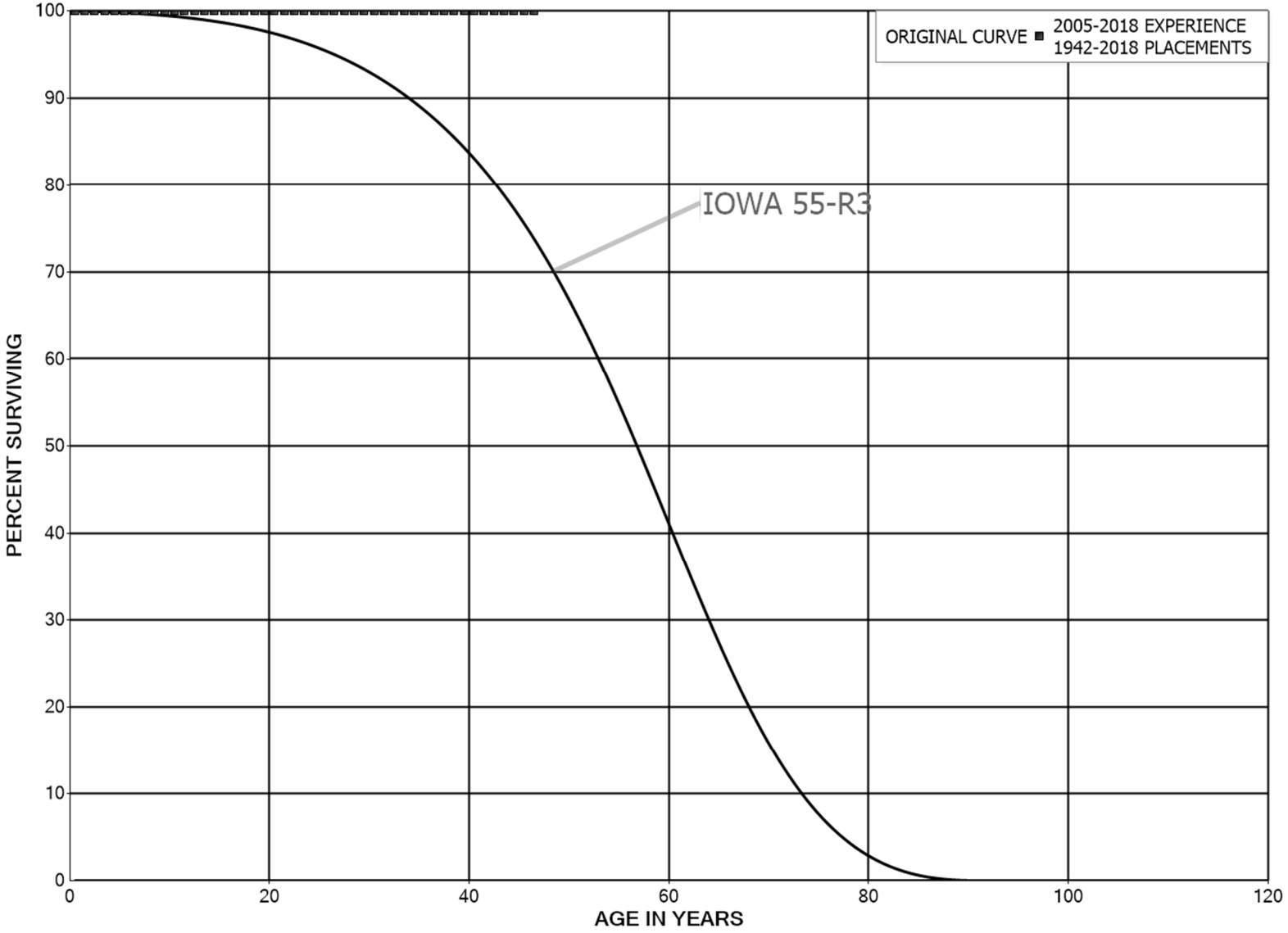
CITY OF LANCASTER - SEWER FUND

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019

	ACCOUNT	ORIGINAL COST AS OF DECEMBER 31, 2018	ORIGINAL COST AS OF DECEMBER 31, 2019	ANNUAL ACCRUAL RATE, PERCENT	ANNUAL ACCRUAL AMOUNT
	(1)	(3)	(3)	(4)	(5)
NONDEPRECIABLE PLANT					
353.00	LAND	1,484,823.87	1,484,823.87		
TOTAL NONDEPRECIABLE PLANT		**1,484,823.87**	**1,484,823.87**		
DEPRECIABLE PLANT					
354.30	STRUCTURES AND IMPROVEMENTS - COLLECTION				
	MAIN PUMP STATION	2,861,094.02	2,861,094.02	2.40	68,666
	STEVENS PUMP STATION	5,440,818.56	5,440,818.56	2.54	138,197
	NORTH PUMP STATION	25,903,358.36	25,903,358.36	2.79	722,704
	MAPLE GROVE PUMP STATION	915,549.03	915,549.03	2.59	23,713
	CONESTOGA GARDEN PUMP STATION	2,252,065.82	2,252,065.82	2.93	65,986
	OTHER PUMP STATIONS AND AIR RELIEF PITS	950,689.10	950,689.10	1.73	16,447
	TOTAL ACCOUNT 354.3	*38,323,574.89*	*38,323,574.89*		*1,035,713*
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT				
	WASTEWATER TREATMENT PLANT	43,367,968.89	43,605,468.89	1.99	865,386
354.50	STRUCTURES AND IMPROVEMENTS - GENERAL				
	WASTEWATER TREATMENT PLANT	257,646.35	257,646.35	1.29	3,324
354.70	STRUCTURES AND IMPROVEMENTS - OTHER				
	WASTEWATER TREATMENT PLANT	67,126.22	67,126.22	1.29	866
360.00	FORCE MAINS	2,403,148.75	2,403,148.75	1.26	30,280
361.10	GRAVITY MAINS	24,191,607.24	24,191,607.24	1.16	280,623
371.00	PUMPING EQUIPMENT	4,586,892.46	7,001,142.46	2.10	121,674
380.00	TREATMENT AND DISPOSAL EQUIPMENT	21,648,057.88	22,286,657.88	2.19	481,085
390.00	OFFICE FURNITURE AND EQUIPMENT	268,916.00	268,916.00	3.52	9,466
391.10	TRANSPORTATION EQUIPMENT - AUTOMOBILES	361,709.59	361,709.59	7.58	27,418
391.20	TRANSPORTATION EQUIPMENT - SMALL TRUCKS	628,644.41	628,644.41	6.89	43,314
391.30	TRANSPORTATION EQUIPMENT - LARGE TRUCKS	998,631.00	998,631.00	8.69	86,781
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	318,090.03	318,090.03	3.89	12,374
395.00	POWER OPERATED EQUIPMENT	895,113.65	895,113.65	4.52	40,459
TOTAL DEPRECIABLE PLANT		**138,317,127.36**	**141,607,477.36**		**3,038,763**
CONTRIBUTIONS IN AID OF CONSTRUCTION					
354.30	STRUCTURES AND IMPROVEMENTS - COLLECTION				
	MAIN PUMP STATION	1,581,814.22	1,581,814.22	2.62	41,444
	STEVENS PUMP STATION	3,337,986.18	3,337,986.18	2.55	85,119
	NORTH PUMP STATION	11,857,977.73	11,857,977.73	2.77	328,466
	CONESTOGA GARDEN PUMP STATION	2,123,254.04	2,123,254.04	2.91	61,787
	OTHER PUMP STATIONS AND AIR RELIEF PITS	264,429.77	264,429.77	1.82	4,813
	TOTAL ACCOUNT 354.3	*19,165,461.94*	*19,165,461.94*		*521,629*
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT				
	WASTEWATER TREATMENT PLANT	12,552,323.03	12,677,123.03	1.91	240,941
354.50	STRUCTURES AND IMPROVEMENTS - GENERAL				
	WASTEWATER TREATMENT PLANT	110,942.52	110,942.52	1.82	2,019
354.70	STRUCTURES AND IMPROVEMENTS - OTHER				
	WASTEWATER TREATMENT PLANT	28,904.55	28,904.55	2.00	578
361.10	GRAVITY MAINS	5,955,209.97	5,955,209.97	1.82	108,385
371.00	PUMPING EQUIPMENT	2,593,605.97	3,599,493.97	2.50	77,414
380.00	TREATMENT AND DISPOSAL EQUIPMENT	10,100,970.59	10,444,420.19	2.50	256,817
390.00	OFFICE FURNITURE AND EQUIPMENT	26,867.94	26,867.94	5.00	1,343
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	23,212.80	23,212.80	4.00	929
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION		**50,557,499.31**	**52,031,636.91**		**1,210,055**
TOTAL WASTEWATER PLANT		**89,244,451.92**	**91,060,664.32**		**1,828,708**

PART VI. SERVICE LIFE STATISTICS

CITY OF LANCASTER - SEWER FUND
ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - COLLECTION
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - COLLECTION

ORIGINAL LIFE TABLE

PLACEMENT BAND 1942-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	34,966,901		0.0000	1.0000	100.00
0.5	17,888,777		0.0000	1.0000	100.00
1.5	17,810,565		0.0000	1.0000	100.00
2.5	17,787,841		0.0000	1.0000	100.00
3.5	17,765,165		0.0000	1.0000	100.00
4.5	17,333,144		0.0000	1.0000	100.00
5.5	12,785,015		0.0000	1.0000	100.00
6.5	5,856,108		0.0000	1.0000	100.00
7.5	4,126,685		0.0000	1.0000	100.00
8.5	2,350,723		0.0000	1.0000	100.00
9.5	1,006,274		0.0000	1.0000	100.00
10.5	391,895		0.0000	1.0000	100.00
11.5	189,916		0.0000	1.0000	100.00
12.5	189,916		0.0000	1.0000	100.00
13.5	189,916		0.0000	1.0000	100.00
14.5	189,916		0.0000	1.0000	100.00
15.5	189,916		0.0000	1.0000	100.00
16.5	189,916		0.0000	1.0000	100.00
17.5	189,916		0.0000	1.0000	100.00
18.5	1,968,776		0.0000	1.0000	100.00
19.5	1,952,694		0.0000	1.0000	100.00
20.5	2,414,494		0.0000	1.0000	100.00
21.5	2,414,494		0.0000	1.0000	100.00
22.5	2,414,494		0.0000	1.0000	100.00
23.5	2,414,494		0.0000	1.0000	100.00
24.5	2,414,494		0.0000	1.0000	100.00
25.5	2,414,494		0.0000	1.0000	100.00
26.5	2,572,024		0.0000	1.0000	100.00
27.5	2,572,024		0.0000	1.0000	100.00
28.5	2,572,024		0.0000	1.0000	100.00
29.5	2,572,024		0.0000	1.0000	100.00
30.5	2,572,024		0.0000	1.0000	100.00
31.5	2,572,024		0.0000	1.0000	100.00
32.5	1,238,936		0.0000	1.0000	100.00
33.5	1,147,149		0.0000	1.0000	100.00
34.5	685,349		0.0000	1.0000	100.00
35.5	685,349		0.0000	1.0000	100.00
36.5	685,349		0.0000	1.0000	100.00
37.5	685,349		0.0000	1.0000	100.00
38.5	685,349		0.0000	1.0000	100.00

CITY OF LANCASTER - SEWER FUND

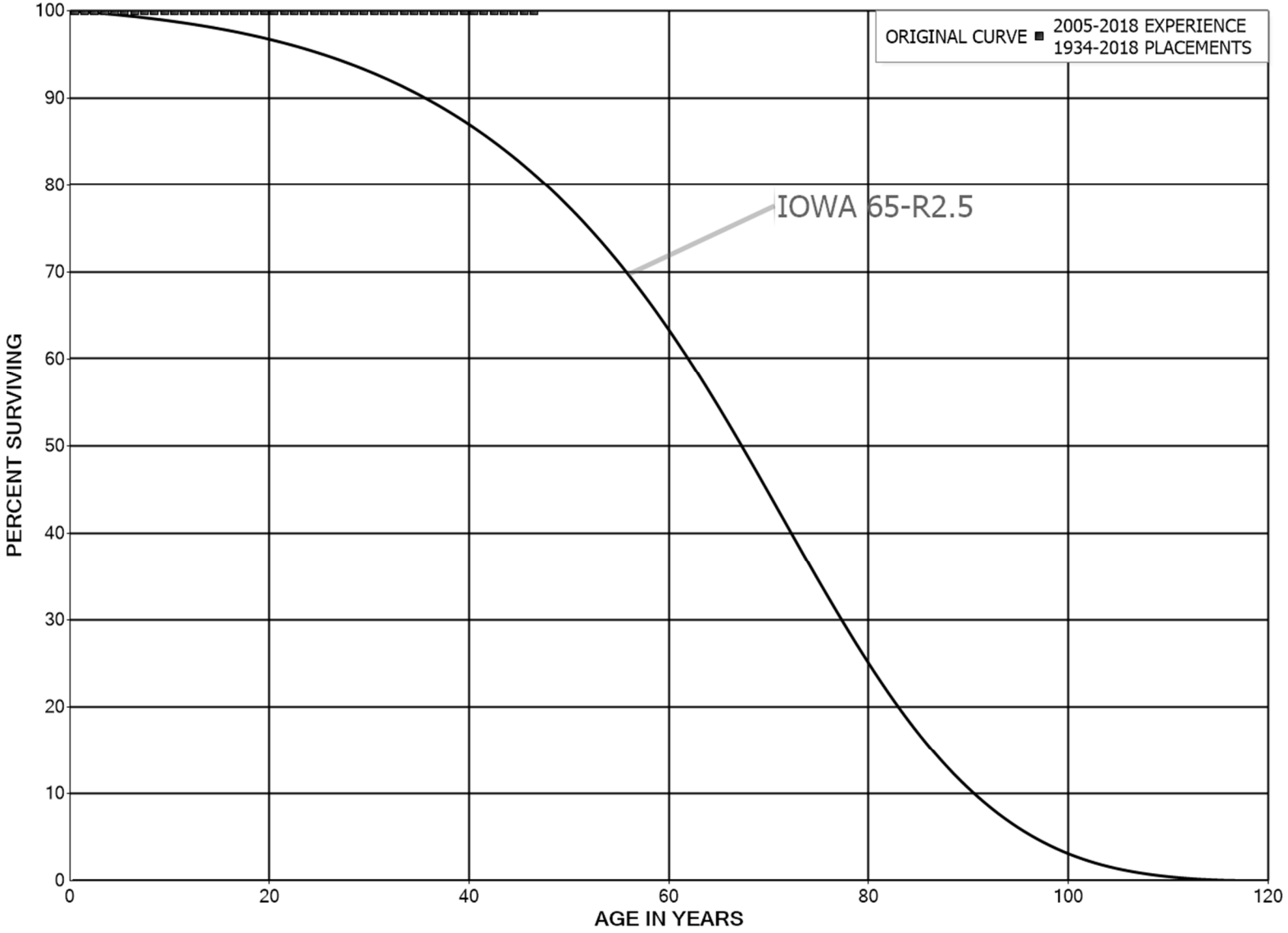
ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - COLLECTION

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1942-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	685,349		0.0000	1.0000	100.00
40.5	527,819		0.0000	1.0000	100.00
41.5	527,819		0.0000	1.0000	100.00
42.5	527,819		0.0000	1.0000	100.00
43.5	527,819		0.0000	1.0000	100.00
44.5	527,819		0.0000	1.0000	100.00
45.5	527,819		0.0000	1.0000	100.00
46.5					100.00
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5	66,914		0.0000		
63.5	66,914		0.0000		
64.5	66,914		0.0000		
65.5	66,914		0.0000		
66.5	66,914		0.0000		
67.5	66,914		0.0000		
68.5	66,914		0.0000		
69.5	66,914		0.0000		
70.5	66,914		0.0000		
71.5	66,914		0.0000		
72.5	66,914		0.0000		
73.5	66,914		0.0000		
74.5	66,914		0.0000		
75.5	66,914		0.0000		
76.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	29,485,588		0.0000	1.0000	100.00
0.5	23,367,284		0.0000	1.0000	100.00
1.5	20,842,955		0.0000	1.0000	100.00
2.5	19,096,839		0.0000	1.0000	100.00
3.5	17,127,725		0.0000	1.0000	100.00
4.5	14,528,545		0.0000	1.0000	100.00
5.5	8,250,445		0.0000	1.0000	100.00
6.5	1,373,267		0.0000	1.0000	100.00
7.5	1,399,169		0.0000	1.0000	100.00
8.5	1,399,169		0.0000	1.0000	100.00
9.5	1,041,201		0.0000	1.0000	100.00
10.5	149,154		0.0000	1.0000	100.00
11.5	66,764		0.0000	1.0000	100.00
12.5	66,764		0.0000	1.0000	100.00
13.5	25,902		0.0000	1.0000	100.00
14.5	25,902		0.0000	1.0000	100.00
15.5	25,902		0.0000	1.0000	100.00
16.5	25,902		0.0000	1.0000	100.00
17.5	25,902		0.0000	1.0000	100.00
18.5	25,902		0.0000	1.0000	100.00
19.5	25,902		0.0000	1.0000	100.00
20.5	13,585,827		0.0000	1.0000	100.00
21.5	13,559,925		0.0000	1.0000	100.00
22.5	13,559,925		0.0000	1.0000	100.00
23.5	13,559,925		0.0000	1.0000	100.00
24.5	13,559,925		0.0000	1.0000	100.00
25.5	13,559,925		0.0000	1.0000	100.00
26.5	13,559,925		0.0000	1.0000	100.00
27.5	13,559,925		0.0000	1.0000	100.00
28.5	13,559,925		0.0000	1.0000	100.00
29.5	13,559,925		0.0000	1.0000	100.00
30.5	13,559,925		0.0000	1.0000	100.00
31.5	13,559,925		0.0000	1.0000	100.00
32.5	13,616,694		0.0000	1.0000	100.00
33.5	13,616,694		0.0000	1.0000	100.00
34.5	56,769		0.0000	1.0000	100.00
35.5	56,769		0.0000	1.0000	100.00
36.5	56,769		0.0000	1.0000	100.00
37.5	56,769		0.0000	1.0000	100.00
38.5	56,769		0.0000	1.0000	100.00

CITY OF LANCASTER - SEWER FUND

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	56,769		0.0000	1.0000	100.00
40.5	56,769		0.0000	1.0000	100.00
41.5	56,769		0.0000	1.0000	100.00
42.5	56,769		0.0000	1.0000	100.00
43.5	56,769		0.0000	1.0000	100.00
44.5	56,769		0.0000	1.0000	100.00
45.5	56,769		0.0000	1.0000	100.00
46.5					100.00
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5	239,785		0.0000		
71.5	239,785		0.0000		
72.5	239,785		0.0000		
73.5	239,785		0.0000		
74.5	239,785		0.0000		
75.5	239,785		0.0000		
76.5	239,785		0.0000		
77.5	239,785		0.0000		
78.5	239,785		0.0000		

CITY OF LANCASTER - SEWER FUND

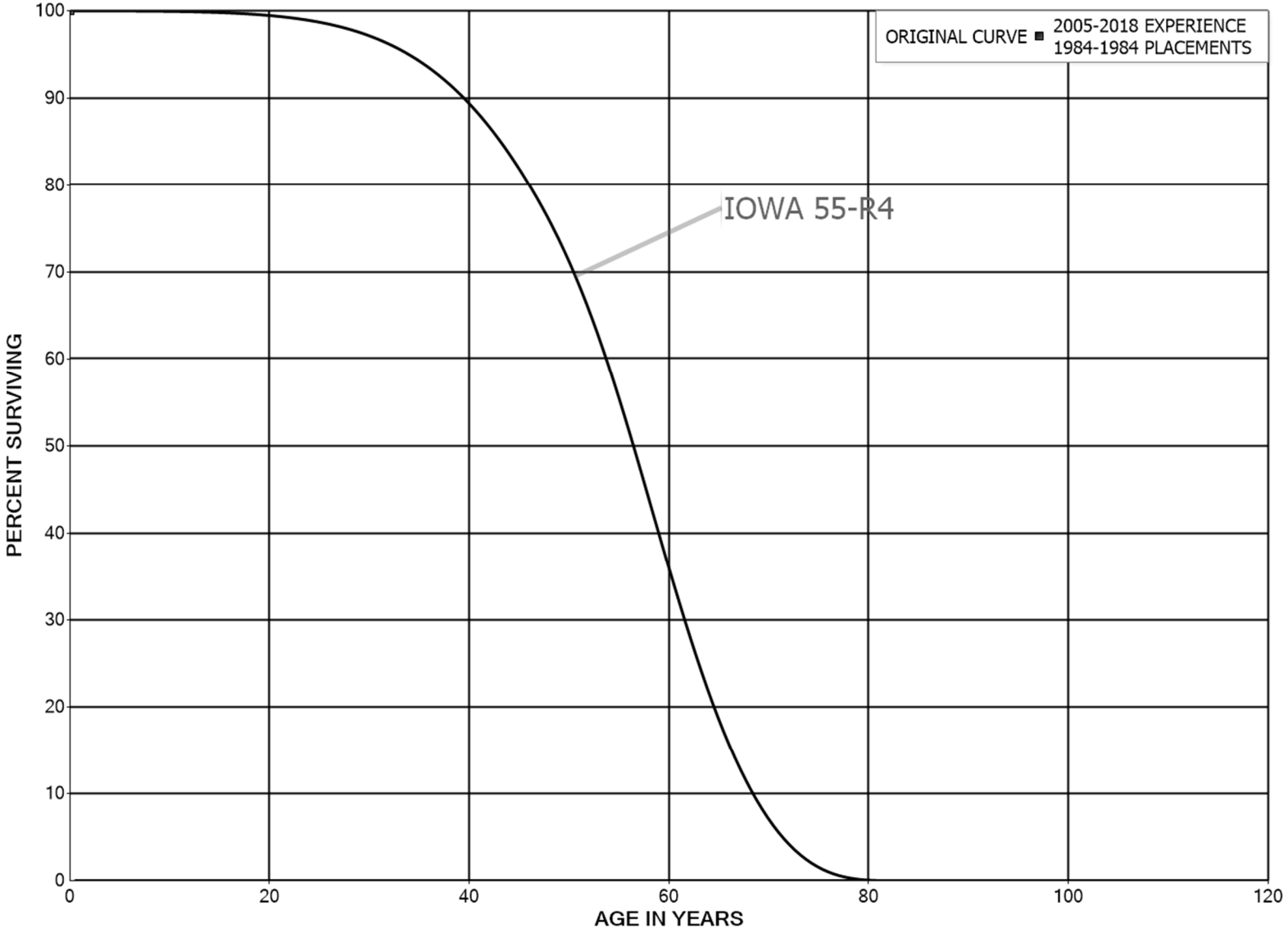
ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	239,785		0.0000		
80.5	239,785		0.0000		
81.5	239,785		0.0000		
82.5	239,785		0.0000		
83.5	239,785		0.0000		
84.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 354.50 STRUCTURES AND IMPROVEMENTS - GENERAL
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

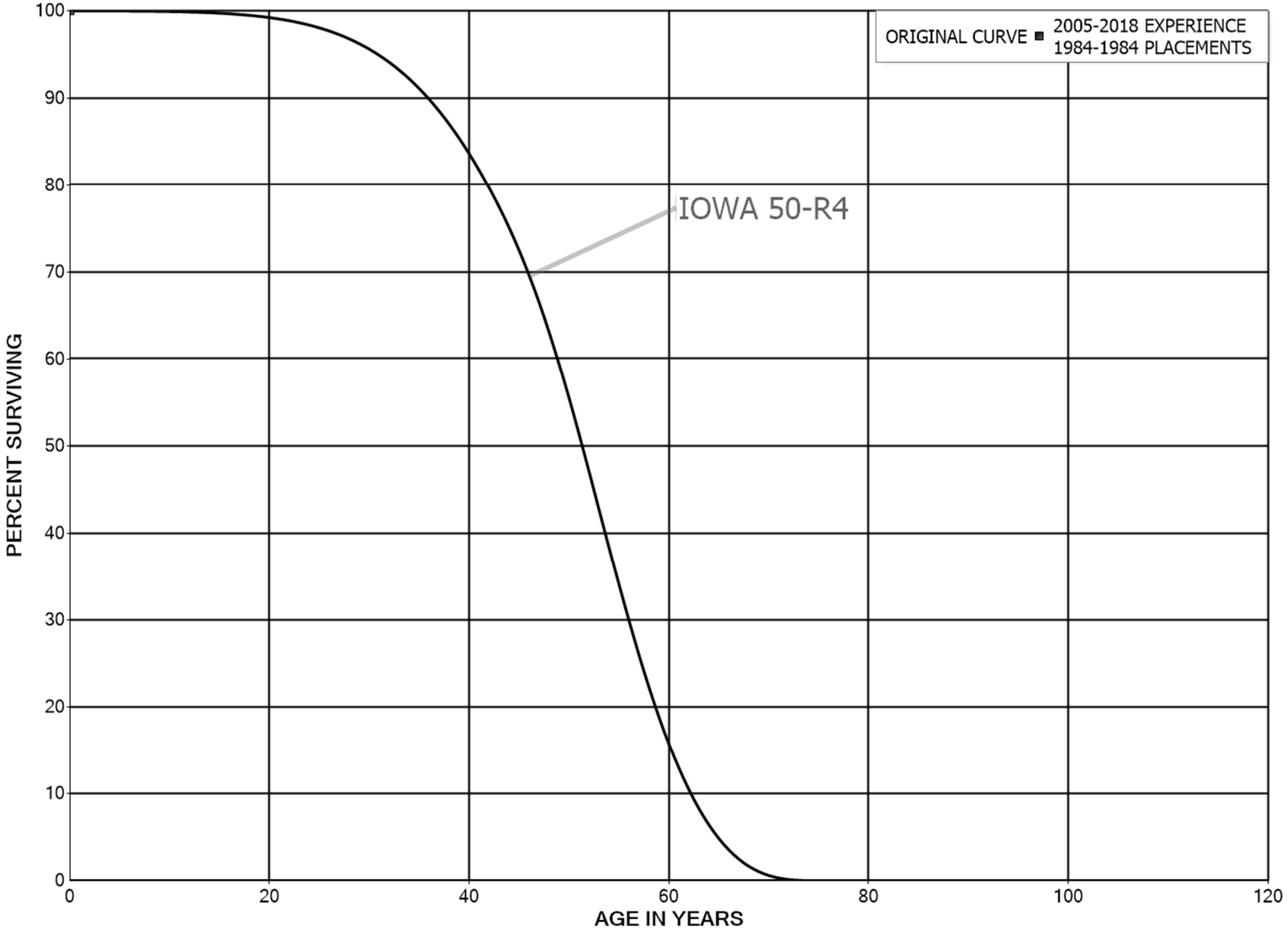
ACCOUNT 354.50 STRUCTURES AND IMPROVEMENTS - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1984-1984 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					100.00
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5	257,646		0.0000		
21.5	257,646		0.0000		
22.5	257,646		0.0000		
23.5	257,646		0.0000		
24.5	257,646		0.0000		
25.5	257,646		0.0000		
26.5	257,646		0.0000		
27.5	257,646		0.0000		
28.5	257,646		0.0000		
29.5	257,646		0.0000		
30.5	257,646		0.0000		
31.5	257,646		0.0000		
32.5	257,646		0.0000		
33.5	257,646		0.0000		
34.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - OTHER
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

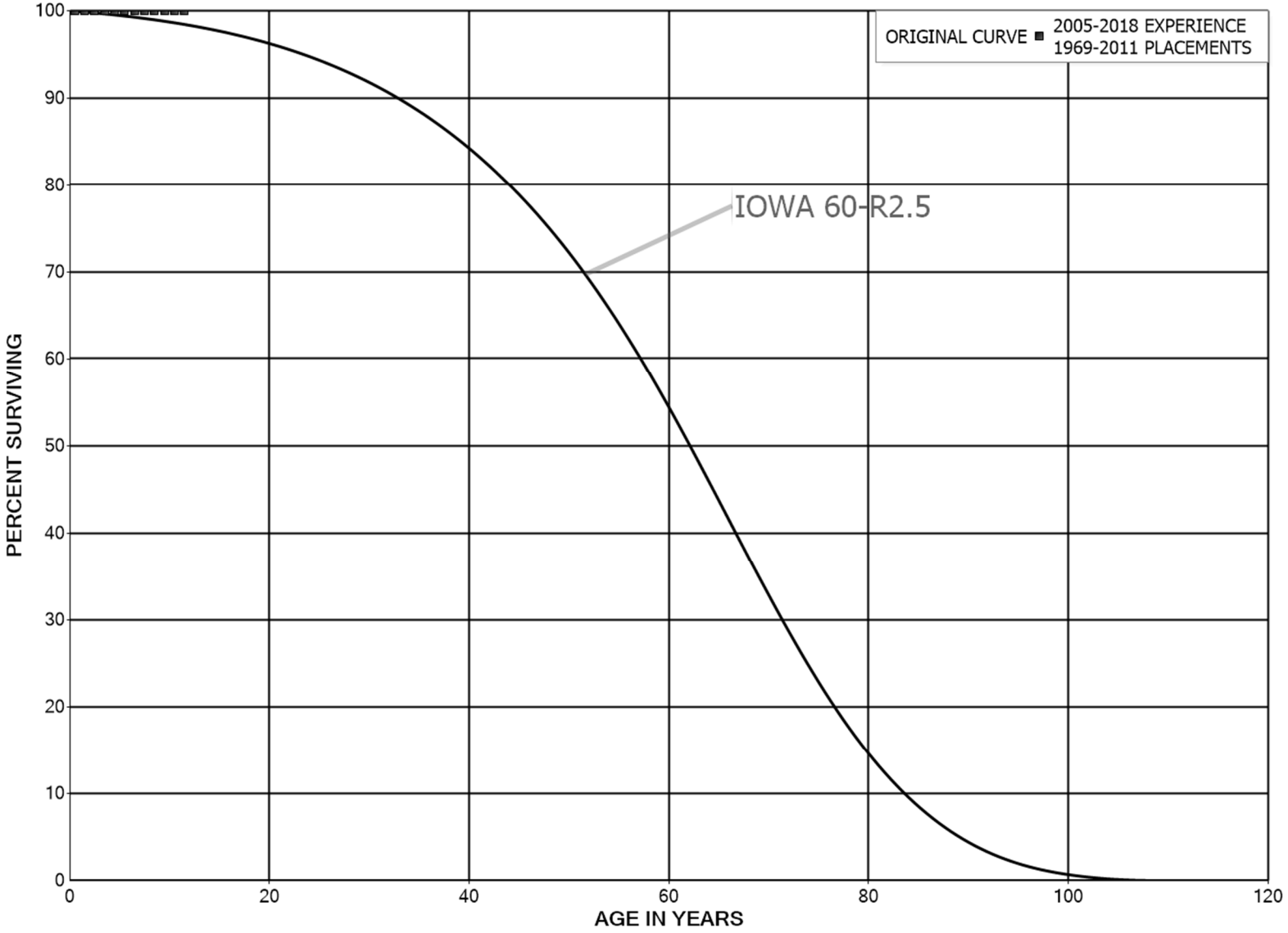
ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - OTHER

ORIGINAL LIFE TABLE

PLACEMENT BAND 1984-1984 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					100.00
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5	67,126		0.0000		
21.5	67,126		0.0000		
22.5	67,126		0.0000		
23.5	67,126		0.0000		
24.5	67,126		0.0000		
25.5	67,126		0.0000		
26.5	67,126		0.0000		
27.5	67,126		0.0000		
28.5	67,126		0.0000		
29.5	67,126		0.0000		
30.5	67,126		0.0000		
31.5	67,126		0.0000		
32.5	67,126		0.0000		
33.5	67,126		0.0000		
34.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 360.00 FORCE MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

ACCOUNT 360.00 FORCE MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2011 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	478,939		0.0000	1.0000	100.00
0.5	478,939		0.0000	1.0000	100.00
1.5	478,939		0.0000	1.0000	100.00
2.5	478,939		0.0000	1.0000	100.00
3.5	478,939		0.0000	1.0000	100.00
4.5	478,939		0.0000	1.0000	100.00
5.5	478,939		0.0000	1.0000	100.00
6.5	478,939		0.0000	1.0000	100.00
7.5	378,659		0.0000	1.0000	100.00
8.5	297,972		0.0000	1.0000	100.00
9.5	74,076		0.0000	1.0000	100.00
10.5	34,068		0.0000	1.0000	100.00
11.5					100.00
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5	1,058,315		0.0000		
21.5	1,058,315		0.0000		
22.5	1,058,315		0.0000		
23.5	1,058,315		0.0000		
24.5	1,058,315		0.0000		
25.5	1,058,315		0.0000		
26.5	1,346,947		0.0000		
27.5	1,346,947		0.0000		
28.5	1,346,947		0.0000		
29.5	1,346,947		0.0000		
30.5	1,346,947		0.0000		
31.5	1,346,947		0.0000		
32.5	1,539,368		0.0000		
33.5	1,539,368		0.0000		
34.5	481,052		0.0000		
35.5	865,894		0.0000		
36.5	865,894		0.0000		
37.5	865,894		0.0000		
38.5	865,894		0.0000		

CITY OF LANCASTER - SEWER FUND

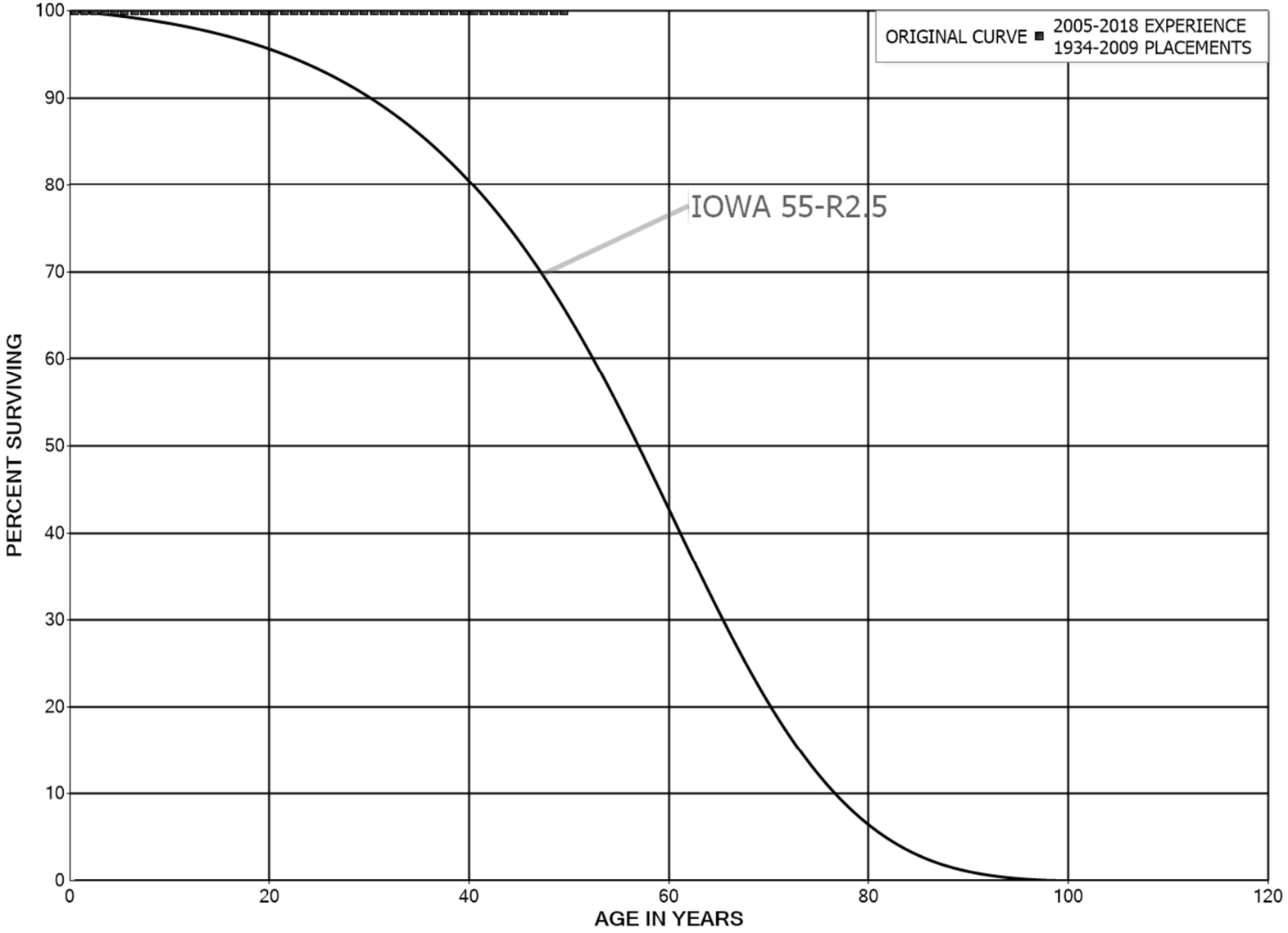
ACCOUNT 360.00 FORCE MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2011 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	865,894		0.0000		
40.5	577,263		0.0000		
41.5	577,263		0.0000		
42.5	577,263		0.0000		
43.5	577,263		0.0000		
44.5	577,263		0.0000		
45.5	577,263		0.0000		
46.5	384,842		0.0000		
47.5	384,842		0.0000		
48.5	384,842		0.0000		
49.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 361.10 GRAVITY MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

ACCOUNT 361.10 GRAVITY MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	328,306		0.0000	1.0000	100.00
0.5	328,306		0.0000	1.0000	100.00
1.5	328,306		0.0000	1.0000	100.00
2.5	328,306		0.0000	1.0000	100.00
3.5	328,306		0.0000	1.0000	100.00
4.5	328,306		0.0000	1.0000	100.00
5.5	328,306		0.0000	1.0000	100.00
6.5	328,306		0.0000	1.0000	100.00
7.5	343,706		0.0000	1.0000	100.00
8.5	343,706		0.0000	1.0000	100.00
9.5	1,861,611		0.0000	1.0000	100.00
10.5	1,841,824		0.0000	1.0000	100.00
11.5	1,841,824		0.0000	1.0000	100.00
12.5	1,633,201		0.0000	1.0000	100.00
13.5	1,570,441		0.0000	1.0000	100.00
14.5	3,768,909		0.0000	1.0000	100.00
15.5	3,768,909		0.0000	1.0000	100.00
16.5	3,768,909		0.0000	1.0000	100.00
17.5	3,768,909		0.0000	1.0000	100.00
18.5	3,768,909		0.0000	1.0000	100.00
19.5	4,878,737		0.0000	1.0000	100.00
20.5	15,629,860		0.0000	1.0000	100.00
21.5	15,629,860		0.0000	1.0000	100.00
22.5	15,629,860		0.0000	1.0000	100.00
23.5	14,074,820		0.0000	1.0000	100.00
24.5	14,074,820		0.0000	1.0000	100.00
25.5	14,074,820		0.0000	1.0000	100.00
26.5	17,022,708		0.0000	1.0000	100.00
27.5	17,022,708		0.0000	1.0000	100.00
28.5	14,808,840		0.0000	1.0000	100.00
29.5	14,808,840		0.0000	1.0000	100.00
30.5	14,808,840		0.0000	1.0000	100.00
31.5	14,808,840		0.0000	1.0000	100.00
32.5	16,196,082		0.0000	1.0000	100.00
33.5	15,086,254		0.0000	1.0000	100.00
34.5	4,335,130		0.0000	1.0000	100.00
35.5	6,589,398		0.0000	1.0000	100.00
36.5	6,589,398		0.0000	1.0000	100.00
37.5	6,589,398		0.0000	1.0000	100.00
38.5	6,589,398		0.0000	1.0000	100.00

CITY OF LANCASTER - SEWER FUND

ACCOUNT 361.10 GRAVITY MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	6,589,398		0.0000	1.0000	100.00
40.5	3,641,510		0.0000	1.0000	100.00
41.5	3,641,510		0.0000	1.0000	100.00
42.5	3,641,510		0.0000	1.0000	100.00
43.5	3,641,510		0.0000	1.0000	100.00
44.5	3,641,510		0.0000	1.0000	100.00
45.5	3,641,510		0.0000	1.0000	100.00
46.5	2,254,268		0.0000	1.0000	100.00
47.5	2,254,268		0.0000	1.0000	100.00
48.5	2,254,268		0.0000	1.0000	100.00
49.5					100.00
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5	1,586,456		0.0000		
70.5	1,628,642		0.0000		
71.5	1,628,642		0.0000		
72.5	1,628,642		0.0000		
73.5	1,628,642		0.0000		
74.5	1,628,642		0.0000		
75.5	1,628,642		0.0000		
76.5	1,628,642		0.0000		
77.5	1,628,642		0.0000		
78.5	1,628,642		0.0000		

CITY OF LANCASTER - SEWER FUND

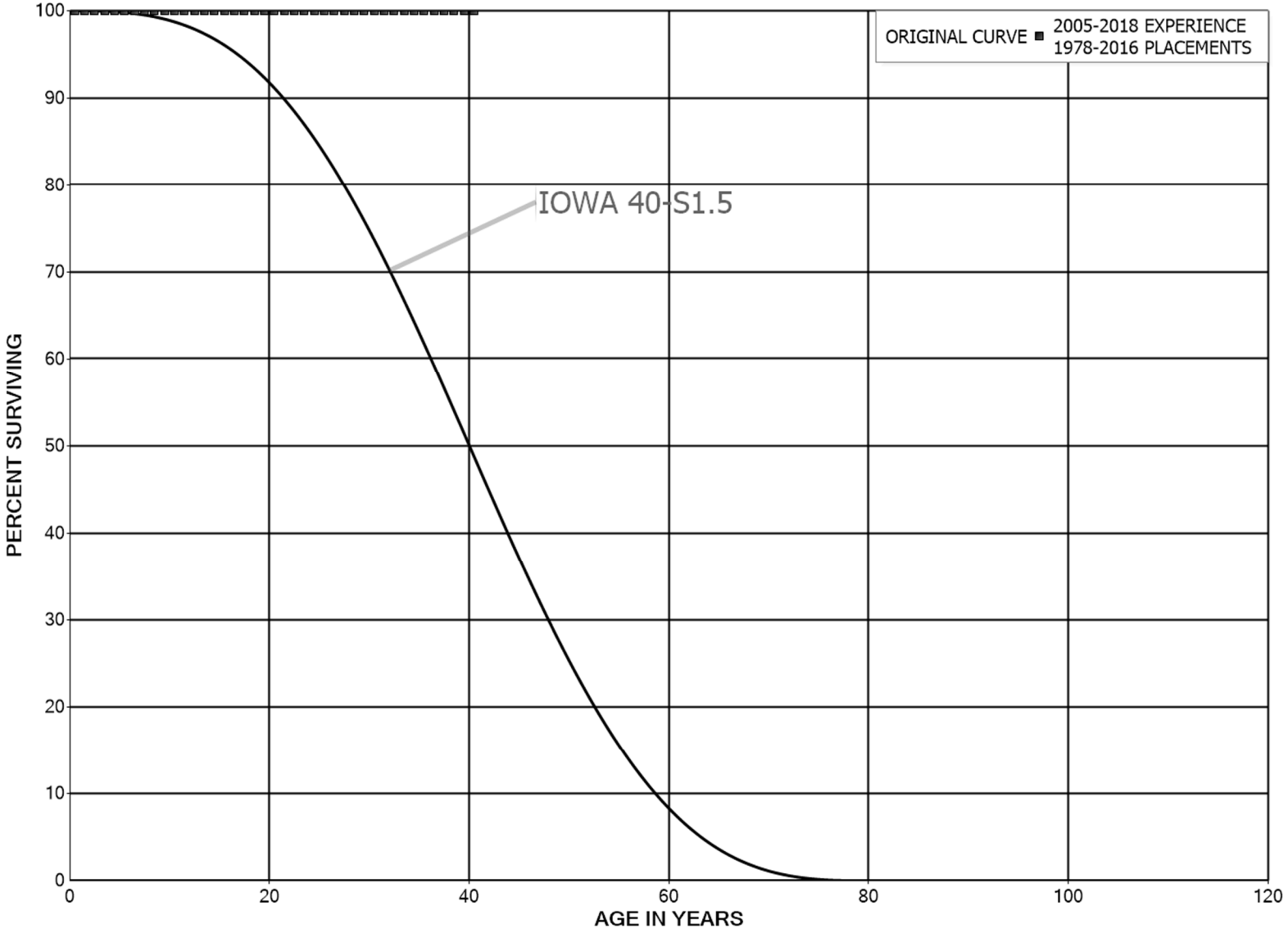
ACCOUNT 361.10 GRAVITY MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	1,628,642		0.0000		
80.5	1,628,642		0.0000		
81.5	1,628,642		0.0000		
82.5	1,628,642		0.0000		
83.5	42,186		0.0000		
84.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 371.00 PUMPING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

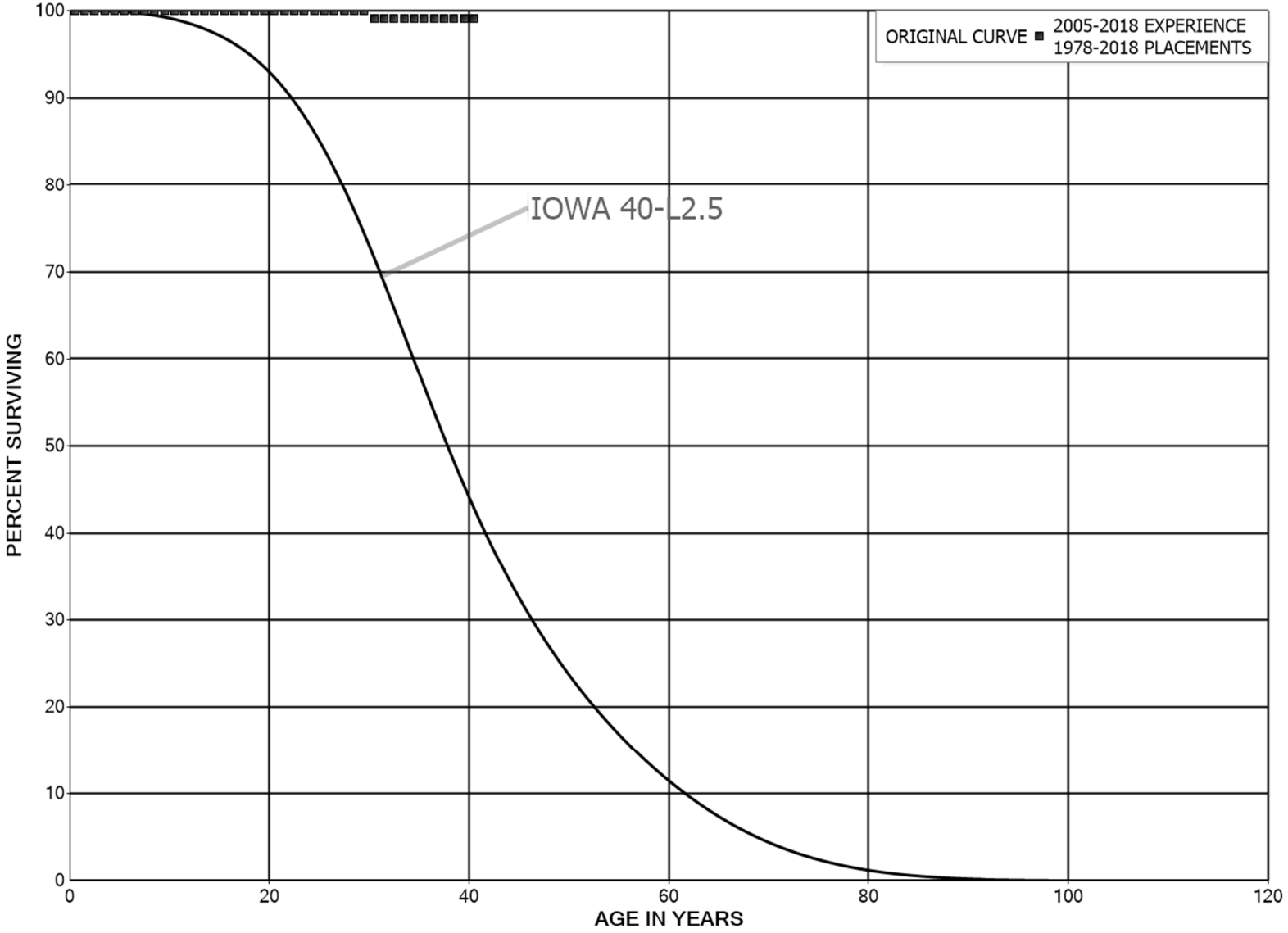
ACCOUNT 371.00 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1978-2016 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,425,912		0.0000	1.0000	100.00
0.5	2,425,912		0.0000	1.0000	100.00
1.5	2,425,912		0.0000	1.0000	100.00
2.5	2,084,861		0.0000	1.0000	100.00
3.5	2,057,091		0.0000	1.0000	100.00
4.5	2,287,914		0.0000	1.0000	100.00
5.5	2,617,325		0.0000	1.0000	100.00
6.5	2,562,087		0.0000	1.0000	100.00
7.5	1,220,860		0.0000	1.0000	100.00
8.5	968,947		0.0000	1.0000	100.00
9.5	764,558		0.0000	1.0000	100.00
10.5	686,118		0.0000	1.0000	100.00
11.5	668,937		0.0000	1.0000	100.00
12.5	668,937		0.0000	1.0000	100.00
13.5	623,474		0.0000	1.0000	100.00
14.5	623,474		0.0000	1.0000	100.00
15.5	623,474		0.0000	1.0000	100.00
16.5	623,474		0.0000	1.0000	100.00
17.5	623,474		0.0000	1.0000	100.00
18.5	1,195,835		0.0000	1.0000	100.00
19.5	866,423		0.0000	1.0000	100.00
20.5	1,556,268		0.0000	1.0000	100.00
21.5	1,556,268		0.0000	1.0000	100.00
22.5	1,503,029		0.0000	1.0000	100.00
23.5	1,503,029		0.0000	1.0000	100.00
24.5	1,503,029		0.0000	1.0000	100.00
25.5	1,503,029		0.0000	1.0000	100.00
26.5	1,537,507		0.0000	1.0000	100.00
27.5	1,537,507		0.0000	1.0000	100.00
28.5	1,537,507		0.0000	1.0000	100.00
29.5	1,537,507		0.0000	1.0000	100.00
30.5	1,537,507		0.0000	1.0000	100.00
31.5	1,537,507		0.0000	1.0000	100.00
32.5	734,323		0.0000	1.0000	100.00
33.5	734,323		0.0000	1.0000	100.00
34.5	34,478		0.0000	1.0000	100.00
35.5	34,478		0.0000	1.0000	100.00
36.5	34,478		0.0000	1.0000	100.00
37.5	34,478		0.0000	1.0000	100.00
38.5	34,478		0.0000	1.0000	100.00
39.5	34,478		0.0000	1.0000	100.00
40.5					100.00

CITY OF LANCASTER - SEWER FUND
ACCOUNT 380.00 TREATMENT AND DISPOSAL EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

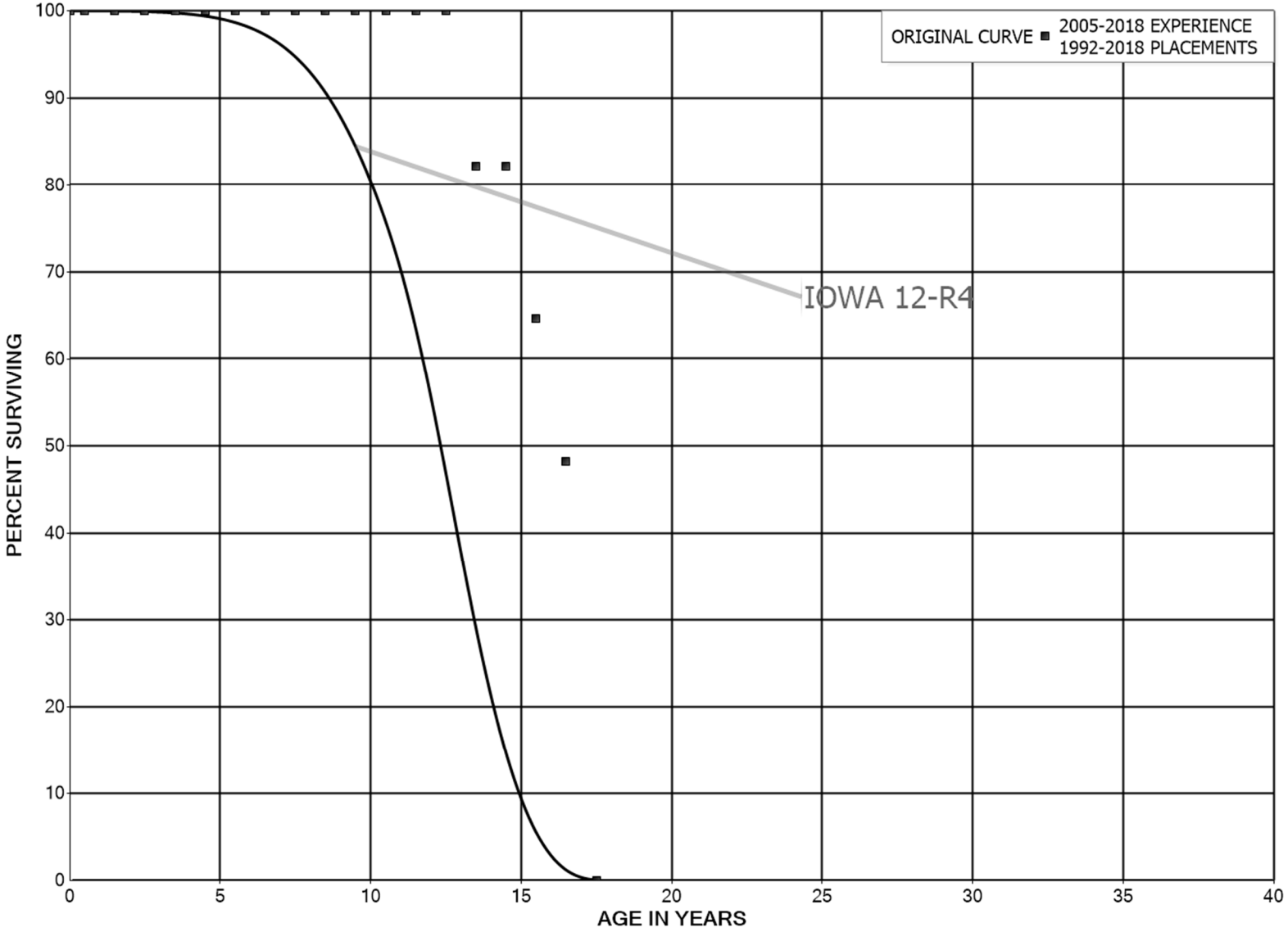
ACCOUNT 380.00 TREATMENT AND DISPOSAL EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1978-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	16,349,218		0.0000	1.0000	100.00
0.5	11,694,022		0.0000	1.0000	100.00
1.5	11,596,819		0.0000	1.0000	100.00
2.5	11,523,731		0.0000	1.0000	100.00
3.5	11,484,362		0.0000	1.0000	100.00
4.5	11,517,905		0.0000	1.0000	100.00
5.5	11,569,750		0.0000	1.0000	100.00
6.5	11,504,914		0.0000	1.0000	100.00
7.5	11,299,084		0.0000	1.0000	100.00
8.5	10,745,017		0.0000	1.0000	100.00
9.5	9,968,575		0.0000	1.0000	100.00
10.5	8,603,536		0.0000	1.0000	100.00
11.5	2,853,002		0.0000	1.0000	100.00
12.5	1,195,225		0.0000	1.0000	100.00
13.5	530,025		0.0000	1.0000	100.00
14.5	530,025		0.0000	1.0000	100.00
15.5	530,025		0.0000	1.0000	100.00
16.5	530,025		0.0000	1.0000	100.00
17.5	530,025		0.0000	1.0000	100.00
18.5	719,543		0.0000	1.0000	100.00
19.5	667,698		0.0000	1.0000	100.00
20.5	5,218,366		0.0000	1.0000	100.00
21.5	4,773,730		0.0000	1.0000	100.00
22.5	4,773,730		0.0000	1.0000	100.00
23.5	4,773,730		0.0000	1.0000	100.00
24.5	4,773,730		0.0000	1.0000	100.00
25.5	4,773,730		0.0000	1.0000	100.00
26.5	4,812,269		0.0000	1.0000	100.00
27.5	4,812,269		0.0000	1.0000	100.00
28.5	4,812,269		0.0000	1.0000	100.00
29.5	4,812,269	43,454	0.0090	0.9910	100.00
30.5	4,768,815		0.0000	1.0000	99.10
31.5	4,768,815		0.0000	1.0000	99.10
32.5	4,589,207		0.0000	1.0000	99.10
33.5	4,589,207		0.0000	1.0000	99.10
34.5	38,539		0.0000	1.0000	99.10
35.5	38,539		0.0000	1.0000	99.10
36.5	38,539		0.0000	1.0000	99.10
37.5	38,539		0.0000	1.0000	99.10
38.5	38,539		0.0000	1.0000	99.10
39.5	38,539		0.0000	1.0000	99.10
40.5					99.10

CITY OF LANCASTER - SEWER FUND
ACCOUNT 391.10 TRANSPORTATION EQUIPMENT - AUTOMOBILES
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

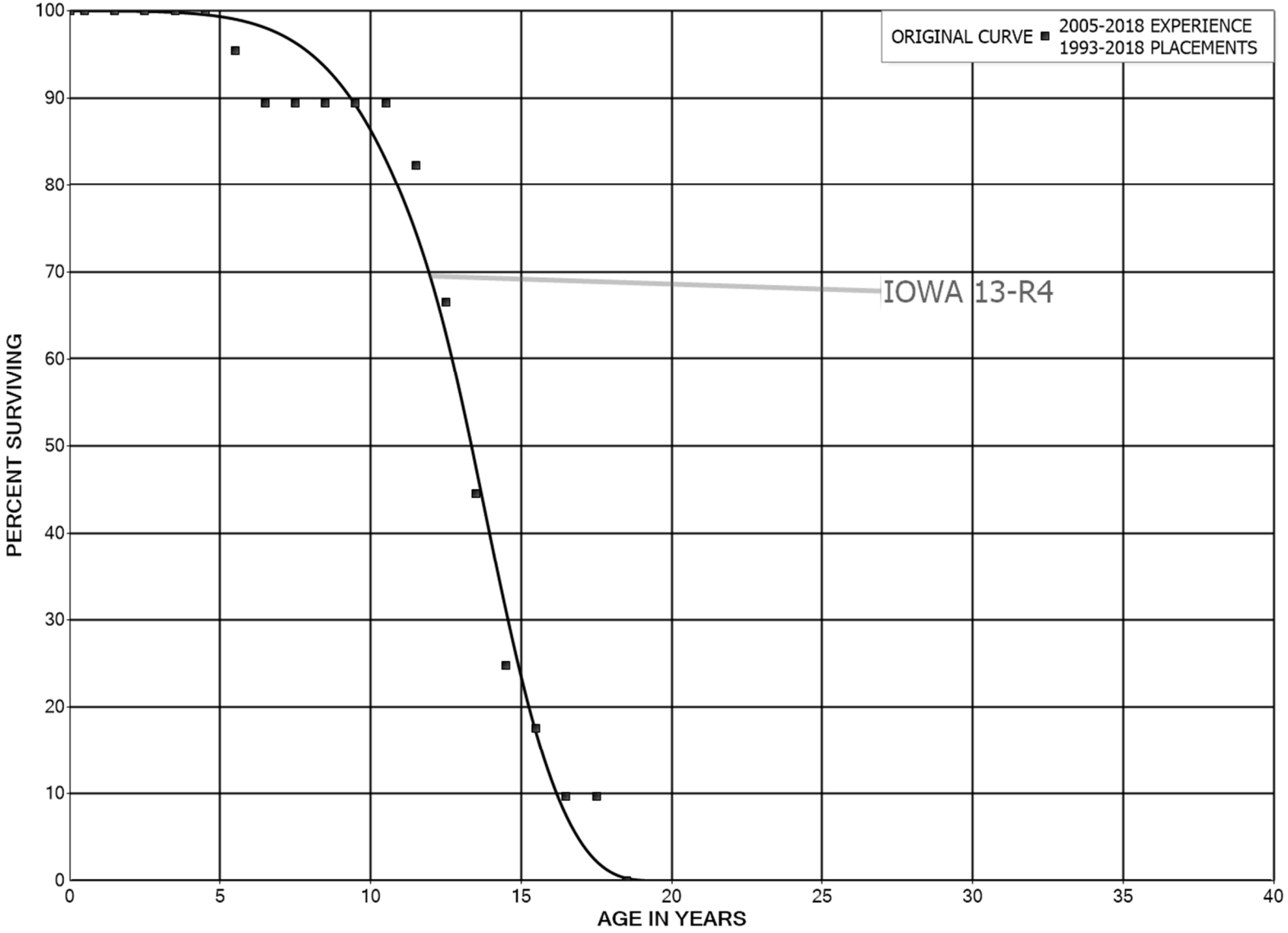
ACCOUNT 391.10 TRANSPORTATION EQUIPMENT - AUTOMOBILES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1992-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	361,710		0.0000	1.0000	100.00
0.5	354,833		0.0000	1.0000	100.00
1.5	262,230		0.0000	1.0000	100.00
2.5	254,971		0.0000	1.0000	100.00
3.5	270,430		0.0000	1.0000	100.00
4.5	315,657		0.0000	1.0000	100.00
5.5	131,732		0.0000	1.0000	100.00
6.5	77,195		0.0000	1.0000	100.00
7.5	77,195		0.0000	1.0000	100.00
8.5	77,195		0.0000	1.0000	100.00
9.5	77,195		0.0000	1.0000	100.00
10.5	77,195		0.0000	1.0000	100.00
11.5	77,195		0.0000	1.0000	100.00
12.5	93,978	16,783	0.1786	0.8214	100.00
13.5	77,195		0.0000	1.0000	82.14
14.5	77,195	16,509	0.2139	0.7861	82.14
15.5	60,686	15,459	0.2547	0.7453	64.57
16.5	45,227	45,227	1.0000		48.13
17.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 391.20 TRANSPORTATION EQUIPMENT - SMALL TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

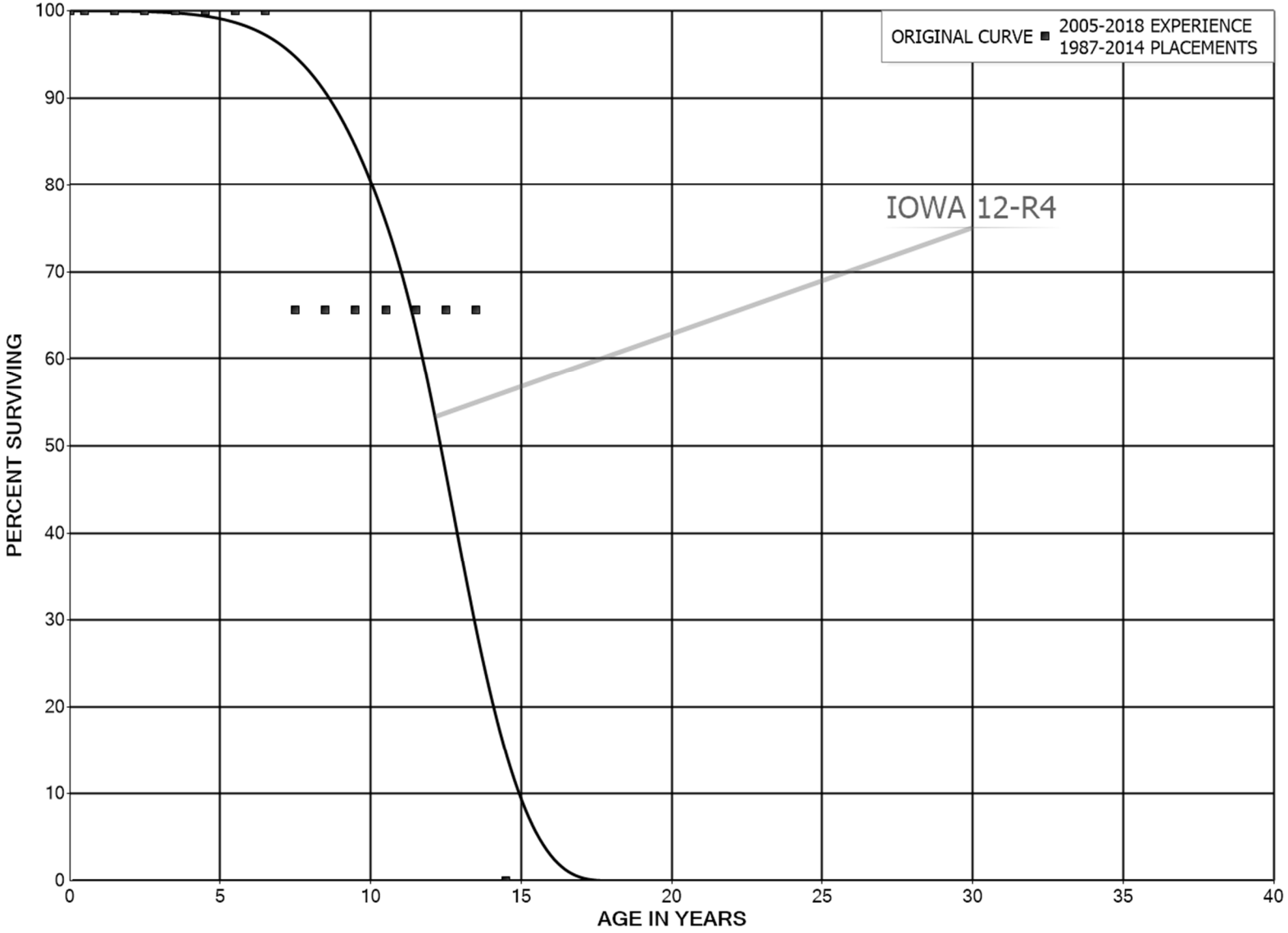
ACCOUNT 391.20 TRANSPORTATION EQUIPMENT - SMALL TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1993-2018 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	660,705		0.0000	1.0000	100.00
0.5	573,275		0.0000	1.0000	100.00
1.5	500,723		0.0000	1.0000	100.00
2.5	412,886		0.0000	1.0000	100.00
3.5	352,677		0.0000	1.0000	100.00
4.5	366,166	17,000	0.0464	0.9536	100.00
5.5	266,956	16,660	0.0624	0.9376	95.36
6.5	234,297		0.0000	1.0000	89.41
7.5	229,310		0.0000	1.0000	89.41
8.5	257,254		0.0000	1.0000	89.41
9.5	257,254		0.0000	1.0000	89.41
10.5	191,970	15,400	0.0802	0.9198	89.41
11.5	146,409	27,944	0.1909	0.8091	82.23
12.5	117,205	38,786	0.3309	0.6691	66.54
13.5	78,419	34,816	0.4440	0.5560	44.52
14.5	43,603	12,783	0.2932	0.7068	24.75
15.5	30,820	13,820	0.4484	0.5516	17.50
16.5	17,000		0.0000	1.0000	9.65
17.5	17,000	17,000	1.0000		9.65
18.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 391.30 TRANSPORTATION EQUIPMENT - LARGE TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

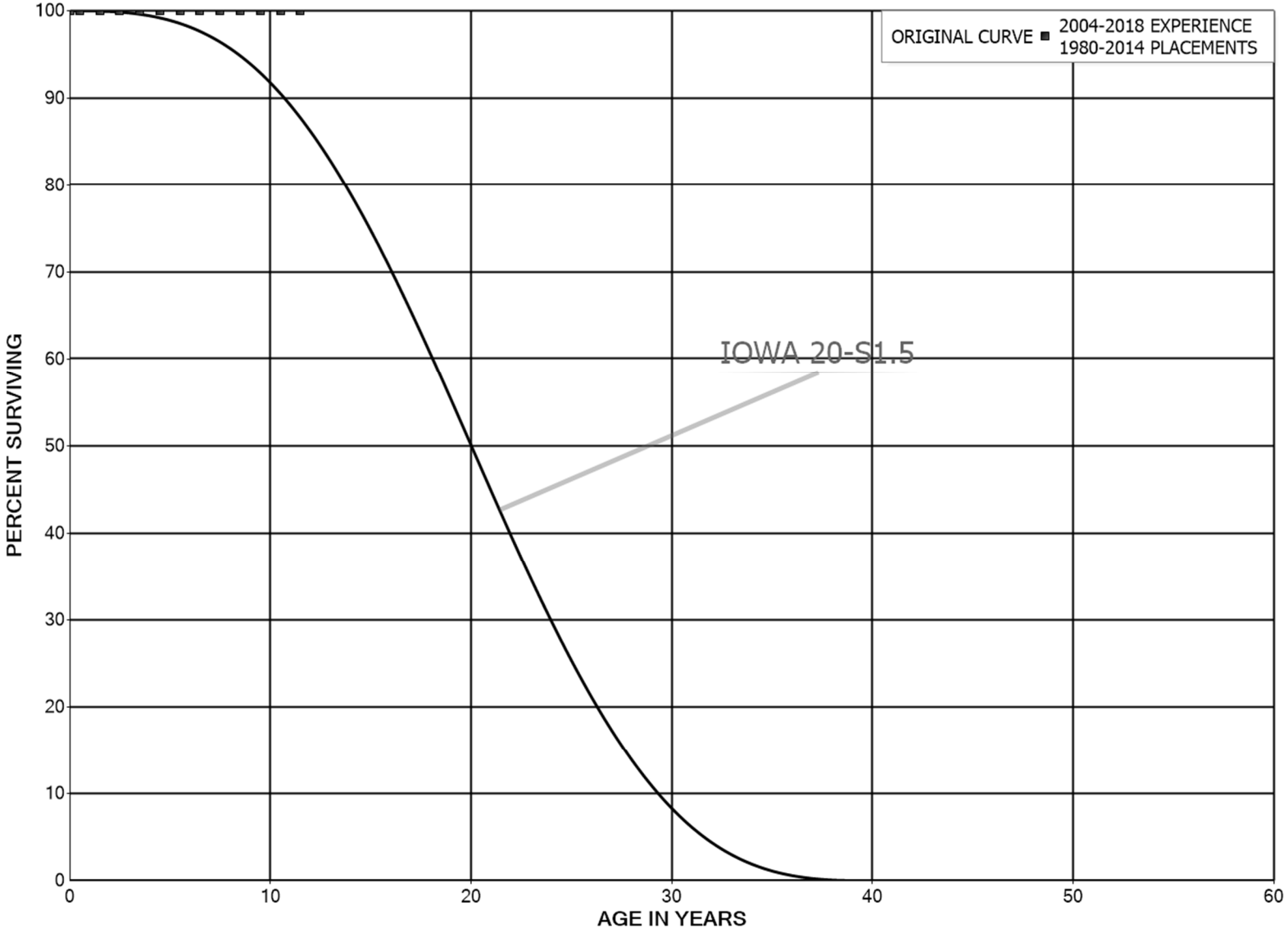
ACCOUNT 391.30 TRANSPORTATION EQUIPMENT - LARGE TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1987-2014 EXPERIENCE BAND 2005-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	998,631		0.0000	1.0000	100.00
0.5	1,238,000		0.0000	1.0000	100.00
1.5	1,238,000		0.0000	1.0000	100.00
2.5	1,238,000		0.0000	1.0000	100.00
3.5	1,238,000		0.0000	1.0000	100.00
4.5	695,050		0.0000	1.0000	100.00
5.5	695,050		0.0000	1.0000	100.00
6.5	695,050	239,369	0.3444	0.6556	100.00
7.5	320,914		0.0000	1.0000	65.56
8.5	320,914		0.0000	1.0000	65.56
9.5	154,929		0.0000	1.0000	65.56
10.5	298,422		0.0000	1.0000	65.56
11.5	298,422		0.0000	1.0000	65.56
12.5	143,493		0.0000	1.0000	65.56
13.5	143,493	143,493	1.0000		65.56
14.5					
15.5					
16.5					
17.5	134,946		0.0000		
18.5	134,946		0.0000		
19.5	134,946		0.0000		
20.5	134,946		0.0000		
21.5	134,946	134,946	1.0000		
22.5					

CITY OF LANCASTER - SEWER FUND
ACCOUNT 395.00 POWER OPERATED EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF LANCASTER - SEWER FUND

ACCOUNT 395.00 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1980-2014 EXPERIENCE BAND 2004-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	895,114		0.0000	1.0000	100.00
0.5	895,114		0.0000	1.0000	100.00
1.5	895,114		0.0000	1.0000	100.00
2.5	895,114		0.0000	1.0000	100.00
3.5	895,114		0.0000	1.0000	100.00
4.5	884,280		0.0000	1.0000	100.00
5.5	770,720		0.0000	1.0000	100.00
6.5	770,720		0.0000	1.0000	100.00
7.5	429,311		0.0000	1.0000	100.00
8.5	429,311		0.0000	1.0000	100.00
9.5	415,449		0.0000	1.0000	100.00
10.5	137,193		0.0000	1.0000	100.00
11.5					100.00
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5					
22.5					
23.5	38,486		0.0000		
24.5	38,486		0.0000		
25.5	38,486		0.0000		
26.5	38,486	38,486	1.0000		
27.5					

PART VII. DETAILED DEPRECIATION CALCULATIONS

CITY OF LANCASTER – SEWER FUND

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST AMOUNT (2) – (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1934	178,511	178,511			0.0
1935	1,586,456	1,586,456			0.0
1942	66,914	66,914			0.0
1969	2,639,110	2,452,246	186,864	186,864	0.3
1972	1,794,364	1,587,487	206,877	393,741	0.7
1978	3,428,043	2,766,848	661,195	1,054,936	1.9
1984	16,834,641	11,803,159	5,031,482	6,086,418	11.1
1985	1,201,616	840,067	361,549	6,447,967	11.8
1986	1,206,777	893,910	312,867	6,760,834	12.4
1990	2,213,868	1,360,687	853,181	7,614,015	13.9
1995	1,555,041	808,661	746,380	8,360,395	15.3
1996	22,051	15,369	6,682	8,367,077	15.3
1997	267,165	177,468	89,697	8,456,774	15.5
1998	4,182	2,721	1,461	8,458,235	15.5
1999	275,692	148,550	127,142	8,585,377	15.7
2000	198,485	101,546	96,939	8,682,316	15.9
2004	15,400	5,213	10,187	8,692,503	15.9
2005	483,849	213,991	269,858	8,962,361	16.4
2006	1,307,765	618,582	689,183	9,651,544	17.7
2007	3,238,354	1,363,969	1,874,385	11,525,929	21.1
2008	1,763,355	687,041	1,076,314	12,602,243	23.1
2009	1,741,804	621,762	1,120,042	13,722,285	25.1
2010	1,215,512	336,056	879,456	14,601,741	26.7
2011	2,114,067	695,618	1,418,449	16,020,190	29.3
2012	9,089,478	1,972,122	7,117,356	23,137,546	42.3
2013	6,396,510	1,265,246	5,131,264	28,268,810	51.7
2014	3,162,444	665,174	2,497,270	30,766,080	56.3
2015	1,974,384	283,115	1,691,269	32,457,349	59.4
2016	1,992,173	238,691	1,753,482	34,210,831	62.6
2017	2,404,073	224,223	2,179,850	36,390,681	66.6
2018	17,224,893	887,153	16,337,740	52,728,421	96.4
2019	1,978,862	34,001	1,944,861	54,673,282	100.0
SUBTOTAL	89,575,839	34,902,557	54,673,282		
NONDEPRECIABLE	1,484,824				
TOTAL	91,060,663	34,902,557	54,673,282		

UTILITY PLANT IN SERVICE

CITY OF LANCASTER - SEWER FUND

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - COLLECTION

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
MAIN PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2047						
NET SALVAGE PERCENT.. 0						
1972	166,300.50	121,790	135,987	30,313	14.63	2,072
1984	461,799.67	282,557	315,495	146,305	20.35	7,189
2007	136,271.34	43,537	48,612	87,659	26.05	3,365
2008	160,031.94	48,171	53,786	106,246	26.17	4,060
2009	895,583.67	252,169	281,565	614,019	26.28	23,364
2010	462,427.99	120,819	134,903	327,525	26.38	12,416
2011	527,519.36	126,731	141,504	386,015	26.47	14,583
2013	32,169.55	6,247	6,975	25,194	26.64	946
2014	18,990.00	3,207	3,581	15,409	26.72	577
	2,861,094.02	1,005,228	1,122,409	1,738,685		68,572
STEVENS PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2052						
NET SALVAGE PERCENT.. 0						
1972	184,289.00	134,013	136,402	47,887	14.98	3,197
2007	44,463.08	12,816	13,044	31,419	30.10	1,044
2008	316,227.94	85,606	87,132	229,096	30.28	7,566
2009	202,081.98	51,003	51,912	150,170	30.45	4,932
2010	1,257,115.83	293,423	298,653	958,463	30.61	31,312
2011	1,137,584.94	242,874	247,203	890,382	30.76	28,946
2012	86,742.40	16,723	17,021	69,721	30.90	2,256
2013	2,212,313.39	378,770	385,521	1,826,792	31.03	58,872
	5,440,818.56	1,215,228	1,236,889	4,203,930		138,125
NORTH PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2052						
NET SALVAGE PERCENT.. 0						
1986	1,860,906.50	1,061,926	1,151,751	709,155	22.88	30,995
2007	15,001.47	4,324	4,690	10,312	30.10	343
2009	59,387.43	14,989	16,257	43,131	30.45	1,416
2011	44,062.68	9,407	10,203	33,860	30.76	1,101
2012	6,608,580.41	1,274,068	1,381,838	5,226,743	30.90	169,150
2013	327,972.81	56,152	60,902	267,071	31.03	8,607

CITY OF LANCASTER – SEWER FUND

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS – COLLECTION

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
NORTH PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2052						
NET SALVAGE PERCENT.. 0						
2014	14,975.00	2,219	2,407	12,568	31.16	403
2017	22,055.60	1,605	1,741	20,315	31.48	645
2018	16,950,416.46	763,955	828,576	16,121,841	31.57	510,670
	25,903,358.36	3,188,645	3,458,363	22,444,995		723,330
MAPLE GROVE PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2047						
NET SALVAGE PERCENT.. 0						
1942	66,914.00	62,291	66,914			
1978	157,530.22	106,023	114,858	42,672	17.63	2,420
2007	4,437.14	1,418	1,536	2,901	26.05	111
2008	2,592.23	780	845	1,747	26.17	67
2009	8,321.05	2,343	2,538	5,783	26.28	220
2010	34,959.14	9,134	9,895	25,064	26.38	950
2011	9,126.31	2,193	2,376	6,751	26.47	255
2012	146,245.60	31,833	34,486	111,760	26.56	4,208
2013	204,879.21	39,785	43,100	161,779	26.64	6,073
2014	51,279.55	8,661	9,383	41,897	26.72	1,568
2015	22,676.45	3,230	3,499	19,177	26.79	716
2016	22,723.88	2,593	2,809	19,915	26.86	741
2017	56,155.81	4,737	5,132	51,024	26.92	1,895
2018	127,708.44	6,686	7,243	120,465	26.97	4,467
	915,549.03	281,707	304,615	610,934		23,691
CONESTOGA GARDEN PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2047						
NET SALVAGE PERCENT.. 0						
1972	145,909.74	106,857	104,964	40,946	14.63	2,799
2008	135,526.26	40,795	40,072	95,454	26.17	3,647
2009	112,058.32	31,552	30,993	81,065	26.28	3,085
2013	1,858,571.50	360,916	354,522	1,504,050	26.64	56,458
	2,252,065.82	540,120	530,551	1,721,515		65,989

CITY OF LANCASTER – SEWER FUND

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS – COLLECTION

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER PUMP STATIONS AND AIR RELIEF PITS						
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. 0						
1972	31,320.22	22,721	25,471	5,849	15.10	387
1985	91,787.53	51,718	57,977	33,810	24.01	1,408
1999	107,869.29	38,049	42,654	65,215	35.60	1,832
2000	82,046.73	27,613	30,955	51,092	36.49	1,400
2007	1,806.39	396	444	1,362	42.93	32
2009	67,016.58	12,416	13,919	53,098	44.81	1,185
2010	21,459.01	3,601	4,037	17,422	45.77	381
2011	11,129.93	1,676	1,879	9,251	46.72	198
2012	87,339.00	11,608	13,013	74,326	47.69	1,559
2013	20,091.75	2,320	2,601	17,491	48.65	360
2014	428,822.67	41,947	47,024	381,799	49.62	7,694
	950,689.10	214,065	239,972	710,717		16,436
	38,323,574.89	6,444,993	6,892,799	31,430,776		1,036,143

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.3 2.70

CITY OF LANCASTER – SEWER FUND

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS – TREATMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WASTEWATER TREATMENT PLANT						
INTERIM SURVIVOR CURVE.. IOWA 65-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2059						
NET SALVAGE PERCENT.. 0						
1934	239,576.74	207,878	239,577			
1972	56,742.55	35,384	42,116	14,626	24.03	609
1984	13,554,610.22	6,961,783	8,286,352	5,268,258	29.67	177,562
1997	25,893.92	9,812	11,679	14,215	34.06	417
2005	40,850.62	11,277	13,423	27,428	35.85	765
2007	82,368.27	20,296	24,158	58,211	36.21	1,608
2008	891,813.09	205,937	245,119	646,694	36.37	17,781
2009	357,875.48	76,854	91,476	266,399	36.53	7,293
2012	6,875,511.29	1,118,164	1,330,909	5,544,602	36.97	149,976
2013	6,276,583.12	902,259	1,073,925	5,202,658	37.11	140,196
2014	2,598,563.24	323,287	384,797	2,213,767	37.23	59,462
2015	1,968,658.07	204,524	243,437	1,725,221	37.35	46,191
2016	1,745,711.39	144,056	171,465	1,574,247	37.47	42,014
2017	2,523,766.51	152,107	181,047	2,342,719	37.58	62,340
2018	6,116,944.38	226,694	269,825	5,847,119	37.68	155,178
2019	250,000.00	3,200	3,809	246,191	37.78	6,516
	43,605,468.89	10,603,512	12,613,114	30,992,355		867,908
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					35.7	1.99

CITY OF LANCASTER – SEWER FUND

ACCOUNT 354.50 STRUCTURES AND IMPROVEMENTS – GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WASTEWATER TREATMENT PLANT						
SURVIVOR CURVE.. IOWA 55-R4						
NET SALVAGE PERCENT.. 0						
1984	257,646.35	158,288	187,512	70,134	21.21	3,307
	257,646.35	158,288	187,512	70,134		3,307

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 21.2 1.28

CITY OF LANCASTER – SEWER FUND

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS – OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WASTEWATER TREATMENT PLANT						
SURVIVOR CURVE.. IOWA 50-R4						
NET SALVAGE PERCENT.. 0						
1984	67,126.22	44,693	52,838	14,288	16.71	855
	67,126.22	44,693	52,838	14,288		855

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.7 1.27

CITY OF LANCASTER – SEWER FUND

ACCOUNT 360.00 FORCE MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-R2.5						
NET SALVAGE PERCENT.. 0						
1969	384,841.93	260,796	318,232	66,610	19.34	3,444
1972	192,420.96	124,560	151,992	40,429	21.16	1,911
1978	288,631.44	167,839	204,803	83,828	25.11	3,338
1984	1,058,315.30	539,392	658,185	400,130	29.42	13,601
2007	34,067.84	6,558	8,002	26,066	48.45	538
2008	40,007.99	7,101	8,665	31,343	49.35	635
2009	223,895.92	36,345	44,349	179,547	50.26	3,572
2010	80,687.11	11,875	14,491	66,196	51.17	1,294
2011	100,280.26	13,237	16,152	84,128	52.08	1,615
	2,403,148.75	1,167,703	1,424,871	978,278		29,948

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 32.7 1.25

CITY OF LANCASTER – SEWER FUND

ACCOUNT 361.10 GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R2.5						
NET SALVAGE PERCENT.. 0						
1934	42,186.00	38,911	42,186			
1935	1,586,456.23	1,456,938	1,586,456			
1969	2,254,267.83	1,624,313	2,006,155	248,113	15.37	16,143
1972	1,387,241.74	957,960	1,183,156	204,086	17.02	11,991
1978	2,947,888.70	1,838,421	2,270,595	677,294	20.70	32,720
1984	10,751,123.50	5,901,399	7,288,695	3,462,428	24.81	139,558
1985	1,109,828.13	594,668	734,462	375,366	25.53	14,703
1990	2,213,868.10	1,035,692	1,279,161	934,707	29.27	31,934
1995	1,555,040.56	615,516	760,211	794,830	33.23	23,919
2004	15,400.00	3,968	4,901	10,499	40.83	257
2005	62,760.07	15,165	18,730	44,030	41.71	1,056
2006	208,622.98	47,074	58,140	150,483	42.59	3,533
2008	19,787.70	3,821	4,719	15,069	44.38	340
2009	37,135.70	6,563	8,106	29,030	45.28	641
	24,191,607.24	14,140,409	17,245,673	6,945,934		276,795

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.1 1.14

CITY OF LANCASTER – SEWER FUND

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-S1.5						
NET SALVAGE PERCENT.. 0						
1978	31,707.27	23,059	26,945	4,762	10.91	436
1984	660,638.09	439,489	513,553	147,085	13.39	10,985
1986	763,222.01	489,989	572,564	190,658	14.32	13,314
1996	51,945.06	26,115	30,516	21,429	19.89	1,077
1998	9,796.93	4,600	5,375	4,422	21.22	208
1999	323,340.70	146,231	170,874	152,467	21.91	6,959
2000	226,988.48	98,570	115,181	111,807	22.63	4,941
2005	45,053.04	15,217	17,781	27,272	26.49	1,030
2007	17,067.74	5,048	5,899	11,169	28.17	396
2008	78,001.48	21,392	24,997	53,004	29.03	1,826
2009	203,443.72	51,268	59,908	143,536	29.92	4,797
2010	304,002.04	69,768	81,526	222,476	30.82	7,219
2011	1,337,215.89	276,135	322,671	1,014,545	31.74	31,964
2012	65,087.40	11,927	13,937	51,150	32.67	1,566
2015	27,747.25	3,094	3,615	24,132	35.54	679
2016	340,885.36	29,657	34,655	306,230	36.52	8,385
2019	2,515,000.00	31,438	36,736	2,478,264	39.50	62,741
	7,001,142.46	1,742,997	2,036,733	4,964,409		158,523

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 31.3 2.26

CITY OF LANCASTER – SEWER FUND

ACCOUNT 380.00 TREATMENT AND DISPOSAL EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-L2.5						
NET SALVAGE PERCENT.. 0						
1978	38,239.36	25,314	30,486	7,753	13.52	573
1984	4,508,674.19	2,851,736	3,434,382	1,074,292	14.70	73,081
1986	178,865.77	110,897	133,555	45,311	15.20	2,981
1997	443,885.43	220,056	265,016	178,869	20.17	8,868
1999	51,771.27	23,905	28,789	22,982	21.53	1,067
2000	33,500.73	14,866	17,903	15,598	22.25	701
2005	664,743.23	228,173	274,792	389,951	26.27	14,844
2006	1,656,791.32	533,073	641,987	1,014,804	27.13	37,405
2007	5,747,657.75	1,721,423	2,073,132	3,674,526	28.02	131,139
2008	1,364,468.60	378,299	455,590	908,879	28.91	31,438
2009	776,171.82	197,536	237,895	538,277	29.82	18,051
2010	553,910.29	128,230	154,429	399,481	30.74	12,995
2011	650,324.44	135,267	162,904	487,420	31.68	15,386
2012	64,824.92	11,960	14,404	50,421	32.62	1,546
2015	39,367.21	4,399	5,298	34,069	35.53	959
2016	73,085.38	6,377	7,680	65,405	36.51	1,791
2017	97,200.88	6,051	7,287	89,914	37.51	2,397
2018	4,655,175.29	174,569	210,235	4,444,940	38.50	115,453
2019	688,000.00	8,600	10,357	677,643	39.50	17,156
	22,286,657.88	6,780,731	8,166,121	14,120,537		487,831

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.9 2.19

CITY OF LANCASTER – SEWER FUND

ACCOUNT 390.00 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2011	10,323.53	4,388	8,528	1,796	11.50	156
2012	58,241.55	21,841	42,445	15,797	12.50	1,264
2014	42,400.00	11,660	22,660	19,740	14.50	1,361
2015	23,030.58	5,182	10,070	12,961	15.50	836
2017	106,425.34	13,303	25,853	80,572	17.50	4,604
2018	28,495.00	2,137	4,153	24,342	18.50	1,316
	268,916.00	58,511	113,709	155,207		9,537

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.3 3.55

CITY OF LANCASTER – SEWER FUND

ACCOUNT 391.10 TRANSPORTATION EQUIPMENT – AUTOMOBILES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 12-R4						
NET SALVAGE PERCENT.. 0						
2012	54,537.42	32,586	36,200	18,337	4.83	3,796
2013	183,924.77	96,713	107,438	76,487	5.69	13,442
2016	23,767.80	6,893	7,657	16,111	8.52	1,891
2017	92,603.00	19,215	21,346	71,257	9.51	7,493
2018	6,876.60	860	955	5,922	10.50	564
	361,709.59	156,267	173,596	188,114		27,186

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.9 7.52

CITY OF LANCASTER – SEWER FUND

ACCOUNT 391.20 TRANSPORTATION EQUIPMENT – SMALL TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 13-R4						
NET SALVAGE PERCENT.. 0						
2006	1,260.45	1,098	1,198	62	1.68	37
2007	56,864.67	47,460	51,780	5,085	2.15	2,365
2008	65,283.71	51,524	56,214	9,070	2.74	3,310
2011	35,807.45	22,256	24,282	11,525	4.92	2,342
2012	15,997.88	8,897	9,707	6,291	5.77	1,090
2013	82,210.50	40,093	43,742	38,468	6.66	5,776
2015	84,615.35	29,030	31,672	52,943	8.54	6,199
2016	126,622.40	33,896	36,981	89,641	9.52	9,416
2017	72,552.00	13,897	15,162	57,390	10.51	5,461
2018	87,430.00	10,088	11,006	76,424	11.50	6,646
	628,644.41	258,239	281,744	346,900		42,642

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.1 6.78

CITY OF LANCASTER – SEWER FUND

ACCOUNT 391.30 TRANSPORTATION EQUIPMENT – LARGE TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 12-R4						
NET SALVAGE PERCENT.. 0						
2006	154,929.00	139,695	141,983	12,946	1.18	10,971
2009	165,985.00	130,021	132,150	33,835	2.60	13,013
2011	134,767.00	89,508	90,974	43,793	4.03	10,867
2014	542,950.00	243,877	247,870	295,080	6.61	44,641
	998,631.00	603,101	612,977	385,654		79,492

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.9 7.96

CITY OF LANCASTER – SEWER FUND

ACCOUNT 393.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2009	98,800.00	41,496	43,812	54,988	14.50	3,792
2011	64,413.03	21,900	23,122	41,291	16.50	2,502
2012	94,382.00	28,315	29,896	64,486	17.50	3,685
2014	13,995.00	3,079	3,251	10,744	19.50	551
2017	46,500.00	4,650	4,909	41,591	22.50	1,848
	318,090.03	99,440	104,990	213,100		12,378

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.2 3.89

CITY OF LANCASTER – SEWER FUND

ACCOUNT 395.00 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 20-S1.5						
NET SALVAGE PERCENT.. 0						
2007	137,192.70	72,232	82,962	54,231	9.47	5,727
2008	278,256.00	137,598	158,038	120,218	10.11	11,891
2009	13,862.62	6,391	7,340	6,523	10.78	605
2011	341,409.00	132,296	151,948	189,461	12.25	15,466
2013	113,560.00	34,806	39,977	73,583	13.87	5,305
2014	10,833.33	2,849	3,272	7,561	14.74	513
	895,113.65	386,172	443,537	451,577		39,507

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.4 4.41

CONTRIBUTIONS IN AID OF CONSTRUCTION

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - COLLECTION

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
MAIN PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2047						
NET SALVAGE PERCENT.. 0						
1972	71,608.78	52,443	52,669	18,940	14.63	1,295
1984	198,850.94	121,669	122,193	76,658	20.35	3,767
2007	80,713.51	25,787	25,898	54,815	26.05	2,104
2008	94,786.92	28,532	28,655	66,132	26.17	2,527
2009	530,454.21	149,360	150,004	380,451	26.28	14,477
2010	273,896.10	71,561	71,869	202,027	26.38	7,658
2011	312,449.72	75,063	75,386	237,063	26.47	8,956
2013	19,054.04	3,700	3,716	15,338	26.64	576
	1,581,814.22	528,115	530,391	1,051,423		41,360
STEVENS PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2052						
NET SALVAGE PERCENT.. 0						
1972	136,447.58	99,223	99,624	36,823	14.98	2,458
2007	27,567.11	7,946	7,978	19,589	30.10	651
2008	196,061.32	53,076	53,291	142,771	30.28	4,715
2009	125,290.83	31,622	31,750	93,541	30.45	3,072
2010	779,411.81	181,923	182,659	596,753	30.61	19,495
2011	705,302.66	150,582	151,191	554,112	30.76	18,014
2013	1,367,904.87	234,199	235,146	1,132,759	31.03	36,505
	3,337,986.18	758,571	761,638	2,576,348		84,910
NORTH PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2052						
NET SALVAGE PERCENT.. 0						
1986	1,049,179.08	598,714	601,415	447,764	22.88	19,570
2007	9,824.46	2,832	2,845	6,980	30.10	232
2009	38,892.83	9,816	9,860	29,033	30.45	953
2011	28,856.65	6,161	6,189	22,668	30.76	737
2012	4,112,308.09	792,812	796,389	3,315,919	30.90	107,311

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - COLLECTION

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
NORTH PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2052						
NET SALVAGE PERCENT.. 0						
2013	114,646.39	19,629	19,718	94,929	31.03	3,059
2017	11,010.16	801	805	10,206	31.48	324
2018	6,493,260.07	292,651	293,971	6,199,289	31.57	196,366
	11,857,977.73	1,723,416	1,731,191	10,126,787		328,552
CONESTOGA GARDEN PUMP STATION						
INTERIM SURVIVOR CURVE.. IOWA 55-R3						
PROBABLE RETIREMENT YEAR.. 6-2047						
NET SALVAGE PERCENT.. 0						
1972	137,359.43	100,595	100,921	36,439	14.63	2,491
2008	127,787.71	38,465	38,590	89,198	26.17	3,408
2009	105,659.79	29,751	29,847	75,812	26.28	2,885
2013	1,752,447.11	340,308	341,410	1,411,037	26.64	52,967
	2,123,254.04	509,119	510,768	1,612,486		61,751
OTHER PUMP STATIONS AND AIR RELIEF PITS						
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. 0						
2014	264,429.77	25,867	26,015	238,415	49.62	4,805
	264,429.77	25,867	26,015	238,415		4,805
	19,165,461.94	3,545,088	3,560,003	15,605,459		521,378
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 29.9						2.72

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WASTEWATER TREATMENT PLANT						
INTERIM SURVIVOR CURVE.. IOWA 65-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2059						
NET SALVAGE PERCENT.. 0						
1934	103,251.29	89,590	99,808	3,443	8.60	400
1972	24,444.87	15,244	16,983	7,462	24.03	311
1984	5,838,903.49	2,998,919	3,340,971	2,497,932	29.67	84,190
1997	11,153.40	4,226	4,708	6,445	34.06	189
2005	17,595.09	4,857	5,411	12,184	35.85	340
2007	41,120.85	10,133	11,289	29,832	36.21	824
2008	445,220.84	102,810	114,536	330,684	36.37	9,092
2009	178,661.76	38,368	42,744	135,918	36.53	3,721
2012	955,703.30	155,426	173,154	782,550	36.97	21,167
2013	1,661,714.02	238,871	266,116	1,395,598	37.11	37,607
2014	295,934.61	36,817	41,016	254,918	37.23	6,847
2015	177,847.63	18,477	20,584	157,263	37.35	4,211
2016	254,001.03	20,960	23,351	230,650	37.47	6,156
2017	578,963.30	34,894	38,874	540,089	37.58	14,372
2018	1,967,807.55	72,927	81,245	1,886,563	37.68	50,068
2019	124,800.00	1,597	1,779	123,021	37.78	3,256
	12,677,123.03	3,844,116	4,282,570	8,394,553		242,751
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					34.6	1.91

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 354.50 STRUCTURES AND IMPROVEMENTS - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WASTEWATER TREATMENT PLANT SURVIVOR CURVE.. IOWA 55-R4 NET SALVAGE PERCENT.. 0						
1984	110,942.52	68,159	68,504	42,439	21.21	2,001
	110,942.52	68,159	68,504	42,439		2,001

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 21.2 1.80

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
WASTEWATER TREATMENT PLANT						
SURVIVOR CURVE.. IOWA 50-R4						
NET SALVAGE PERCENT.. 0						
1984	28,904.55	19,245	19,372	9,533	16.71	570
	28,904.55	19,245	19,372	9,533		570

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.7 1.97

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 361.10 GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R2.5						
NET SALVAGE PERCENT.. 0						
1984	5,955,209.97	3,268,874	3,299,306	2,655,904	24.81	107,050
	5,955,209.97	3,268,874	3,299,306	2,655,904		107,050
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					24.8	1.80

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-S1.5						
NET SALVAGE PERCENT.. 0						
1978	19,359.45	14,079	14,304	5,055	10.91	463
1984	392,962.95	261,419	265,588	127,375	13.39	9,513
1986	450,987.60	289,534	294,151	156,837	14.32	10,952
1996	29,894.13	15,029	15,269	14,625	19.89	735
1998	5,615.00	2,636	2,678	2,937	21.22	138
1999	184,964.64	83,650	84,984	99,981	21.91	4,563
2000	129,606.81	56,282	57,179	72,428	22.63	3,201
2005	25,527.47	8,622	8,759	16,768	26.49	633
2007	9,527.19	2,818	2,863	6,664	28.17	237
2008	43,494.53	11,928	12,118	31,377	29.03	1,081
2009	113,334.12	28,560	29,015	84,319	29.92	2,818
2010	169,207.03	38,833	39,452	129,755	30.82	4,210
2011	918,640.00	189,699	192,725	725,915	31.74	22,871
2015	13,862.78	1,546	1,571	12,292	35.54	346
2016	86,622.27	7,536	7,656	78,966	36.52	2,162
2019	1,005,888.00	12,574	12,774	993,114	39.50	25,142
	3,599,493.97	1,024,745	1,041,086	2,558,408		89,065

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.7 2.47

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 380.00 TREATMENT AND DISPOSAL EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-L2.5						
NET SALVAGE PERCENT.. 0						
1978	16,594.83	10,986	11,181	5,414	13.52	400
1984	1,959,517.67	1,239,395	1,261,348	698,170	14.70	47,495
1986	96,050.39	59,551	60,606	35,444	15.20	2,332
1997	191,460.54	94,917	96,598	94,863	20.17	4,703
1999	22,324.30	10,308	10,491	11,833	21.53	550
2000	14,443.78	6,409	6,523	7,921	22.25	356
2005	286,435.19	98,319	100,060	186,375	26.27	7,095
2006	713,839.06	229,678	233,746	480,093	27.13	17,696
2007	2,870,091.24	859,592	874,817	1,995,274	28.02	71,209
2008	681,290.97	188,888	192,234	489,057	28.91	16,917
2009	387,522.12	98,624	100,371	287,151	29.82	9,629
2010	276,534.75	64,018	65,152	211,383	30.74	6,876
2011	324,647.97	67,527	68,723	255,925	31.68	8,078
2018	2,260,217.78	84,758	86,259	2,173,959	38.50	56,466
2019	343,449.60	4,293	4,369	339,081	39.50	8,584
	10,444,420.19	3,117,263	3,172,478	7,271,942		258,386

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.1 2.47

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 390.00 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2018	26,867.94	2,015	2,015	24,853	18.50	1,343
	26,867.94	2,015	2,015	24,853		1,343

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.5 5.00

CITY OF LANCASTER - SEWER FUND
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 393.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2017	23,212.80	2,321	2,322	20,891	22.50	928
	23,212.80	2,321	2,322	20,891		928

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 22.5 4.00