

Reference

		1 to 6	7 to 15	16 to 20	12	13	14	15	16	17
78	-0.0833									
79	-0.0833									
80	-0.0833									
81	-0.0833									
82	-0.0833									
83	-0.0833									
84	-0.0833									
85	-0.0833									
TOTAL TAX DEPR.					(237)	-	-	-	-	-
TOTAL BOOK DEPR.					(1)	6	-	-	-	-
TAX OVER BOOK					(236)	(6)	-	-	-	-
ACCUM. TAX OVER BOOK					1	(5)	(5)	(5)	(5)	(5)

Account	397	Miscellaneous Equipment								
Plant		Source								
Bbal	Calc				1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00
Add	Calc				-	-	-	-	-	-
Add %	Input Pos %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc				-	-	-	-	-	-
Ret %	Input Neg %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age	Input Pos Yrs		18.58	30.58	31.58	32.58	33.58	34.58	35.58	
Disp	Input Pos Curve		R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	
PL	Input Pos Yrs		20.00	20	20	20	20	20	20	
Age % PL	Input Pos Yrs			153	158	163	168	173	178	
lowa Look	Calc			R3.0153	R3.0158	R3.0163	R3.0168	R3.0173	R3.0178	
lowa Cond	Calc			0.03840153	0.026261499	0.0147451	0.00499982	0	0	
RL	Calc			0.8	0.5	0.3	0.1	0	0	
Ebal	Input Pos \$s	DCF Forecast Parameters	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	
Dep Book										
Bbal	Calc			(1,175.47)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)
Dep Book	Calc			(1.53)	-	-	-	-	-	-
RL	Calc			0.8	0.5	0.3	0.1	0	0	
Rate	Calc			-0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	
Ret	Calc			-	-	-	-	-	-	
Ebal	Input Neg \$s			(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)
% Reserved				-100.00%	-100.00%	-100.00%	-100.00%	-100.00%	-100.00%	-100.00%
Beg Net Book	Calc			1.53	-	-	-	-	-	-
End Net Book	Calc			-	-	-	-	-	-	-
% Reserved	Calc			-100.00%	-100.00%	-100.00%	-100.00%	-100.00%	-100.00%	-100.00%
Dep Tax										
Miscellaneous Equipment	MACR									
Vintage	Life	25			12	13	14	15	16	17
					1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00
					-	-	-	-	-	-
					1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00
					-	-	-	-	-	-
1			-0.0400	(47.08)	(47.08)	(47.08)	(47.08)	(47.08)	(47.08)	(47.08)
2			-0.0400	-	-	-	-	-	-	-
3			-0.0400	-	-	-	-	-	-	-
4			-0.0400	-	-	-	-	-	-	-
5			-0.0400	-	-	-	-	-	-	-
6			-0.0400	-	-	-	-	-	-	-
7			-0.0400	-	-	-	-	-	-	-
8			-0.0400	-	-	-	-	-	-	-
9			-0.0400	-	-	-	-	-	-	-
10			-0.0400	-	-	-	-	-	-	-
11			-0.0400	-	-	-	-	-	-	-
12			-0.0400	-	-	-	-	-	-	-
13			-0.0400	-	-	-	-	-	-	-
14			-0.0400	-	-	-	-	-	-	-
15			-0.0400	-	-	-	-	-	-	-
16			-0.0400	-	-	-	-	-	-	-
17			-0.0400	-	-	-	-	-	-	-
18			-0.0400	-	-	-	-	-	-	-
19			-0.0400	-	-	-	-	-	-	-
20			-0.0400	-	-	-	-	-	-	-
21			-0.0400	-	-	-	-	-	-	-
22			-0.0400	-	-	-	-	-	-	-
23			-0.0400	-	-	-	-	-	-	-
24			-0.0400	-	-	-	-	-	-	-
25			-0.0400	-	-	-	-	-	-	-
26			-0.0400	-	-	-	-	-	-	-
27			-0.0400	-	-	-	-	-	-	-
28			-0.0400	-	-	-	-	-	-	-
29			-0.0400	-	-	-	-	-	-	-
30			-0.0400	-	-	-	-	-	-	-
31			-0.0400	-	-	-	-	-	-	-
32			-0.0400	-	-	-	-	-	-	-
33			-0.0400	-	-	-	-	-	-	-
34			-0.0400	-	-	-	-	-	-	-
35			-0.0400	-	-	-	-	-	-	-
36			-0.0400	-	-	-	-	-	-	-
37			-0.0400	-	-	-	-	-	-	-
38			-0.0400	-	-	-	-	-	-	-
39			-0.0400	-	-	-	-	-	-	-
40			-0.0400	-	-	-	-	-	-	-
41			-0.0400	-	-	-	-	-	-	-
42			-0.0400	-	-	-	-	-	-	-
43			-0.0400	-	-	-	-	-	-	-
44			-0.0400	-	-	-	-	-	-	-
45			-0.0400	-	-	-	-	-	-	-
46			-0.0400	-	-	-	-	-	-	-
47			-0.0400	-	-	-	-	-	-	-
48			-0.0400	-	-	-	-	-	-	-
49			-0.0400	-	-	-	-	-	-	-
50			-0.0400	-	-	-	-	-	-	-
51			-0.0400	-	-	-	-	-	-	-
52			-0.0400	-	-	-	-	-	-	-



Reference

	1 to 6	7 to 15	16 to 20	12	13	14	15	16	17
22									
23									
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TOTAL TAX DEPR.				(753,086.64)	(756,642.39)	(761,516.51)	(766,472.43)	(771,391.88)	(776,512.44)
TOTAL BOOK DEPR.				(541,140.67)	(535,476.70)	(525,301.09)	(522,088.76)	(512,611.87)	(508,621.03)
TAX OVER BOOK				(211,945.97)	(221,165.69)	(236,215.42)	(244,383.67)	(258,780.01)	(267,891.41)
ACCUM. TAX OVER BOOK				(1,828,193.39)	(2,049,359.06)	(2,285,574.49)	(2,529,958.16)	(2,788,738.17)	(3,056,629.58)



Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
68			0.0000							
69			0.0000							
70			0.0000							
71			0.0000							
72			0.0000							
73			0.0000							
74			0.0000							
75			0.0000							
76			0.0000							
77			0.0000							
78			0.0000							
79			0.0000							
80			0.0000							
81			0.0000							
82			0.0000							
83			0.0000							
84			0.0000							
85			0.0000							
TOTAL TAX DEPR.										
TOTAL BOOK DEPR.										
TAX OVER BOOK										
ACCUM. TAX OVER BOOK										
Account	354	Structures & Improvements								
Plant		Source								
Bbal	Calc					7,649,923.00	7,669,048.00	7,688,220.00	7,707,440.00	7,726,708.00
Add	Calc					38,250.00	38,345.00	38,441.00	38,537.00	38,634.00
Add %	Input Pos %		0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Ret	Calc					(19,125.00)	(19,173.00)	(19,221.00)	(19,269.00)	(19,317.00)
Ret %	Input Neg %		-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%
Age	Input Pos Yrs		23.71			38.91	39.71	40.51	41.31	42.1
Disp	Input Pos Curve		R4.0			R4.0	R4.0	R4.0	R4.0	R4.0
PL	Input Pos Yrs		55			55	55	55	55	55
Age % PL	Input Pos Yrs					71	72	74	75	77
Iowa Look	Calc					R4.0071	R4.0072	R4.0074	R4.0075	R4.0077
Iowa Cond	Calc					0.334252357	0.326566505	0.311422215	0.303963375	0.289269943
RL	Calc					18.4	18	17.1	16.7	15.9
Ebal	Input Pos \$	DCF Forecast Parameters	7,332,002.00			7,669,048.00	7,688,220.00	7,707,440.00	7,726,708.00	7,746,025.00
Dep Book										
Bbal	Calc					(3,537,148.98)	(3,732,489.57)	(3,927,550.46)	(4,117,710.44)	(4,308,345.85)
Dep Book	Calc					(214,465.59)	(214,233.89)	(209,380.98)	(209,904.41)	(205,013.71)
RL	Calc					18.4	18	17.1	16.7	15.9
Rate	Calc					-2.80%	-2.79%	-2.72%	-2.72%	-2.65%
Ret	Calc					19,125.00	19,173.00	19,221.00	19,269.00	19,317.00
Ebal	Input Neg \$					(3,732,489.57)	(3,927,550.46)	(4,117,710.44)	(4,308,345.85)	(4,494,042.56)
% Reserved						-48.67%	-51.09%	-53.43%	-55.76%	-58.02%
Beg Net Book	Calc					4,112,774.02	3,936,558.43	3,760,669.54	3,589,729.56	3,418,362.15
End Net Book	Calc					3,936,558.43	3,760,669.54	3,589,729.56	3,418,362.15	3,251,982.44
% Reserved						-48.67%	-51.09%	-53.43%	-55.76%	-58.02%
Dep Tax										
Mains		MACR								
Vintage		Life				18	19	20	21	22
		25				7,014,080.00	6,994,955.00	6,975,782.00	6,956,561.00	6,937,292.00
						(19,125.00)	(19,173.00)	(19,221.00)	(19,269.00)	(19,317.00)
						6,994,955.00	6,975,782.00	6,956,561.00	6,937,292.00	6,917,975.00
						38,250.00	38,345.00	38,441.00	38,537.00	38,634.00
						(281,328.20)	(280,565.08)	(279,800.08)	(279,033.16)	(278,264.36)
1		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
2		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
3		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
4		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
5		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
6		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
7		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
8		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
9		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
10		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
11		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
12		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
13		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
14		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
15		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
16		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
17		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
18		-0.0400				(1,530.00)	(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
19		-0.0400					(1,533.80)	(1,537.64)	(1,541.48)	(1,545.36)
20		-0.0400						(1,537.64)	(1,541.48)	(1,545.36)
21		-0.0400							(1,541.48)	(1,545.36)
22		-0.0400								(1,545.36)
23		-0.0400								
24		-0.0400								
25		-0.0400								
26		-0.0400								
27		-0.0400								
28		-0.0400								
29		-0.0400								
30		-0.0400								
31		-0.0400								
32		-0.0400								
33		-0.0400								
34		-0.0400								
35		-0.0400								
36		-0.0400								
37		-0.0400								
38		-0.0400								
39		-0.0400								
40		-0.0400								
41		-0.0400								
42		-0.0400								
43		-0.0400								
44		-0.0400								

Reference

		1 to 6	7 to 15	16 to 20	18	19	20	21	22
45		-0.0400							
46		-0.0400							
47		-0.0400							
48		-0.0400							
49		-0.0400							
50		-0.0400							
51		-0.0400							
52		-0.0400							
53		-0.0400							
54		-0.0400							
55		-0.0400							
56		-0.0400							
57		-0.0400							
58		-0.0400							
59		-0.0400							
60		-0.0400							
61		-0.0400							
62		-0.0400							
63		-0.0400							
64		-0.0400							
65		-0.0400							
66		-0.0400							
67		-0.0400							
68		-0.0400							
69		-0.0400							
70		-0.0400							
71		-0.0400							
72		-0.0400							
73		-0.0400							
74		-0.0400							
75		-0.0400							
76		-0.0400							
77		-0.0400							
78		-0.0400							
79		-0.0400							
80		-0.0400							
81		-0.0400							
82		-0.0400							
83		-0.0400							
84		-0.0400							
85		-0.0400							
TOTAL TAX DEPR.					(307,338)	(308,173)	(309,015)	(309,863)	(310,717)
TOTAL BOOK DEPR.					(214,466)	(214,234)	(209,381)	(209,904)	(205,014)
TAX OVER BOOK					(92,873)	(93,940)	(99,634)	(99,958)	(105,703)
ACCUM. TAX OVER BOOK					(1,340,300)	(1,434,240)	(1,533,874)	(1,633,833)	(1,739,536)

Account	360	Collection Sewers - Force Source								
Plant										
Bbal	Calc				370,521.00	372,374.00	374,236.00	376,107.00	377,988.00	
Add	Calc				2,779.00	2,793.00	2,807.00	2,821.00	2,835.00	
Add %	Input Pos %		0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	
Ret	Calc				(926.00)	(931.00)	(936.00)	(940.00)	(945.00)	
Ret %	Input Neg %		-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	
Age	Input Pos Yrs		23.51		37.4	38.12	38.83	39.54	40.24	
Disp	Input Pos Curve		R3.0		R3.0	R3.0	R3.0	R3.0	R3.0	
PL	Input Pos Yrs		60		60	60	60	60	60	
Age % PL	Input Pos Yrs				62	64	65	66	67	
Iowa Look	Calc				R3.0062	R3.0064	R3.0065	R3.0066	R3.0067	
Iowa Cond	Calc				0.442050362	0.426832962	0.419311142	0.411848373	0.404445572	
RL	Calc				26.5	25.6	25.2	24.7	24.3	
Ebal	Input Pos \$	DCF Forecast Parameters	\$40,401.00		372,374.00	374,236.00	376,107.00	377,988.00	379,878.00	
Dep Book										
Bbal	Calc				(136,822.00)	(144,587.87)	(152,280.22)	(160,048.20)	(167,704.88)	
Dep Book	Calc				(8,691.87)	(8,623.35)	(8,703.98)	(8,596.68)	(8,525.99)	
RL	Calc				26.5	25.6	25.2	24.7	24.3	
Rate	Calc				-2.34%	-2.31%	-2.32%	-2.28%	-2.25%	
Ret	Calc				926.00	931.00	936.00	940.00	945.00	
Ebal	Input Neg \$				(144,587.87)	(152,280.22)	(160,048.20)	(167,704.88)	(175,285.87)	
% Reserved					-38.83%	-40.69%	-42.55%	-44.37%	-46.14%	
Bag Net Book	Calc				233,699.00	227,786.13	221,955.78	216,058.80	210,283.12	
End Net Book	Calc				227,786.13	221,955.78	216,058.80	210,283.12	204,592.13	
% Reserved	Calc				-38.83%	-40.69%	-42.55%	-44.37%	-46.14%	

Dep Tax	Mains Vintage	MACR Life	25	18	19	20	21	22
				325,340.00	324,414.00	323,483.00	322,547.00	321,607.00
				(926.00)	(931.00)	(936.00)	(940.00)	(945.00)
				324,414.00	323,483.00	322,547.00	321,607.00	320,662.00
				2,779.00	2,793.00	2,807.00	2,821.00	2,835.00
				(13,087.72)	(13,051.04)	(13,014.16)	(12,977.12)	(12,939.88)
			1	-0.0400				
			2	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			3	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			4	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			5	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			6	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			7	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			8	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			9	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			10	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			11	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			12	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			13	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)
			14	-0.0400	(111.16)	(111.72)	(112.28)	(112.84)

Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
15						(111.16)	(111.72)	(112.28)	(112.84)	(113.40)
16						(111.16)	(111.72)	(112.28)	(112.84)	(113.40)
17						(111.16)	(111.72)	(112.28)	(112.84)	(113.40)
18						(111.16)	(111.72)	(112.28)	(112.84)	(113.40)
19							(111.72)	(112.28)	(112.84)	(113.40)
20								(112.28)	(112.84)	(113.40)
21									(112.84)	(113.40)
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TOTAL TAX DEPR.						(14,977)	(15,062)	(15,147)	(15,234)	(15,321)
TOTAL BOOK DEPR.						(8,692)	(8,623)	(8,704)	(8,597)	(8,526)
TAX OVER BOOK						(6,286)	(6,439)	(6,444)	(6,637)	(6,795)
ACCUM. TAX OVER BOOK						(97,007)	(103,446)	(109,889)	(116,526)	(123,322)
Account	361	Collection Sewers - Gravity Source								
Plant										
Bbal	Calc					6,558,977.00	6,608,170.00	6,657,732.00	6,707,665.00	6,757,973.00
Add	Calc					65,590.00	66,082.00	66,577.00	67,077.00	67,580.00
Add %	Input Pos %		1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Ret	Calc					(16,397.00)	(16,520.00)	(16,644.00)	(16,769.00)	(16,895.00)
Ret %	Input Neg %		-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%
Age	Input Pos Yrs		35.95			46.54	47.07	47.6	48.12	48.64
Disp	Input Pos Curve		R3.0			R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs		75			75	75	75	75	75
Age % PL	Input Pos Yrs					62	63	63	64	65
Iowa Look	Calc					R3.0062	R3.0063	R3.0063	R3.0064	R3.0065
Iowa Cond	Calc					0.442050362	0.434412994	0.434412994	0.426832962	0.419311142
RL	Calc					33.2	32.6	32.6	32	31.4
Ebal	Input Pos \$	DCF Forecast Parameters	5,776,573.00			6,608,170.00	6,657,732.00	6,707,665.00	6,757,973.00	6,808,658.00
Dep Book										
Bbal	Calc					(2,074,008.07)	(2,191,257.61)	(2,308,059.93)	(2,425,069.90)	(2,540,264.15)
Dep Book	Calc					(133,646.54)	(133,322.32)	(133,653.97)	(131,963.25)	(132,274.65)
RL	Calc					33.2	32.6	32.6	32	31.4
Rate	Calc					-2.03%	-2.01%	-2.00%	-1.96%	-1.95%
Ret	Calc					16,397.00	16,520.00	16,644.00	16,769.00	16,895.00
Ebal	Input Neg \$					(2,191,257.61)	(2,308,059.93)	(2,425,069.90)	(2,540,264.15)	(2,655,643.80)
% Reserved						-33.16%	-34.67%	-36.15%	-37.59%	-39.00%
Beg Net Book	Calc					4,484,968.93	4,416,912.39	4,349,672.07	4,282,595.10	4,217,708.85
End Net Book	Calc					4,416,912.39	4,349,672.07	4,282,595.10	4,217,708.85	4,153,014.20

Reference

% Reserved	Calc	1 to 6	7 to 15	16 to 20	18	19	20	21	22
					-33.16%	-34.67%	-36.15%	-37.59%	-39.00%

Dep Tax	Mains Vintage	MACR Life	18	19	20	21	22
		25	5,515,270.00	5,499,373.00	5,482,853.00	5,466,209.00	5,449,440.00
			(16,397.00)	(16,520.00)	(16,644.00)	(16,769.00)	(16,895.00)
			5,499,373.00	5,482,853.00	5,466,209.00	5,449,440.00	5,432,545.00
			65,590.00	66,082.00	66,577.00	67,077.00	67,580.00
		1	(222,598.52)	(221,957.40)	(221,311.44)	(220,660.68)	(220,005.00)
		2	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		3	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		4	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		5	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		6	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		7	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		8	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		9	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		10	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		11	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		12	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		13	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		14	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		15	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		16	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		17	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		18	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		19	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		20	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		21	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		22	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		23	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		24	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		25	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		26	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		27	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		28	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		29	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		30	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		31	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		32	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		33	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		34	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		35	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		36	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		37	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		38	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		39	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		40	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		41	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		42	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		43	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		44	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		45	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		46	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		47	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		48	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		49	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		50	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		51	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		52	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		53	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		54	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		55	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		56	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		57	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		58	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		59	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		60	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		61	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		62	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		63	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		64	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		65	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		66	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		67	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		68	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		69	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		70	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		71	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		72	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		73	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		74	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		75	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		76	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		77	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		78	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		79	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		80	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		81	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		82	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		83	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		84	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
		85	(2,623.60)	(2,643.28)	(2,663.08)	(2,683.08)	(2,703.20)
TOTAL TAX DEPR			(267,200)	(269,536)	(271,910)	(274,322)	(276,772)
TOTAL BOOK DEPR			(133,647)	(133,322)	(133,054)	(132,785)	(132,516)
TAX OVER BOOK			(133,553)	(136,214)	(138,856)	(141,537)	(144,256)
ACCUM TAX OVER BOOK			(2,017,829)	(2,154,043)	(2,292,259)	(2,434,658)	(2,579,155)

Account

363

Services to Customers

Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
<b>Plant</b>		Source								
Bbal	Calc					171,489.00	171,917.00	172,347.00	172,778.00	173,210.00
Add	Calc					857.00	860.00	862.00	864.00	866.00
Add %	Input Pos %		0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Ret	Calc					(429.00)	(430.00)	(431.00)	(432.00)	(433.00)
Ret %	Input Neg %		-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%
Age	Input Pos Yrs		23.53			38.74	39.55	40.35	41.15	41.94
Disp	Input Pos Curve		R3.0			R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs		55.00			55	55	55	55	55
Age % PL	Input Pos Yrs					70	72	73	75	76
Iowa Look	Calc					R3.0070	R3.0072	R3.0073	R3.0075	R3.0076
Iowa Cond	Calc					0.382606735	0.368366241	0.361345062	0.347507057	0.340692863
RL	Calc					21	20.3	19.9	19.1	18.7
Ebal	Input Pos \$	DCF Forecast Parameters	164,362.00			171,917.00	172,347.00	172,778.00	173,210.00	173,643.00
<b>Dep Book</b>										
Bbal	Calc					(74,751.59)	(78,855.55)	(82,866.56)	(86,853.16)	(90,746.01)
Dep Book	Calc					(4,532.96)	(4,441.01)	(4,417.60)	(4,324.85)	(4,318.32)
RL	Calc					21	20.3	19.9	19.1	18.7
Rate	Calc					-2.64%	-2.58%	-2.56%	-2.50%	-2.49%
Ret	Calc					429.00	430.00	431.00	432.00	433.00
Ebal	Input Neg \$					(78,855.55)	(82,866.56)	(86,853.16)	(90,746.01)	(94,611.33)
% Reserved	Calc					-45.87%	-48.08%	-50.27%	-52.39%	-54.50%
Beg Net Book	Calc					96,737.41	93,061.45	89,480.44	85,924.84	82,463.99
End Net Book	Calc					93,061.45	89,480.44	85,924.84	82,463.99	79,011.67
% Reserved	Calc					-45.87%	-48.08%	-50.27%	-52.39%	-54.50%
<b>Dep Tax</b>										
	Mains	MACR								
	Vintage	Life								
		25								
		1	-0.0400			157,236.00	156,807.00	156,377.00	155,946.00	155,514.00
		2	-0.0400			(429.00)	(430.00)	(431.00)	(432.00)	(433.00)
		3	-0.0400			156,807.00	156,377.00	155,946.00	155,514.00	155,081.00
		4	-0.0400			857.00	860.00	862.00	864.00	866.00
		5	-0.0400			(6,306.56)	(6,289.48)	(6,272.32)	(6,255.12)	(6,237.88)
		6	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		7	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		8	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		9	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		10	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		11	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		12	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		13	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		14	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		15	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		16	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		17	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		18	-0.0400			(34.28)	(34.40)	(34.48)	(34.56)	(34.64)
		19	-0.0400				(34.40)	(34.48)	(34.56)	(34.64)
		20	-0.0400					(34.48)	(34.56)	(34.64)
		21	-0.0400						(34.56)	(34.64)
		22	-0.0400							(34.64)
		23	-0.0400							
		24	-0.0400							
		25	-0.0400							
		26	-0.0400							
		27	-0.0400							
		28	-0.0400							
		29	-0.0400							
		30	-0.0400							
		31	-0.0400							
		32	-0.0400							
		33	-0.0400							
		34	-0.0400							
		35	-0.0400							
		36	-0.0400							
		37	-0.0400							
		38	-0.0400							
		39	-0.0400							
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Reference

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TOTAL TAX DEPR.					(24,942)	(24,942)	(24,942)	(24,942)	(24,942)
TOTAL BOOK DEPR.					(18,724)	(16,767)	(14,548)	(12,461)	(10,895)
TAX OVER BOOK					(6,218)	(8,175)	(10,393)	(12,481)	(14,047)
ACCUM. TAX OVER BOOK					114,271	106,095	95,702	83,221	69,174

Account	380	Wastewater and Disposal Equipment							
<b>Plant</b>			Source						
Bbal	Calc			2,849,358.00	2,883,550.00	2,918,152.00	2,953,170.00	2,988,608.00	
Add	Calc			35,617.00	36,044.00	36,477.00	36,915.00	37,358.00	
Add %	Input Pos %	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	
Ret	Calc			(1,425.00)	(1,442.00)	(1,459.00)	(1,477.00)	(1,494.00)	
Ret %	Input Neg %	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	
Age	Input Pos Yrs	32.15		41.84	42.32	42.79	43.26	43.72	
Disp	Input Pos Curve	R3.0		R3.0	R3.0	R3.0	R3.0	R3.0	
PL	Input Pos Yrs	45.00		45	45	45	45	45	
Age % PL	Input Pos Yrs			93	94	95	96	97	
lowa Look	Calc			R3.0093	R3.0094	R3.0095	R3.0096	R3.0097	
lowa Cond	Calc			0.23696331	0.231648407	0.226427441	0.221301022	0.216269588	
RL	Calc			10.7	10.4	10.2	10	9.7	
Ebal	Input Pos \$		DCF Forecast Parameters	2,326,366.00	2,883,550.00	2,918,152.00	2,953,170.00	2,988,608.00	3,024,472.00
<b>Dep Book</b>									
Bbal	Calc			(1,912,470.32)	(1,997,612.23)	(2,079,424.65)	(2,158,989.89)	(2,235,944.36)	
Dep Book	Calc			(86,566.91)	(83,254.42)	(81,024.24)	(78,431.47)	(75,764.81)	
RL	Calc			10.7	10.4	10.2	10	9.7	
Rate	Calc			-3.02%	-2.87%	-2.76%	-2.64%	-2.52%	
Ret	Calc			1,425.00	1,442.00	1,459.00	1,477.00	1,494.00	
Ebal	Input Neg \$			(1,997,612.23)	(2,079,424.65)	(2,158,989.89)	(2,235,944.36)	(2,310,215.17)	
% Reserved				-69.28%	-71.26%	-73.11%	-74.82%	-76.38%	
Beg Net Book	Calc			936,887.68	885,937.77	838,727.35	794,180.11	752,663.64	
End Net Book	Calc			885,937.77	838,727.35	794,180.11	752,663.64	714,256.83	

Reference

% Reserved	Calc	1 to 6	7 to 15	16 to 20	18	19	20	21	22
					-69.28%	-71.26%	-73.11%	-74.82%	-76.38%

Dep Tax	Mains Vintage	MACR Life 25	18	19	20	21	22
			2,304,575.00	2,303,150.00	2,301,708.00	2,300,249.00	2,298,772.00
			(1,425.00)	(1,442.00)	(1,459.00)	(1,477.00)	(1,494.00)
			2,303,150.00	2,301,708.00	2,300,249.00	2,298,772.00	2,297,278.00
			35,617.00	36,044.00	36,477.00	36,915.00	37,358.00
			(93,550.68)	(93,510.08)	(93,469.04)	(93,427.48)	(93,385.44)
		1	-0.0400				
		2	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		3	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		4	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		5	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		6	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		7	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		8	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		9	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		10	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		11	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		12	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		13	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		14	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		15	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		16	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		17	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		18	-0.0400	(1,424.68)	(1,441.76)	(1,459.08)	(1,476.60)
		19	-0.0400		(1,441.76)	(1,459.08)	(1,476.60)
		20	-0.0400			(1,459.08)	(1,476.60)
		21	-0.0400				(1,476.60)
		22	-0.0400				(1,494.32)
		23	-0.0400				
		24	-0.0400				
		25	-0.0400				
		26	-0.0400				
		27	-0.0400				
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		29	-0.0400				
		30	-0.0400				
		31	-0.0400				
		32	-0.0400				
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		35	-0.0400				
		36	-0.0400				
		37	-0.0400				
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		39	-0.0400				
		40	-0.0400				
		41	-0.0400				
		42	-0.0400				
		43	-0.0400				
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		45	-0.0400				
		46	-0.0400				
		47	-0.0400				
		48	-0.0400				
		49	-0.0400				
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		66	-0.0400				
		67	-0.0400				
		68	-0.0400				
		69	-0.0400				
		70	-0.0400				
		71	-0.0400				
		72	-0.0400				
		73	-0.0400				
		74	-0.0400				
		75	-0.0400				
		76	-0.0400				
		77	-0.0400				
		78	-0.0400				
		79	-0.0400				
		80	-0.0400				
		81	-0.0400				
		82	-0.0400				
		83	-0.0400				
		84	-0.0400				
		85	-0.0400				
TOTAL TAX DEPR			(117,770)	(119,462)	(121,192)	(122,959)	(124,766)
TOTAL BOOK DEPR			(86,567)	(83,254)	(81,024)	(78,431)	(75,765)
TAX OVER BOOK			(31,203)	(36,207)	(40,167)	(44,528)	(49,001)
ACCUM TAX OVER BOOK			126,369	90,161	49,994	5,466	(43,535)

Account Plant 381 Treatment Plant Sewers Source

Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
Bbal	Calc					941,571.00	948,162.00	954,799.00	961,483.00	968,213.00
Add	Calc					7,062.00	7,111.00	7,161.00	7,211.00	7,262.00
Add %	Input Pos %		0.25%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%
Ret	Calc					(471.00)	(474.00)	(477.00)	(481.00)	(484.00)
Ret %	Input Neg %		-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%
Age	Input Pos Yrs		21	15		35.98	36.71	37.43	38.15	38.86
Disp	Input Pos Curve		R3.0			R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs		45.00			45	45	45	45	45
Age % PL	Input Pos Yrs					80	82	83	85	86
lowa Look	Calc					R3.0080	R3.0082	R3.0083	R3.0085	R3.0086
lowa Cond	Calc					0.314166927	0.301362343	0.295079708	0.282760868	0.276727448
RL	Calc					14.1	13.6	13.3	12.7	12.5
Ebal	Input Pos \$s	DCF Forecast Parameters	861,634.00			948,162.00	954,799.00	961,483.00	968,213.00	974,991.00
<b>Dep Book</b>										
Bbal	Calc					(531,890.48)	(559,387.53)	(586,601.61)	(613,335.81)	(639,098.68)
Dep Book	Calc					(27,968.05)	(27,688.08)	(27,211.20)	(26,243.87)	(26,038.93)
RL	Calc					14.1	13.6	13.3	12.7	12.5
Rate	Calc					-2.96%	-2.91%	-2.84%	-2.72%	-2.68%
Ret	Calc					471.00	474.00	477.00	481.00	484.00
Ebal	Input Neg \$s					(559,387.53)	(586,601.61)	(613,335.81)	(639,098.68)	(664,653.61)
% Reserved						-59.00%	-61.44%	-63.79%	-66.01%	-68.17%
Beg Net Book	Calc					409,680.52	388,774.47	368,197.39	348,147.19	329,114.32
End Net Book	Calc					388,774.47	368,197.39	348,147.19	329,114.32	310,337.39
% Reserved	Calc					-59.00%	-61.44%	-63.79%	-66.01%	-68.17%

Dep Tax	Mains Vintage	MACR Life	25	18	19	20	21	22
				854,069.00	853,598.00	853,124.00	852,647.00	852,166.00
				(471.00)	(474.00)	(477.00)	(481.00)	(484.00)
				853,598.00	853,124.00	852,647.00	852,166.00	851,682.00
				7,062.00	7,111.00	7,161.00	7,211.00	7,262.00
				(34,426.40)	(34,409.40)	(34,392.32)	(34,375.08)	(34,357.76)
			1	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			2	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			3	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			4	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			5	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			6	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			7	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			8	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			9	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			10	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			11	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			12	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			13	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			14	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			15	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			16	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			17	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			18	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			19	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			20	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			21	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			22	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			23	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			24	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			25	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			26	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			27	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			28	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			29	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			30	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			31	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			32	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			33	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			34	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			35	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			36	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			37	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			38	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			39	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			40	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			41	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			42	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			43	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			44	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			45	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			46	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			47	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			48	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			49	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			50	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			51	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			52	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			53	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			54	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			55	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			56	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			57	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			58	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			59	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			60	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			61	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			62	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			63	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			64	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			65	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			66	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			67	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			68	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)
			69	(282.48)	(284.44)	(286.44)	(288.44)	(290.48)



Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
45		-0.0400								
46		-0.0400								
47		-0.0400								
48		-0.0400								
49		-0.0400								
50		-0.0400								
51		-0.0400								
52		-0.0400								
53		-0.0400								
54		-0.0400								
55		-0.0400								
56		-0.0400								
57		-0.0400								
58		-0.0400								
59		-0.0400								
60		-0.0400								
61		-0.0400								
62		-0.0400								
63		-0.0400								
64		-0.0400								
65		-0.0400								
66		-0.0400								
67		-0.0400								
68		-0.0400								
69		-0.0400								
70		-0.0400								
71		-0.0400								
72		-0.0400								
73		-0.0400								
74		-0.0400								
75		-0.0400								
76		-0.0400								
77		-0.0400								
78		-0.0400								
79		-0.0400								
80		-0.0400								
81		-0.0400								
82		-0.0400								
83		-0.0400								
84		-0.0400								
85		-0.0400								
TOTAL TAX DEPR.						(19)	(19)	(19)	(19)	(19)
TOTAL BOOK DEPR.						(14)	(13)	(13)	(13)	(12)
TAX OVER BOOK						(5)	(6)	(6)	(6)	(7)
ACCUM. TAX OVER BOOK						(70)	(76)	(82)	(88)	(95)

Account	390	Office Furniture and Equipment								
Plant		Source								
Bbal	Calc			5,040.00	5,040.00	5,040.00	5,040.00	5,040.00	5,040.00	
Add	Calc			1.00	1.00	1.00	1.00	1.00	1.00	
Add %	Input Pos %		0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
Ret	Calc			(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	
Ret %	Input Neg %		-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	
Age	Input Pos Yrs		13.65	31.59	32.58	33.57	34.56	35.55		
Disp	Input Pos Curve		R3.0	R3.0	R3.0	R3.0	R3.0	R3.0		
PL	Input Pos Yrs		12.00	12	12	12	12	12		
Age % PL	Input Pos Yrs			263	272	280	288	296		
Iowa Look	Calc		R3.0263	R3.0272	R3.0280	R3.0288	R3.0296			
Iowa Cond	Calc			0	0	0	0	0		
RL	Calc			0	0	0	0	0		
Ebal	Input Pos \$	DCF Forecast Parameters	5,040.00	5,040.00	5,040.00	5,040.00	5,040.00	5,040.00	5,040.00	
Dep Book										
Bbal	Calc			(4,988.73)	(4,987.73)	(4,986.73)	(4,985.73)	(4,984.73)		
Dep Book	Calc			0	0	0	0	0		
RL	Calc			0	0	0	0	0		
Rate	Calc			0.00%	0.00%	0.00%	0.00%	0.00%		
Ret	Calc			1.00	1.00	1.00	1.00	1.00		
Ebal	Input Neg \$			(4,987.73)	(4,986.73)	(4,985.73)	(4,984.73)	(4,983.73)		
% Reserved				-98.96%	-98.94%	-98.92%	-98.90%	-98.88%		
Beg Net Book	Calc			51.27	52.27	53.27	54.27	55.27		
End Net Book	Calc			52.27	53.27	54.27	55.27	56.27		
% Reserved	Calc			-98.96%	-98.94%	-98.92%	-98.90%	-98.88%		

Dep Tax										
Mains		MACR								
Vintage		Life								
		25		18	19	20	21	22		
				5,023.00	5,022.00	5,021.00	5,020.00	5,019.00		
				(1.00)	(1.00)	(1.00)	(1.00)	(1.00)		
				5,022.00	5,021.00	5,020.00	5,019.00	5,018.00		
				1.00	1.00	1.00	1.00	1.00		
				(200.92)	(200.88)	(200.84)	(200.80)	(200.76)		
		1	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		2	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		3	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		4	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		5	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		6	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		7	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		8	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		9	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		10	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		11	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		12	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		13	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		14	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		15	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		16	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		17	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		18	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		19	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		
		20	-0.0400	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)		

Reference

		1 to 6	7 to 15	16 to 20	18	19	20	21	22
21	-0.0400								
22	-0.0400							(0.04)	(0.04)
23	-0.0400								
24	-0.0400								
25	-0.0400								
26	-0.0400								
27	-0.0400								
28	-0.0400								
29	-0.0400								
30	-0.0400								
31	-0.0400								
32	-0.0400								
33	-0.0400								
34	-0.0400								
35	-0.0400								
36	-0.0400								
37	-0.0400								
38	-0.0400								
39	-0.0400								
40	-0.0400								
41	-0.0400								
42	-0.0400								
43	-0.0400								
44	-0.0400								
45	-0.0400								
46	-0.0400								
47	-0.0400								
48	-0.0400								
49	-0.0400								
50	-0.0400								
51	-0.0400								
52	-0.0400								
53	-0.0400								
54	-0.0400								
55	-0.0400								
56	-0.0400								
57	-0.0400								
58	-0.0400								
59	-0.0400								
60	-0.0400								
61	-0.0400								
62	-0.0400								
63	-0.0400								
64	-0.0400								
65	-0.0400								
66	-0.0400								
67	-0.0400								
68	-0.0400								
69	-0.0400								
70	-0.0400								
71	-0.0400								
72	-0.0400								
73	-0.0400								
74	-0.0400								
75	-0.0400								
76	-0.0400								
77	-0.0400								
78	-0.0400								
79	-0.0400								
80	-0.0400								
81	-0.0400								
82	-0.0400								
83	-0.0400								
84	-0.0400								
85	-0.0400								
TOTAL TAX DEPR.					(202)	(202)	(202)	(202)	(202)
TOTAL BOOK DEPR.					-	-	-	-	-
TAX OVER BOOK					(202)	(202)	(202)	(202)	(202)
ACCUM. TAX OVER BOOK					1,377	1,175	974	772	571

Account	391	Transportation Equipment							
Plant		Source							
Bbal	Calc			16,440.00	16,646.00	16,854.00	17,065.00	17,278.00	
Add	Calc			329.00	333.00	337.00	341.00	346.00	
Add %	Input Pos %		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	
Ret	Calc			(123.00)	(125.00)	(126.00)	(128.00)	(130.00)	
Ret %	Input Neg %		-0.75%	-0.75%	-0.75%	-0.75%	-0.75%	-0.75%	
Age	Input Pos Yrs		12.01	23.56	24.09	24.61	25.12	25.62	
Disp	Input Pos Curve		R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	
PL	Input Pos Yrs		10.00	10	10	10	10	10	
Age % PL	Input Pos Yrs			236	241	246	251	256	
Iowa Look	Calc			R3.0236	R3.0241	R3.0246	R3.0251	R3.0256	
Iowa Cond	Calc			0	0	0	0	0	
RL	Calc			0	0	0	0	0	
Ebal	Input Pos \$	DCF Forecast Parameters	13,310.00	16,646.00	16,854.00	17,065.00	17,278.00	17,494.00	
Dep Book									
Bbal	Calc			(13,658.25)	(13,535.25)	(13,410.25)	(13,284.25)	(13,156.25)	
Dep Book	Calc			-	-	-	-	-	
RL	Calc			0	0	0	0	0	
Rate	Calc			0.00%	0.00%	0.00%	0.00%	0.00%	
Ret	Calc			123.00	125.00	126.00	128.00	130.00	
Ebal	Input Neg \$			(13,535.25)	(13,410.25)	(13,284.25)	(13,156.25)	(13,026.25)	
% Reserved				-81.31%	-79.57%	-77.85%	-76.14%	-74.46%	
Beg Net Book	Calc			2,781.75	3,110.75	3,443.75	3,780.75	4,121.75	
End Net Book	Calc			3,110.75	3,443.75	3,780.75	4,121.75	4,467.75	
% Reserved	Calc			-81.31%	-79.57%	-77.85%	-76.14%	-74.46%	
Dep Tax		Transportation Equipment	MACR						

Reference

Vintage	Life		1 to 6	7 to 15	16 to 20	18	19	20	21	22
	12					11,432.00	11,309.00	11,184.00	11,058.00	10,930.00
						(123.00)	(125.00)	(126.00)	(128.00)	(130.00)
						11,309.00	11,184.00	11,058.00	10,930.00	10,800.00
						329.00	333.00	337.00	341.00	346.00
1		-0.0833				-	-	-	-	-
2		-0.0833				-	-	-	-	-
3		-0.0833				-	-	-	-	-
4		-0.0833				-	-	-	-	-
5		-0.0833				-	-	-	-	-
6		-0.0833				-	-	-	-	-
7		-0.0833				(27.42)	-	-	-	-
8		-0.0833				(27.42)	(27.75)	-	-	-
9		-0.0833				(27.42)	(27.75)	(28.08)	-	-
10		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	-
11		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
12		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
13		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
14		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
15		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
16		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
17		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
18		-0.0833				(27.42)	(27.75)	(28.08)	(28.42)	(28.83)
19		-0.0833				-	(27.75)	(28.08)	(28.42)	(28.83)
20		-0.0833				-	-	(28.08)	(28.42)	(28.83)
21		-0.0833				-	-	-	(28.42)	(28.83)
22		-0.0833				-	-	-	-	(28.83)
23		-0.0833				-	-	-	-	-
24		-0.0833				-	-	-	-	-
25		-0.0833				-	-	-	-	-
26		-0.0833				-	-	-	-	-
27		-0.0833				-	-	-	-	-
28		-0.0833				-	-	-	-	-
29		-0.0833				-	-	-	-	-
30		-0.0833				-	-	-	-	-
31		-0.0833				-	-	-	-	-
32		-0.0833				-	-	-	-	-
33		-0.0833				-	-	-	-	-
34		-0.0833				-	-	-	-	-
35		-0.0833				-	-	-	-	-
36		-0.0833				-	-	-	-	-
37		-0.0833				-	-	-	-	-
38		-0.0833				-	-	-	-	-
39		-0.0833				-	-	-	-	-
40		-0.0833				-	-	-	-	-
41		-0.0833				-	-	-	-	-
42		-0.0833				-	-	-	-	-
43		-0.0833				-	-	-	-	-
44		-0.0833				-	-	-	-	-
45		-0.0833				-	-	-	-	-
46		-0.0833				-	-	-	-	-
47		-0.0833				-	-	-	-	-
48		-0.0833				-	-	-	-	-
49		-0.0833				-	-	-	-	-
50		-0.0833				-	-	-	-	-
51		-0.0833				-	-	-	-	-
52		-0.0833				-	-	-	-	-
53		-0.0833				-	-	-	-	-
54		-0.0833				-	-	-	-	-
55		-0.0833				-	-	-	-	-
56		-0.0833				-	-	-	-	-
57		-0.0833				-	-	-	-	-
58		-0.0833				-	-	-	-	-
59		-0.0833				-	-	-	-	-
60		-0.0833				-	-	-	-	-
61		-0.0833				-	-	-	-	-
62		-0.0833				-	-	-	-	-
63		-0.0833				-	-	-	-	-
64		-0.0833				-	-	-	-	-
65		-0.0833				-	-	-	-	-
66		-0.0833				-	-	-	-	-
67		-0.0833				-	-	-	-	-
68		-0.0833				-	-	-	-	-
69		-0.0833				-	-	-	-	-
70		-0.0833				-	-	-	-	-
71		-0.0833				-	-	-	-	-
72		-0.0833				-	-	-	-	-
73		-0.0833				-	-	-	-	-
74		-0.0833				-	-	-	-	-
75		-0.0833				-	-	-	-	-
76		-0.0833				-	-	-	-	-
77		-0.0833				-	-	-	-	-
78		-0.0833				-	-	-	-	-
79		-0.0833				-	-	-	-	-
80		-0.0833				-	-	-	-	-
81		-0.0833				-	-	-	-	-
82		-0.0833				-	-	-	-	-
83		-0.0833				-	-	-	-	-
84		-0.0833				-	-	-	-	-
85		-0.0833				-	-	-	-	-
TOTAL TAX DEPR.						(329)	(333)	(337)	(341)	(346)
TOTAL BOOK DEPR.						-	-	-	-	-
TAX OVER BOOK						(329)	(333)	(337)	(341)	(346)
ACCUM. TAX OVER BOOK						(904)	(1,237)	(1,574)	(1,915)	(2,261)

Account	392	Stores Equipment								
Plant		Source								
Bbal	Calc					5,988.00	5,988.00	5,988.00	5,988.00	5,988.00
Add	Calc					-	-	-	-	-
Add %	Input Pos %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc					-	-	-	-	-
Ret %	Input Neg %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
Age	Input Pos Yrs		2.25			20.25	21.25	22.25	23.25	24.25
Disp	Input Pos Curve		R3.0			R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs		35.00			35	35	35	35	35
Age % PL	Input Pos Yrs					58	61	64	66	69
Iowa Look	Calc				R3.0058	R3.0061	R3.0064	R3.0066	R3.0069	
Iowa Cond	Calc				0.473158379	0.449744301	0.426832962	0.411848373	0.389823723	
RL	Calc				16.6	15.7	14.9	14.4		13.6
Ebal	Input Pos \$s	DCF Forecast Parameters	5,988.00			5,988.00	5,988.00	5,988.00	5,988.00	5,988.00
<b>Dep Book</b>										
Bbal	Calc				(3,040.13)	(3,209.59)	(3,377.25)	(3,543.72)	(3,707.79)	
Dep Book	Calc				(169.46)	(167.66)	(166.47)	(164.07)	(158.08)	
RL	Calc				16.6	15.7	14.9	14.4		13.6
Rate	Calc				-2.83%	-2.80%	-2.78%	-2.74%		-2.64%
Ret	Calc				-	-	-	-		-
Ebal	Input Neg \$s				(3,209.59)	(3,377.25)	(3,543.72)	(3,707.79)	(3,865.87)	
% Reserved					-53.60%	-56.40%	-59.18%	-61.92%		-64.56%
Beg Net Book	Calc				2,947.87	2,778.41	2,610.75	2,444.28		2,280.21
End Net Book	Calc				2,778.41	2,610.75	2,444.28	2,280.21		2,122.13
% Reserved	Calc				-53.60%	-56.40%	-59.18%	-61.92%		-64.56%
<b>Dep Tax</b>										
	Stores Equipment	MACR								
	Vintage	Life								
		25				18	19	20	21	22
					5,988.00	5,988.00	5,988.00	5,988.00	5,988.00	5,988.00
					-	-	-	-	-	-
					5,988.00	5,988.00	5,988.00	5,988.00	5,988.00	5,988.00
					-	-	-	-	-	-
					(239.52)	(239.52)	(239.52)	(239.52)	(239.52)	(239.52)
		1	-0.0400							
		2	-0.0400							
		3	-0.0400							
		4	-0.0400							
		5	-0.0400							
		6	-0.0400							
		7	-0.0400							
		8	-0.0400							
		9	-0.0400							
		10	-0.0400							
		11	-0.0400							
		12	-0.0400							
		13	-0.0400							
		14	-0.0400							
		15	-0.0400							
		16	-0.0400							
		17	-0.0400							
		18	-0.0400							
		19	-0.0400							
		20	-0.0400							
		21	-0.0400							
		22	-0.0400							
		23	-0.0400							
		24	-0.0400							
		25	-0.0400							
		26	-0.0400							
		27	-0.0400							
		28	-0.0400							
		29	-0.0400							
		30	-0.0400							
		31	-0.0400							
		32	-0.0400							
		33	-0.0400							
		34	-0.0400							
		35	-0.0400							
		36	-0.0400							
		37	-0.0400							
		38	-0.0400							
		39	-0.0400							
		40	-0.0400							
		41	-0.0400							
		42	-0.0400							
		43	-0.0400							
		44	-0.0400							
		45	-0.0400							
		46	-0.0400							
		47	-0.0400							
		48	-0.0400							
		49	-0.0400							
		50	-0.0400							
		51	-0.0400							
		52	-0.0400							
		53	-0.0400							
		54	-0.0400							
		55	-0.0400							
		56	-0.0400							
		57	-0.0400							
		58	-0.0400							
		59	-0.0400							
		60	-0.0400							
		61	-0.0400							
		62	-0.0400							
		63	-0.0400							
		64	-0.0400							
		65	-0.0400							
		66	-0.0400							
		67	-0.0400							
		68	-0.0400							
		69	-0.0400							
		70	-0.0400							
		71	-0.0400							
		72	-0.0400							
		73	-0.0400							
		74	-0.0400							



Reference

		1 to 6	7 to 15	16 to 20	18	19	20	21	22
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
TOTAL TAX DEPR.					(1,929)	(1,946)	(1,963)	(1,980)	(1,998)
TOTAL BOOK DEPR.					(1,592)	(1,561)	(1,525)	(1,497)	(1,499)
TAX OVER BOOK					(337)	(385)	(439)	(483)	(500)
ACCUM. TAX OVER BOOK					(1,207)	(1,591)	(2,030)	(2,513)	(3,013)

Account	394	Laboratory Equipment							
Plant		Source							
Bbal	Calc				1,335.00	1,335.00	1,335.00	1,335.00	1,335.00
Add	Calc				-	-	-	-	-
Add %	Input Pos %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc				-	-	-	-	-
Ret %	Input Neg %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age	Input Pos Yrs		19.05	37.05	37.05	38.05	39.05	40.05	41.05
Disp	Input Pos Curve		R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs		20.00	20	20	20	20	20	20
Age % PL	Input Pos Yrs			185	190	195	200	205	205
Iowa Look	Calc			R3.0185	R3.0190	R3.0195	R3.0200	R3.0205	
Iowa Cond	Calc			0	0	0	0	0	0
RL	Calc			0	0	0	0	0	0
Ebal	Input Pos \$	DCF Forecast Parameters	1,335.00		1,335.00	1,335.00	1,335.00	1,335.00	1,335.00
Dep Book									
Bbal	Calc				(1,335.00)	(1,335.00)	(1,335.00)	(1,335.00)	(1,335.00)
Dep Book	Calc				-	-	-	-	-
RL	Calc				0	0	0	0	0
Rate	Calc				0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc				-	-	-	-	-
Ebal	Input Neg \$				(1,335.00)	(1,335.00)	(1,335.00)	(1,335.00)	(1,335.00)
% Reserved					-100.00%	-100.00%	-100.00%	-100.00%	-100.00%
Beg Net Book	Calc				-	-	-	-	-
End Net Book	Calc				-	-	-	-	-
% Reserved	Calc				-100.00%	-100.00%	-100.00%	-100.00%	-100.00%
Dep Tax									
Laboratory Equipment	MACR								
Vintage	Life	25			18	19	20	21	22
					1,335.00	1,335.00	1,335.00	1,335.00	1,335.00
					-	-	-	-	-
					1,335.00	1,335.00	1,335.00	1,335.00	1,335.00
					-	-	-	-	-
					(53.40)	(53.40)	(53.40)	(53.40)	(53.40)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

Reference

		1 to 6	7 to 15	16 to 20	18	19	20	21	22
25	-0.0400								
26	-0.0400								
27	-0.0400								
28	-0.0400								
29	-0.0400								
30	-0.0400								
31	-0.0400								
32	-0.0400								
33	-0.0400								
34	-0.0400								
35	-0.0400								
36	-0.0400								
37	-0.0400								
38	-0.0400								
39	-0.0400								
40	-0.0400								
41	-0.0400								
42	-0.0400								
43	-0.0400								
44	-0.0400								
45	-0.0400								
46	-0.0400								
47	-0.0400								
48	-0.0400								
49	-0.0400								
50	-0.0400								
51	-0.0400								
52	-0.0400								
53	-0.0400								
54	-0.0400								
55	-0.0400								
56	-0.0400								
57	-0.0400								
58	-0.0400								
59	-0.0400								
60	-0.0400								
61	-0.0400								
62	-0.0400								
63	-0.0400								
64	-0.0400								
65	-0.0400								
66	-0.0400								
67	-0.0400								
68	-0.0400								
69	-0.0400								
70	-0.0400								
71	-0.0400								
72	-0.0400								
73	-0.0400								
74	-0.0400								
75	-0.0400								
76	-0.0400								
77	-0.0400								
78	-0.0400								
79	-0.0400								
80	-0.0400								
81	-0.0400								
82	-0.0400								
83	-0.0400								
84	-0.0400								
85	-0.0400								
TOTAL TAX DEPR.					(53)	(53)	(53)	(53)	(53)
TOTAL BOOK DEPR.					-	-	-	-	-
TAX OVER BOOK					(53)	(53)	(53)	(53)	(53)
ACCUM. TAX OVER BOOK					374	320	267	214	160

Account	395	Power Operated Equipment							
Plant	Source								
Bbal	Calc				1,756.00	1,756.00	1,756.00	1,756.00	1,756.00
Add	Calc				-	-	-	-	-
Add %	Input Pos %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc				-	-	-	-	-
Ret %	Input Neg %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age	Input Pos Yrs		5.25		23.25	24.25	25.25	26.25	27.25
Disp	Input Pos Curve		R3.0		R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs		15.00		15	15	15	15	15
Age % PL	Input Pos Yrs				155	162	168	175	182
Iowa Look	Calc				R3.0155	R3.0162	R3.0168	R3.0175	R3.0182
Iowa Cond	Calc				0.033480971	0.01698779	0.00499982	0	0
RL	Calc				0.5	0.3	0.1	0	0
Ebal	Input Pos \$:	DCF Forecast Parameters	1,756.00		1,756.00	1,756.00	1,756.00	1,756.00	1,756.00
Dep Book									
Bbal	Calc				(1,756.01)	(1,756.01)	(1,756.01)	(1,756.01)	(1,755.83)
Dep Book	Calc				-	-	-	0.18	-
RL	Calc				0.5	0.3	0.1	0	0
Rate	Calc				0.00%	0.00%	0.00%	0.01%	0.00%
Ret	Calc				-	-	-	-	-
Ebal	Input Neg \$:				(1,756.01)	(1,756.01)	(1,756.01)	(1,755.83)	(1,755.83)
% Reserved					-100.00%	-100.00%	-100.00%	-99.99%	-99.99%
Beg Net Book	Calc				(0.01)	(0.01)	(0.01)	(0.01)	0.17
End Net Book	Calc				(0.01)	(0.01)	(0.01)	0.17	0.17
% Reserved	Calc				-100.00%	-100.00%	-100.00%	-99.99%	-99.99%
Dep Tax									
Power Operated Equipment	MACR								
Vintage	Life								
	15				18	19	20	21	22
					1,756.00	1,756.00	1,756.00	1,756.00	1,756.00
					-	-	-	-	-

Reference

		1 to 6	7 to 15	16 to 20	18	19	20	21	22
					1,756.00	1,756.00	1,756.00	1,756.00	1,756.00
1	-0.0667				-	-	-	-	-
2	-0.0667				-	-	-	-	-
3	-0.0667				-	-	-	-	-
4	-0.0667				-	-	-	-	-
5	-0.0667				-	-	-	-	-
6	-0.0667				-	-	-	-	-
7	-0.0667				-	-	-	-	-
8	-0.0667				-	-	-	-	-
9	-0.0667				-	-	-	-	-
10	-0.0667				-	-	-	-	-
11	-0.0667				-	-	-	-	-
12	-0.0667				-	-	-	-	-
13	-0.0667				-	-	-	-	-
14	-0.0667				-	-	-	-	-
15	-0.0667				-	-	-	-	-
16	-0.0667				-	-	-	-	-
17	-0.0667				-	-	-	-	-
18	-0.0667				-	-	-	-	-
19	-0.0667				-	-	-	-	-
20	-0.0667				-	-	-	-	-
21	-0.0667				-	-	-	-	-
22	-0.0667				-	-	-	-	-
23	-0.0667				-	-	-	-	-
24	-0.0667				-	-	-	-	-
25	-0.0667				-	-	-	-	-
26	-0.0667				-	-	-	-	-
27	-0.0667				-	-	-	-	-
28	-0.0667				-	-	-	-	-
29	-0.0667				-	-	-	-	-
30	-0.0667				-	-	-	-	-
31	-0.0667				-	-	-	-	-
32	-0.0667				-	-	-	-	-
33	-0.0667				-	-	-	-	-
34	-0.0667				-	-	-	-	-
35	-0.0667				-	-	-	-	-
36	-0.0667				-	-	-	-	-
37	-0.0667				-	-	-	-	-
38	-0.0667				-	-	-	-	-
39	-0.0667				-	-	-	-	-
40	-0.0667				-	-	-	-	-
41	-0.0667				-	-	-	-	-
42	-0.0667				-	-	-	-	-
43	-0.0667				-	-	-	-	-
44	-0.0667				-	-	-	-	-
45	-0.0667				-	-	-	-	-
46	-0.0667				-	-	-	-	-
47	-0.0667				-	-	-	-	-
48	-0.0667				-	-	-	-	-
49	-0.0667				-	-	-	-	-
50	-0.0667				-	-	-	-	-
51	-0.0667				-	-	-	-	-
52	-0.0667				-	-	-	-	-
53	-0.0667				-	-	-	-	-
54	-0.0667				-	-	-	-	-
55	-0.0667				-	-	-	-	-
56	-0.0667				-	-	-	-	-
57	-0.0667				-	-	-	-	-
58	-0.0667				-	-	-	-	-
59	-0.0667				-	-	-	-	-
60	-0.0667				-	-	-	-	-
61	-0.0667				-	-	-	-	-
62	-0.0667				-	-	-	-	-
63	-0.0667				-	-	-	-	-
64	-0.0667				-	-	-	-	-
65	-0.0667				-	-	-	-	-
66	-0.0667				-	-	-	-	-
67	-0.0667				-	-	-	-	-
68	-0.0667				-	-	-	-	-
69	-0.0667				-	-	-	-	-
70	-0.0667				-	-	-	-	-
71	-0.0667				-	-	-	-	-
72	-0.0667				-	-	-	-	-
73	-0.0667				-	-	-	-	-
74	-0.0667				-	-	-	-	-
75	-0.0667				-	-	-	-	-
76	-0.0667				-	-	-	-	-
77	-0.0667				-	-	-	-	-
78	-0.0667				-	-	-	-	-
79	-0.0667				-	-	-	-	-
80	-0.0667				-	-	-	-	-
81	-0.0667				-	-	-	-	-
82	-0.0667				-	-	-	-	-
83	-0.0667				-	-	-	-	-
84	-0.0667				-	-	-	-	-
85	-0.0667				-	-	-	-	-
TOTAL TAX DEPR.					-	-	-	-	-
TOTAL BOOK DEPR.					-	-	-	0	-
TAX OVER BOOK					-	-	-	(0)	-
ACCUM. TAX OVER BOOK					0	0	0	(0)	(0)

Account	396	Communications Equipment							
Plant		Source							
Bbal	Calc				2,845.00	2,845.00	2,845.00	2,845.00	2,845.00
Add	Calc				-	-	-	-	-
Add %	Input Pos %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc				-	-	-	-	-
Ret %	Input Neg %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age	Input Pos Yrs	7.77			25.77	26.77	27.77	28.77	29.77
Disp	Input Pos Curve	R3.0			R3.0	R3.0	R3.0	R3.0	R3.0
PL	Input Pos Yrs	12.00			12	12	12	12	12

Reference

			1 to 6	7 to 15	16 to 20	18	19	20	21	22
Age % PL	Input Pos Yrs					215	223	231	240	248
Iowa Look	Calc					R3.0215	R3.0223	R3.0231	R3.0240	R3.0248
Iowa Cond	Calc					0	0	0	0	0
RL	Calc					0	0	0	0	0
Ebal	Input Pos \$s	DCF Forecast Parameters	2,845.00			2,845.00	2,845.00	2,845.00	2,845.00	2,845.00
<b>Dep Book</b>										
Bbal	Calc					(2,839.87)	(2,839.87)	(2,839.87)	(2,839.87)	(2,839.87)
Dep Book	Calc					-	-	-	-	-
RL	Calc					0	0	0	0	0
Rate	Calc					0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc					-	-	-	-	-
Ebal	Input Neg \$s					(2,839.87)	(2,839.87)	(2,839.87)	(2,839.87)	(2,839.87)
% Reserved						-99.82%	-99.82%	-99.82%	-99.82%	-99.82%
Beg Net Book	Calc					5.13	5.13	5.13	5.13	5.13
End Net Book	Calc					5.13	5.13	5.13	5.13	5.13
% Reserved	Calc					-99.82%	-99.82%	-99.82%	-99.82%	-99.82%
<b>Dep Tax</b>										
	Communications Equipment MACR									
	Vintage	Life				18	19	20	21	22
		12				2,845.00	2,845.00	2,845.00	2,845.00	2,845.00
						-	-	-	-	-
						2,845.00	2,845.00	2,845.00	2,845.00	2,845.00
						-	-	-	-	-
		1				-0.0833	-	-	-	-
		2				-0.0833	-	-	-	-
		3				-0.0833	-	-	-	-
		4				-0.0833	-	-	-	-
		5				-0.0833	-	-	-	-
		6				-0.0833	-	-	-	-
		7				-0.0833	-	-	-	-
		8				-0.0833	-	-	-	-
		9				-0.0833	-	-	-	-
		10				-0.0833	-	-	-	-
		11				-0.0833	-	-	-	-
		12				-0.0833	-	-	-	-
		13				-0.0833	-	-	-	-
		14				-0.0833	-	-	-	-
		15				-0.0833	-	-	-	-
		16				-0.0833	-	-	-	-
		17				-0.0833	-	-	-	-
		18				-0.0833	-	-	-	-
		19				-0.0833	-	-	-	-
		20				-0.0833	-	-	-	-
		21				-0.0833	-	-	-	-
		22				-0.0833	-	-	-	-
		23				-0.0833	-	-	-	-
		24				-0.0833	-	-	-	-
		25				-0.0833	-	-	-	-
		26				-0.0833	-	-	-	-
		27				-0.0833	-	-	-	-
		28				-0.0833	-	-	-	-
		29				-0.0833	-	-	-	-
		30				-0.0833	-	-	-	-
		31				-0.0833	-	-	-	-
		32				-0.0833	-	-	-	-
		33				-0.0833	-	-	-	-
		34				-0.0833	-	-	-	-
		35				-0.0833	-	-	-	-
		36				-0.0833	-	-	-	-
		37				-0.0833	-	-	-	-
		38				-0.0833	-	-	-	-
		39				-0.0833	-	-	-	-
		40				-0.0833	-	-	-	-
		41				-0.0833	-	-	-	-
		42				-0.0833	-	-	-	-
		43				-0.0833	-	-	-	-
		44				-0.0833	-	-	-	-
		45				-0.0833	-	-	-	-
		46				-0.0833	-	-	-	-
		47				-0.0833	-	-	-	-
		48				-0.0833	-	-	-	-
		49				-0.0833	-	-	-	-
		50				-0.0833	-	-	-	-
		51				-0.0833	-	-	-	-
		52				-0.0833	-	-	-	-
		53				-0.0833	-	-	-	-
		54				-0.0833	-	-	-	-
		55				-0.0833	-	-	-	-
		56				-0.0833	-	-	-	-
		57				-0.0833	-	-	-	-
		58				-0.0833	-	-	-	-
		59				-0.0833	-	-	-	-
		60				-0.0833	-	-	-	-
		61				-0.0833	-	-	-	-
		62				-0.0833	-	-	-	-
		63				-0.0833	-	-	-	-
		64				-0.0833	-	-	-	-
		65				-0.0833	-	-	-	-
		66				-0.0833	-	-	-	-
		67				-0.0833	-	-	-	-
		68				-0.0833	-	-	-	-
		69				-0.0833	-	-	-	-
		70				-0.0833	-	-	-	-
		71				-0.0833	-	-	-	-
		72				-0.0833	-	-	-	-
		73				-0.0833	-	-	-	-
		74				-0.0833	-	-	-	-
		75				-0.0833	-	-	-	-
		76				-0.0833	-	-	-	-
		77				-0.0833	-	-	-	-

Reference

		1 to 6	7 to 15	16 to 20	18	19	20	21	22
78		-0.0833							
79		-0.0833							
80		-0.0833							
81		-0.0833							
82		-0.0833							
83		-0.0833							
84		-0.0833							
85		-0.0833							
TOTAL TAX DEPR.					-	-	-	-	-
TOTAL BOOK DEPR.					-	-	-	-	-
TAX OVER BOOK					-	-	-	-	-
ACCUM. TAX OVER BOOK					(5)	(5)	(5)	(5)	(5)

Account	397	Miscellaneous Equipment							
Plant		Source							
Bbal	Calc				1,177.00	1,177.00	1,177.00	1,177.00	1,177.00
Add	Calc				-	-	-	-	-
Add %	Input Pos %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ret	Calc				-	-	-	-	-
Ret %	Input Neg %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age	Input Pos Yrs		18.58	36.58	37.58	38.58	39.58	40.58	
Disp	Input Pos Curve		R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	
PL	Input Pos Yrs		20.00	20	20	20	20	20	
Age % PL	Input Pos Yrs			183	188	193	198	203	
lowa Look	Calc			R3.0183	R3.0188	R3.0193	R3.0198	R3.0203	
lowa Cond	Calc			0	0	0	0	0	
RL	Calc			0	0	0	0	0	
Ebal	Input Pos \$s	DCF Forecast Parameters	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	1,177.00	
Dep Book									
Bbal	Calc			(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	
Dep Book	Calc			-	-	-	-	-	
RL	Calc			0	0	0	0	0	
Rate	Calc			0.00%	0.00%	0.00%	0.00%	0.00%	
Ret	Calc			-	-	-	-	-	
Ebal	Input Neg \$s			(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	(1,177.00)	
% Reserved				-100.00%	-100.00%	-100.00%	-100.00%	-100.00%	
Beg Net Book	Calc			-	-	-	-	-	
End Net Book	Calc			-	-	-	-	-	
% Reserved				-100.00%	-100.00%	-100.00%	-100.00%	-100.00%	
Dep Tax									
Miscellaneous Equipment	MACR								
Vintage	Life	25			18	19	20	21	22
					1,177.00	1,177.00	1,177.00	1,177.00	1,177.00
					-	-	-	-	-
					1,177.00	1,177.00	1,177.00	1,177.00	1,177.00
					-	-	-	-	-
1		-0.0400		(47.08)	(47.08)	(47.08)	(47.08)	(47.08)	(47.08)
2		-0.0400		-	-	-	-	-	-
3		-0.0400		-	-	-	-	-	-
4		-0.0400		-	-	-	-	-	-
5		-0.0400		-	-	-	-	-	-
6		-0.0400		-	-	-	-	-	-
7		-0.0400		-	-	-	-	-	-
8		-0.0400		-	-	-	-	-	-
9		-0.0400		-	-	-	-	-	-
10		-0.0400		-	-	-	-	-	-
11		-0.0400		-	-	-	-	-	-
12		-0.0400		-	-	-	-	-	-
13		-0.0400		-	-	-	-	-	-
14		-0.0400		-	-	-	-	-	-
15		-0.0400		-	-	-	-	-	-
16		-0.0400		-	-	-	-	-	-
17		-0.0400		-	-	-	-	-	-
18		-0.0400		-	-	-	-	-	-
19		-0.0400		-	-	-	-	-	-
20		-0.0400		-	-	-	-	-	-
21		-0.0400		-	-	-	-	-	-
22		-0.0400		-	-	-	-	-	-
23		-0.0400		-	-	-	-	-	-
24		-0.0400		-	-	-	-	-	-
25		-0.0400		-	-	-	-	-	-
26		-0.0400		-	-	-	-	-	-
27		-0.0400		-	-	-	-	-	-
28		-0.0400		-	-	-	-	-	-
29		-0.0400		-	-	-	-	-	-
30		-0.0400		-	-	-	-	-	-
31		-0.0400		-	-	-	-	-	-
32		-0.0400		-	-	-	-	-	-
33		-0.0400		-	-	-	-	-	-
34		-0.0400		-	-	-	-	-	-
35		-0.0400		-	-	-	-	-	-
36		-0.0400		-	-	-	-	-	-
37		-0.0400		-	-	-	-	-	-
38		-0.0400		-	-	-	-	-	-
39		-0.0400		-	-	-	-	-	-
40		-0.0400		-	-	-	-	-	-
41		-0.0400		-	-	-	-	-	-
42		-0.0400		-	-	-	-	-	-
43		-0.0400		-	-	-	-	-	-
44		-0.0400		-	-	-	-	-	-
45		-0.0400		-	-	-	-	-	-
46		-0.0400		-	-	-	-	-	-
47		-0.0400		-	-	-	-	-	-
48		-0.0400		-	-	-	-	-	-
49		-0.0400		-	-	-	-	-	-
50		-0.0400		-	-	-	-	-	-
51		-0.0400		-	-	-	-	-	-
52		-0.0400		-	-	-	-	-	-

Reference

	1 to 6	7 to 15	16 to 20	18	19	20	21	22
53	-0.0400							
54	-0.0400							
55	-0.0400							
56	-0.0400							
57	-0.0400							
58	-0.0400							
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80	-0.0400							
81	-0.0400							
82	-0.0400							
83	-0.0400							
84	-0.0400							
85	-0.0400							
TOTAL TAX DEPR.				(47)	(47)	(47)	(47)	(47)
TOTAL BOOK DEPR.				-	-	-	-	-
TAX OVER BOOK				(47)	(47)	(47)	(47)	(47)
ACCUM. TAX OVER BOOK				330	282	235	188	141

Account	Total	Total Plant	Source					
<b>Plant</b>								
Bbal	Calc			19,329,536.00	19,441,577.00	19,554,506.00	19,668,333.00	19,783,065.00
Add	Calc			151,161.00	152,249.00	153,347.00	154,455.00	155,574.00
Add %	Input Pos %							
Ret	Calc			(39,120.00)	(39,320.00)	(39,520.00)	(39,723.00)	(39,927.00)
Ret %	Input Neg %							
Age	Input Pos Yrs							
Disp	Input Pos Curve							
PL	Input Pos Yrs							
Age % PL	Input Pos Yrs							
Iowa Look	Calc							
Iowa Cond	Calc							
RL	Calc							
Ebal	Input Pos \$s	DCF Forecast Parameters		19,441,577.00	19,554,506.00	19,668,333.00	19,783,065.00	19,898,712.00
<b>Dep Book</b>								
Bbal	Calc			(8,875,003.59)	(9,332,760.23)	(9,783,971.96)	(10,225,519.04)	(10,659,780.60)
Dep Book	Calc			(496,778.64)	(490,433.73)	(480,969.08)	(473,886.56)	(464,753.28)
RL	Calc							
Rate	Calc			39,022.00	39,222.00	39,422.00	39,625.00	39,828.00
Ret	Calc							
Ebal	Input Neg \$s			(9,332,760.23)	(9,783,971.96)	(10,225,519.04)	(10,659,780.60)	(11,084,705.88)
% Reserved				48.00%	50.03%	51.99%	53.88%	55.71%
Beg Net Book	Calc			10,454,532.41	10,108,816.77	9,770,534.04	9,442,813.96	9,123,284.40
End Net Book	Calc			10,108,816.77	9,770,534.04	9,442,813.96	9,123,284.40	8,814,006.12
% Reserved	Calc			-48.00%	-50.03%	-51.99%	-53.88%	-55.71%
<b>Dep Tax</b>								
Mains		MACR						
Vintage		Life						
			25					
				16,915,124.00	16,876,004.00	16,836,684.00	16,797,164.00	16,757,441.00
				(39,120.00)	(39,320.00)	(39,520.00)	(39,723.00)	(39,927.00)
				16,876,004.00	16,836,684.00	16,797,164.00	16,757,441.00	16,717,514.00
				151,161.00	152,249.00	153,347.00	154,455.00	155,574.00
				(678,954.80)	(677,434.24)	(675,906.16)	(674,370.40)	(672,827.04)
1				(6,025.48)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
1				(6,025.48)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
2				(6,025.48)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
3				(6,025.48)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
4				(6,025.48)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
5				(6,025.48)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
6				(6,052.90)	(6,068.80)	(6,112.56)	(6,156.68)	(6,201.24)
7				(6,052.90)	(6,096.55)	(6,112.56)	(6,156.68)	(6,201.24)
8				(6,052.90)	(6,096.55)	(6,140.64)	(6,156.68)	(6,201.24)
9				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,201.24)
10				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
11				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
12				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
13				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
14				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
15				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
16				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
17				(6,052.90)	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
18				-	(6,096.55)	(6,140.64)	(6,185.10)	(6,230.07)
19				-	-	(6,140.64)	(6,185.10)	(6,230.07)
20				-	-	-	(6,185.10)	(6,230.07)
21				-	-	-	-	(6,230.07)

Reference

	1 to 6	7 to 15	16 to 20	18	19	20	21	22
22				-	-	-	-	-
23				-	-	-	-	-
24				-	-	-	-	-
25				-	-	-	-	-
26				-	-	-	-	-
27				-	-	-	-	-
28				-	-	-	-	-
29				-	-	-	-	-
30				-	-	-	-	-
31				-	-	-	-	-
32				-	-	-	-	-
33				-	-	-	-	-
34				-	-	-	-	-
35				-	-	-	-	-
36				-	-	-	-	-
37				-	-	-	-	-
38				-	-	-	-	-
39				-	-	-	-	-
40				-	-	-	-	-
41				-	-	-	-	-
42				-	-	-	-	-
43				-	-	-	-	-
44				-	-	-	-	-
45				-	-	-	-	-
46				-	-	-	-	-
47				-	-	-	-	-
48				-	-	-	-	-
49				-	-	-	-	-
50				-	-	-	-	-
51				-	-	-	-	-
52				-	-	-	-	-
53				-	-	-	-	-
54				-	-	-	-	-
55				-	-	-	-	-
56				-	-	-	-	-
57				-	-	-	-	-
58				-	-	-	-	-
59				-	-	-	-	-
60				-	-	-	-	-
61				-	-	-	-	-
62				-	-	-	-	-
63				-	-	-	-	-
64				-	-	-	-	-
65				-	-	-	-	-
66				-	-	-	-	-
67				-	-	-	-	-
68				-	-	-	-	-
69				-	-	-	-	-
70				-	-	-	-	-
71				-	-	-	-	-
72				-	-	-	-	-
73				-	-	-	-	-
74				-	-	-	-	-
75				-	-	-	-	-
76				-	-	-	-	-
77				-	-	-	-	-
78				-	-	-	-	-
79				-	-	-	-	-
80				-	-	-	-	-
81				-	-	-	-	-
82				-	-	-	-	-
83				-	-	-	-	-
84				-	-	-	-	-
TOTAL TAX DEPR.				(781,716.96)	(787,005.64)	(792,381.80)	(797,845.00)	(803,399.08)
TOTAL BOOK DEPR.				(496,778.64)	(490,433.73)	(480,969.08)	(473,886.56)	(464,753.28)
TAX OVER BOOK				(284,938.32)	(296,571.91)	(311,412.72)	(323,958.44)	(338,645.80)
ACCUM. TAX OVER BOOK				(3,341,567.90)	(3,638,139.81)	(3,949,552.53)	(4,273,510.97)	(4,612,156.77)

**Pennsylvania American Water Company**  
**Borough of Kane Authority's Wastewater System**

**Appraisal Work Papers**  
**As of September 30, 2019**

**Income Approach**  
**Financials Analysis**  
**Private Rate Regulated Wastewater System**  
**Period 1 through 19 and 20 to perpetuity**

**AUS Consultants**  
**Suite 201**  
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Pennsylvania American Water Company  
Borough of Kane Authority

Wastewater Collection and Treatment System  
Investor-Owned Utility  
September 30, 2019

	2013	2014	2015	2016	2017	2018	2019	2013-2019	Average 2017-2019		Forecast Parameters for Periods			
										2019	1-5	6-15	16-beyond	
<b>Revenues</b>														
Sewer System Revenues	720,000	720,000	720,000	720,000	1,431,778	1,440,478	1,426,380							
Other Operating Income	1,500	1,670	2,505	1,085	835	1,317	7,598							
<b>Total</b>	<b>721,500</b>	<b>721,670</b>	<b>722,505</b>	<b>721,085</b>	<b>1,432,613</b>	<b>1,441,795</b>	<b>1,433,978</b>			<b>1,426,380</b>				
		<b>0.0%</b>	<b>0.1%</b>	<b>-0.2%</b>	<b>98.7%</b>	<b>0.6%</b>	<b>-0.5%</b>	<b>16.45%</b>			1.0%	1.0%	1.0%	
<b>Expenses</b>														
Depreciation	487,731	491,114	491,523	493,328	506,586	512,824	503,158		507,523	Depreciation & Amortization	503,158			
Personnel Expenses					351,353	364,843	371,226		362,474	Administration Personnel	380,197	2.0%	2.0%	2.0%
Utilities					119,171	121,556			120,364	Utilities + Supplies + Office Exp	2,438	2.0%	2.0%	2.0%
Operating Expenses					118,939	98,286	339,441		185,533	Operating Expense	339,441	3.0%	3.0%	3.0%
Debt Issue Fees		81,281												
Sewer System Maintenance	13,332	2,060	26,597	17,201	55,847	62,182	2,168		40,066	System Maintenance	2,168	1.0%	1.0%	1.0%
Supplies					35,725	39,138			37,432					
Bad Debt Expense					20,000				20,000					
Regulatory Fees	10,000	10,000	6,250	6,250	5,000	6,250	10,000		7,083	Contacted Services	24,904	1.0%	1.0%	1.0%
Engineering Fees	9,186	7,368	11,016	30,072	5,308	7,994	4,441		5,914					
Administrative Expenses	9,035	7,212	6,580	3,899	15,204	14,699	8,971		12,958					
Accounting and Audit Fees	5,654	6,355	5,750	3,848	5,850	7,400	6,650		6,633					
Legal Fees	4,530	2,052	1,647	2,160	2,973	3,641	3,813		4,142					
Insurance Expenses	2,085				14,704	14,301			9,668	Insurance		1.0%	1.0%	1.0%
Amortization	1,562													
Office Expenses	1,334	1,495	1,566	1,707	1,509	1,571	2,438		1,839					
<b>Total Operating Expenses</b>	<b>544,649</b>	<b>608,937</b>	<b>550,929</b>	<b>562,665</b>	<b>1,258,169</b>	<b>1,256,685</b>	<b>1,252,306</b>	<b>1,252,306</b>	<b>1,255,720</b>		<b>1,252,306</b>			
OpeX Growth		<b>11.8%</b>	<b>-9.5%</b>	<b>2.1%</b>	<b>123.6%</b>	<b>-0.1%</b>	<b>-0.3%</b>							
Operating Expenses less Depreciation	55,356	117,823	59,406	69,137	751,383	743,861	749,148							
OpeX Growth		<b>112.8%</b>	<b>-49.6%</b>	<b>16.4%</b>	<b>987.1%</b>	<b>-1.0%</b>	<b>0.7%</b>				<b>-0.2%</b>			
OpeX as % of Revenues	<b>7.67%</b>	<b>16.33%</b>	<b>8.22%</b>	<b>9.59%</b>	<b>52.46%</b>	<b>51.59%</b>	<b>52.24%</b>	<b>28.30%</b>			<b>52.1%</b>			
<b>Operating Income:</b>	<b>176,851</b>	<b>112,733</b>	<b>171,576</b>	<b>158,420</b>	<b>174,444</b>	<b>185,110</b>	<b>181,672</b>							
<b>Non-Operating Revenues (Expenses)</b>														
Interest Income	16,472	10,660	6,730	5,900	6,536	10,039	29,558							
Net depreciation in the fair value of investments	(9,215)	(12,113)	3,278	20,628	(19,215)									
Realized gain on sale of investment			75	263	1,882	(5,099)	(896)							
Investment Expenses	(3,188)	(3,334)	(3,228)	(2,548)	(2,987)	(2,995)	(1,204)							
Interest Expenses	(270,640)	(178,361)	(163,596)	(155,434)	(146,809)	(138,810)	(129,744)							
Engineering Assessment & Appraisal Fees							(27,677)							
<b>Total Non-Operating Revenues (Expenses)</b>	<b>(266,571)</b>	<b>(183,148)</b>	<b>(156,741)</b>	<b>(131,191)</b>	<b>(160,573)</b>	<b>(164,542)</b>	<b>(130,300)</b>							
<b>Change in Net Position</b>	<b>(89,720)</b>	<b>(70,415)</b>	<b>14,835</b>	<b>27,229</b>	<b>13,871</b>	<b>20,568</b>	<b>51,372</b>							
Net Position April 1, YYYY	6,386,832	6,482,374	6,411,959	6,426,794	6,275,287	6,306,654	6,342,599							
Net Position March 31, YYYY	6,497,112	6,411,959	6,426,794	6,454,023	6,289,158	6,327,222	6,393,971							

Pennsylvania American Water Company  
Borough of Kane Authority

Wastewater Collection and Treatment System  
Investor-Owned Utility  
September 30, 2019

	2013	2014	2015	2016	2017	2018	2019	2013-2019	Average 2017-2019	2019	Forecast Parameters for Periods			
											1-5	6-15	16-beyond	
<b>Assets</b>														
Current Assets														
Cash	4,668	8,889	43,759	115,495	430,177	1,336,025	350,104							
Accounts Receivables	411,860	471,000	537,000	473,425	223,886	237,512	232,190							
Investment						200,004	1,407,913							
Interest receivables						129	21,403							
Due from other Funds					2,497	4,832	5,715							
Prepaid Expense					3,116	3,362	13,299							
<b>Total Current Assets</b>	<b>416,528</b>	<b>479,889</b>	<b>580,759</b>	<b>588,920</b>	<b>659,676</b>	<b>1,782,064</b>	<b>2,030,624</b>							
Restricted Cash		78,914	54,014	111,748	89,482									
Restricted Investments	786,910	754,588	761,617	785,796	771,395									
Restricted Assets	<b>786,910</b>	<b>833,502</b>	<b>815,631</b>	<b>897,544</b>	<b>860,877</b>									
Notes Receivable from Customer				5,057	2,927	2,473	1,673							
Inventory			4,994	7,511	7,511	7,511	5,343							
Capital Assets, Net														
Equipment					46,498	39,668	43,267							
Sewer System	11,511,163	11,074,991	10,615,643	10,237,561	9,790,928	9,337,919	8,854,506							
Debt Issue Cost	14,470													
Net Pension Assets					4,437									
<b>Total Assets</b>	<b>12,714,601</b>	<b>12,388,382</b>	<b>12,017,027</b>	<b>11,736,593</b>	<b>11,372,854</b>	<b>11,169,635</b>	<b>10,935,413</b>							
Deferred Outflows of Resources														
Deferred Outflows of Resources						90,042	140,736							
Liabilities														
Accounts Payable - trade	13,940	2,072	46,450	5,608	19,739	59,382	19,499							
Accrued Payroll and payroll taxes					4,056	4,221	5,904							
Accrued Interest Payable	7,580	12,897	13,042	12,827	12,138	11,469	10,759							
Liabilities for compensated absences						11,440	8,892							
Accrued Investment Fees Payable	454	464	464	475	462									
Current Maturities of Long-term debt	479,067	430,727	266,630	274,834	282,834	291,075	299,257							
<b>Total Current Liabilities</b>	<b>501,041</b>	<b>446,160</b>	<b>326,586</b>	<b>293,744</b>	<b>319,249</b>	<b>377,587</b>	<b>344,306</b>							
Long-term Liabilities														
Long-term Debt	5,731,186	5,530,263	5,263,647	4,988,826	4,706,039	4,415,031	4,115,887							
Net pension liability						7,959	117,486							
Liability for compensated absences					58,406		54,386							
<b>Total Long-term Liabilities</b>	<b>5,731,186</b>	<b>5,530,263</b>	<b>5,263,647</b>	<b>4,988,826</b>	<b>4,764,445</b>	<b>4,422,990</b>	<b>4,287,759</b>							
<b>Total Liabilities</b>	<b>6,232,227</b>	<b>5,976,423</b>	<b>5,590,233</b>	<b>5,282,570</b>	<b>5,083,694</b>	<b>4,800,577</b>	<b>4,632,065</b>							
Deferred Inflows of Resources														
Deferred Inflows of Resources						80,341	50,113							
Net Position														
Invested in Capital Assets, net of related debt	5,300,909	5,114,001	5,083,366	4,973,901	4,848,533	4,666,108	4,482,629							
Restricted for debt service	622,103	594,063	422,266	422,266	422,266									
Unrestricted	374,102	703,895	919,162	1,057,856	1,018,339	1,661,114	1,911,342							
<b>Total Net Position</b>	<b>6,497,114</b>	<b>6,411,959</b>	<b>6,426,794</b>	<b>6,454,023</b>	<b>6,289,158</b>	<b>6,327,222</b>	<b>6,393,971</b>							
Current Assets	416,528	479,889	580,759	588,920	659,676	1,782,064	2,030,624							
CA as % of Revenues	57.73%	66.50%	80.38%	81.67%	46.05%	123.60%	141.61%	85.36%	103.75%	141.61%	35.00%	35.00%	35.00%	
Current Liabilities	501,041	446,160	326,586	293,744	319,249	377,587	344,306							
CL as % of Revenues	69.44%	61.82%	45.20%	40.74%	22.28%	26.19%	24.01%	41.38%	24.16%	24.01%	30.00%	30.00%	30.00%	
Net Working Capital	(84,513)	33,729	254,173	295,176	340,427	1,404,477	1,686,318							
Change in Working Capital		118,242	220,444	41,003	306,698	1,150,304	1,391,142							

**Pennsylvania American Water Company**  
**Borough of Kane Authority's Wastewater System**

**Appraisal Work Papers**  
**As of September 30, 2019**

**Income Approach**  
**DCF Forecast Parameters**  
**Private Rate Regulated Wastewater System**  
**Period 1 through 19 and 20 to perpetuity**

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Perceptics America, Inc. (Public Company)

Management Compensation and Treatment System  
 2019-2020 Compensation Policy  
 Effective January 1, 2019

SOI Pay and Awards

SOI	Target Rate	SOI Calculation	SOI Calculation
101	0.00%	0.00%	0.00%
102	0.00%	0.00%	0.00%
103	0.00%	0.00%	0.00%
104	0.00%	0.00%	0.00%
105	0.00%	0.00%	0.00%
106	0.00%	0.00%	0.00%
107	0.00%	0.00%	0.00%
108	0.00%	0.00%	0.00%
109	0.00%	0.00%	0.00%
110	0.00%	0.00%	0.00%
111	0.00%	0.00%	0.00%
112	0.00%	0.00%	0.00%
113	0.00%	0.00%	0.00%
114	0.00%	0.00%	0.00%
115	0.00%	0.00%	0.00%
116	0.00%	0.00%	0.00%
117	0.00%	0.00%	0.00%
118	0.00%	0.00%	0.00%
119	0.00%	0.00%	0.00%
120	0.00%	0.00%	0.00%
121	0.00%	0.00%	0.00%
122	0.00%	0.00%	0.00%
123	0.00%	0.00%	0.00%
124	0.00%	0.00%	0.00%
125	0.00%	0.00%	0.00%
126	0.00%	0.00%	0.00%
127	0.00%	0.00%	0.00%
128	0.00%	0.00%	0.00%
129	0.00%	0.00%	0.00%
130	0.00%	0.00%	0.00%
131	0.00%	0.00%	0.00%
132	0.00%	0.00%	0.00%
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134	0.00%	0.00%	0.00%
135	0.00%	0.00%	0.00%
136	0.00%	0.00%	0.00%
137	0.00%	0.00%	0.00%
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157	0.00%	0.00%	0.00%
158	0.00%	0.00%	0.00%
159	0.00%	0.00%	0.00%
160	0.00%	0.00%	0.00%
161	0.00%	0.00%	0.00%
162	0.00%	0.00%	0.00%
163	0.00%	0.00%	0.00%
164	0.00%	0.00%	0.00%
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173	0.00%	0.00%	0.00%
174	0.00%	0.00%	0.00%
175	0.00%	0.00%	0.00%
176	0.00%	0.00%	0.00%
177	0.00%	0.00%	0.00%
178	0.00%	0.00%	0.00%
179	0.00%	0.00%	0.00%
180	0.00%	0.00%	0.00%
181	0.00%	0.00%	0.00%
182	0.00%	0.00%	0.00%
183	0.00%	0.00%	0.00%
184	0.00%	0.00%	0.00%
185	0.00%	0.00%	0.00%
186	0.00%	0.00%	0.00%
187	0.00%	0.00%	0.00%
188	0.00%	0.00%	0.00%
189	0.00%	0.00%	0.00%
190	0.00%	0.00%	0.00%
191	0.00%	0.00%	0.00%
192	0.00%	0.00%	0.00%
193	0.00%	0.00%	0.00%
194	0.00%	0.00%	0.00%
195	0.00%	0.00%	0.00%
196	0.00%	0.00%	0.00%
197	0.00%	0.00%	0.00%
198	0.00%	0.00%	0.00%
199	0.00%	0.00%	0.00%
200	0.00%	0.00%	0.00%

DISBURSEMENT SCHEDULE

SOI	Target Rate	SOI Calculation	SOI Calculation
201	0.00%	0.00%	0.00%
202	0.00%	0.00%	0.00%
203	0.00%	0.00%	0.00%
204	0.00%	0.00%	0.00%
205	0.00%	0.00%	0.00%
206	0.00%	0.00%	0.00%
207	0.00%	0.00%	0.00%
208	0.00%	0.00%	0.00%
209	0.00%	0.00%	0.00%
210	0.00%	0.00%	0.00%
211	0.00%	0.00%	0.00%
212	0.00%	0.00%	0.00%
213	0.00%	0.00%	0.00%
214	0.00%	0.00%	0.00%
215	0.00%	0.00%	0.00%
216	0.00%	0.00%	0.00%
217	0.00%	0.00%	0.00%
218	0.00%	0.00%	0.00%
219	0.00%	0.00%	0.00%
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228	0.00%	0.00%	0.00%
229	0.00%	0.00%	0.00%
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246	0.00%	0.00%	0.00%
247	0.00%	0.00%	0.00%
248	0.00%	0.00%	0.00%
249	0.00%	0.00%	0.00%
250	0.00%	0.00%	0.00%

Company Name	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
100. [Company Name]	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200



**Pennsylvania American Water Company**  
**Borough of Kane Authority's Wastewater System**

**Appraisal Work Papers**  
**As of September 30, 2019**

**Market Approach**

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**Pennsylvania American Water Company  
Borough of Kane Authority  
Wastewater Collection and Treatment System  
Investor-Owned Utility  
As of September 30, 2019**

**Market Approach Summary**

	Book Ratios	Purchase Price to Depreciated Original Cost (Book Value)	Indicated Market Value
Comparable Sales			
Depreciated Original Cost (AUS Consultants) OCLD	<b>12,070,455.38</b>	1.817	21,932,017
Replacement Cost New less Depreciation RCNLD	<b>29,015,055.11</b>	0.9621	27,915,385
Average			24,923,701
 Use (RCNLD)			 27,915,385
 Financial Markets	 Market Value per Share to Book Value per Share		
Market to Book (equity)	3.21		
Market to Book (equity and debt)	2.03		
 Use (equity and debt)	 2.03	Input	
 Market Conclusion	 Investor Purchaser Owned Value to Depreciated Original Cost (Book Value)		
 Borough of Kane Authority AUS Depreciated Original Cost	 12,070,455	2.03	 24,503,024
 <b>Market Value</b>			Indicated Value \$s
Minimum			21,932,017
Mean			24,783,475
Median			24,503,024
Maximum			27,915,385
 Use (RCNLD)			 27,915,385

Pennsylvania American Water Company  
 Borough of Kane Authority  
 Wastewater Collection and Treatment System  
 Investor-Owned Utility  
 As of September 30, 2019

Comparable Sales Approach  
 Market Sales Basis

Description	New Garden Wastewater System	Mckeesport Wastewater System	Limerick Wastewater System	Mahoning Water System	Mahoning Wastewater System	East Bradford Wastewater Collection System	Sadsbury Wastewater Collection System	Exeter Wastewater Collection System	Steelton Water System	Cheltenham Wastewater Collection System	Simple Average / Standard Deviation	Remove Outliers Simple Average / Standard Deviation	Weighted Average	Remove Outliers Weighted Average / Standard Deviation	Use
System Description	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection & Treatment	Wastewater Collection Only	Wastewater Collection Only	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection Only					
Type of System	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection & Treatment	Wastewater Collection Only	Wastewater Collection Only	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection Only					
System Attributes	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection & Treatment	Wastewater Collection Only	Wastewater Collection Only	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection Only					
Purchase Price	29,500,000	159,000,000	75,100,000	4,734,800	4,765,200	5,000,000	9,200,000	96,000,000	22,500,000	50,250,000			455,100,000	441,600,000	
Proportion of Purchase Price to Total	6%	35%	16%	1%	1%	1%	2%	21%	5%	5%			100%	97%	
Variance to Simple Mean	-0.0053	-0.234	-0.1669	-0.2888	-0.9073	-0.3268	-0.2771	1.3475	1.7941	1.5688			1.836	1.817	
Variance to Wtd Mean	0.0234	0.0517	-0.0678	-0.3439	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004			0.0273	0.0273	
Acquire	Aug 16	Sep 16	PA American	SUEZ PA	SUEZ PA	Aqua PA	PA American	PA American	PA American	Aqua PA					
Date	Aug 16	Sep 16	PA American	SUEZ PA	SUEZ PA	Aqua PA	PA American	PA American	PA American	Aqua PA					
Customers	2,100	20320	5,434	1,248	584	295,350,000	248,424,674	485,100,173	0.975	0.9621			0.975	0.9621	
Original Cost	18,567,728	101,915,080	46,153,867	1,872	1,872	5,383,591	6,128,676	40,057,634	14,433,435	15,794,463			248,424,674	243,041,083	
Depreciated Original Cost (AUS Consultants) (OCLD)	1,5888	1,5601	1,5601	1,5601	1,5601	1,5601	1,5601	1,5601	1,5601	1,5601			1,5601	1,5601	
Purchase Price to OCLD	-0.0053	-0.234	-0.1669	-0.2888	-0.9073	-0.3268	-0.2771	1.3475	1.7941	1.5688			1.836	1.817	
Variance to Simple Mean	0.0234	0.0517	-0.0678	-0.3439	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004			0.0273	0.0273	
Variance to Wtd Mean	0.0234	0.0517	-0.0678	-0.3439	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004			0.0273	0.0273	
Replacement Cost New less Depreciation (RCNLD)	30,615,410	160,301,491	86,086,756	8,899,336	7,991,234	9,236,581	8,517,587	95,589,819	23,921,473	49,940,486			485,100,173	458,273,022	
Purchase Price to RCNLD	0.9636	0.9919	0.8724	0.532	0.5663	0.5413	1.086	0.964	0.9406	1.0062			0.9402	0.9621	
Variance to Simple Mean	0.1142	0.1425	-0.0723	-0.3174	-0.2531	-0.3081	0.2366	0.1146	0.0912	0.1568			0.0604	0.0604	
Variance to Wtd Mean	0.0234	0.0517	-0.0678	-0.3439	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004			0.0273	0.0273	
Customers	2,100	20320	5,434	1,248	584	295,350,000	248,424,674	485,100,173	0.975	0.9621			0.975	0.9621	

**Pennsylvania American Water Company**  
**Borough of Kane Authority**  
**Wastewater Collection and Treatment System**  
**Investor-Owned Utility**  
**September 30, 2019**

**Comparable Sales Approach**

**Financial Basis<sup>1</sup>**

	Industry Averages	American & Aqua Averages	American States Water	American Water	Aqua America	California Water	Connecticut Water	Consol. Water Co.	Middlesex Water	SIW Corp	York
Price per Share			74.38	115.73	40.86	49.99	69.13	14.29	59.36	61.23	35.34
Book value per share			15.85	34.55	15.3	15.45	25	15.1	15.75	31.05	10.4
Market to Book Equity Ratio			4.69	3.35	2.67	3.24	2.77	0.95	3.77	1.97	3.4
Minimum	0.95	2.67									
Mean	2.98	3.01									
Standard Deviation	1.01	0.340									
Weighted Market to Debt Ratio	3.21		14,790.99	99,570.18	30,617.17	10,844.02	3,034.07	203.91	4,496.73	4,436.34	1,876.56
Maximum	4.69	3.35									
Debt (Total) \$s millions			416.9	8,831.0	2,652.0	940.7	261.4	-	215.2	510.9	94.1
Outstanding Shares (millions)			36.80	180.52	215.74	48.13	12.06	15.02	16.47	28.43	12.95
Debt per share			11.33	48.92	12.29	19.54	21.67	0	13.07	17.97	7.26
Equity (Total) \$s millions			2,736.83	20,891.44	8,815.11	2,406.22	833.93	214.64	977.57	1,741.05	457.83
Total Capital (Debt + Equity)			3,153.73	29,722.44	11,467.11	3,346.92	1,095.33	214.64	1,192.77	2,251.95	551.93
Market Value per Share (Equity+Debt)			85.71	164.65	53.15	69.53	90.8	14.29	72.43	79.2	42.6
Book Value per Share (Equity+Debt)			27.18	83.47	27.59	34.99	46.67	15.1	28.82	49.02	17.66
Market to Book (Total Capital) Ratio			3.15	1.97	1.93	1.99	1.95	0.95	2.51	1.62	2.41
Minimum	0.95	1.93									
Mean	2.05	1.95									
Standard Deviation	0.58	0.020									
Weighted Market to Book (Debt&Equity) Ratio	2.03		9,934.24	58,553.21	22,131.52	6,660.37	2,135.90	203.91	2,993.85	3,648.16	1,330.15
Variance to Wtd Mean	0.1075		1.12	(0.06)	(0.10)	(0.04)	(0.08)	(1.08)	0.48	(0.41)	0.38
Median	1.97	1.95									
Maximum	3.15	1.97									

1. Value Line Investment Survey July 12, 2019

**Pennsylvania American Water Company**  
**Borough of Kane Authority's Wastewater System**

**Appraisal Work Papers**  
**As of September 30, 2019**

**Cost Indices**

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**Pennsylvania American Water Company**  
**Borough of Kane Authority's Wastewater System**

**Appraisal Work Papers**  
**As of September 30, 2019**

**Cost Indices**

**Handy Whitman Index of Public System Construction Costs**  
**Water Industry – Northeastern United States**

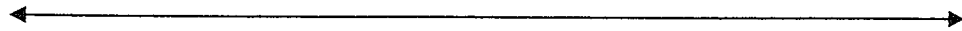
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*Bulletin No. 189*

*1912 to January 1, 2019*

The  
Handy-Whitman Index®  
of  
Public Utility  
Construction Costs™



*Trends of Construction Costs*

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Cost Trend Tables - 1912 to January 1, 1919		
North Atlantic Region	E-1	E-1-1
South Atlantic Region	E-2	E-2-1
North Central Region	E-3	E-3-1
South Central Region	E-4	E-4-1
Plateau Region	E-5	E-5-1
Pacific Region	E-6	E-6-1

### COST TRENDS OF GAS UTILITY CONSTRUCTION

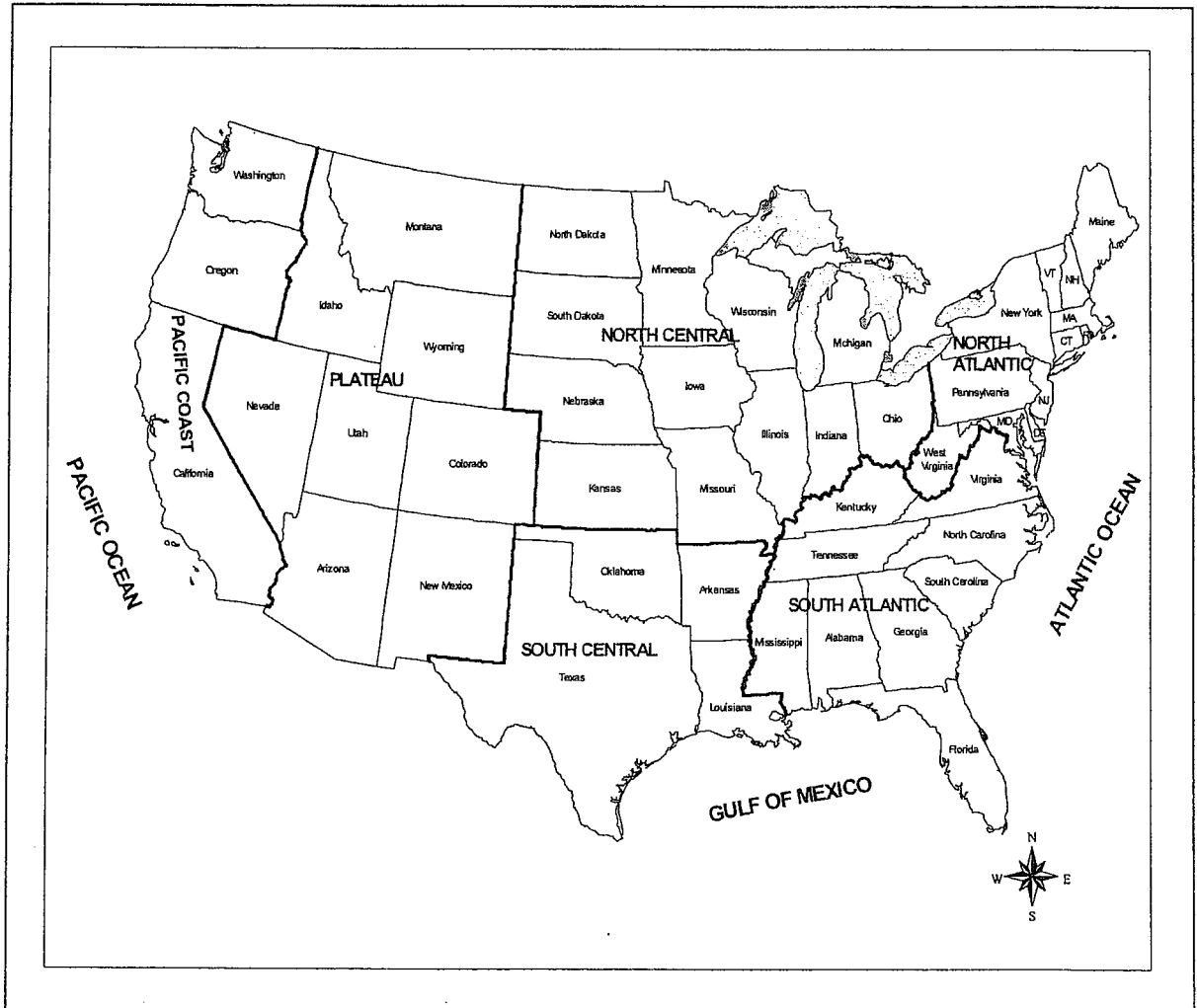
Cost Trend Tables - 1912 to January 1, 1919		
North Atlantic Region	G-1	G-1-1
South Atlantic Region	G-2	G-2-1
North Central Region	G-3	G-3-1
South Central Region	G-4	G-4-1
Plateau Region	G-5	G-5-1
Pacific Region	G-6	G-6-1

### COST TRENDS OF WATER UTILITY CONSTRUCTION

Cost Trend Tables - 1912 to January 1, 1919		
North Atlantic Region	W-1	W-1-1
South Atlantic Region	W-2	W-2-1
North Central Region	W-3	W-3-1
South Central Region	W-4	W-4-1
Plateau Region	W-5	W-5-1
Pacific Region	W-6	W-6-1

# TRENDS OF PUBLIC UTILITY CONSTRUCTION COSTS

## GEOGRAPHIC REGIONS



## Tradition of Quality

The Handy-Whitman Index of Public Utility Construction Costs has been published continuously since 1924. Formerly the Handy Index, Bulletin Nos. 1 through 15 were developed by William W. Handy of Baltimore who had wide valuation experience in public utilities. *He believed that valuation studies should not be confined to rate cases but should be kept alive to the benefit of the utility industry.* He began publishing index numbers for electric and gas construction cost trends. Carrying on with the *tradition of quality*, after Mr. Handy's death, we continued publication for his estate beginning with Bulletin 16. Then, January 1, 1950, Whitman, Requardt and Associates, LLP purchased rights to the publication and have since been the sole publishers.

The name Handy-Whitman Index was adopted for Bulletin No. 53 and succeeding issues to combine the names of Mr. Handy and Ezra B. Whitman, a well-known valuation engineer. In 1957 an index of water utility construction costs was added. Mr. Whitman was a consultant on the publication of the Index until his death in 1963.

## Whitman, Requardt and Associates, LLP

Ezra B. Whitman, a well-known valuation engineer was one of the founders of our firm. Major Whitman, as he was known from his World War I service, had already made a name for himself. Prior to the founding of the firm in 1915, Major Whitman had been President and Chief Engineer of the Water Board of the City of Baltimore. He designed the first rapid sand filtration plant serving a major city while he was the Baltimore Water Engineer. He was also president of the American Society of Civil Engineers and of the American Institute of Consulting Engineers and a chairman of the Public Service Commission of Maryland.

The Handy-Whitman Index is prepared especially for electric, gas and water utilities and is the only known publication of its kind available to the public. The list of subscribers is international and includes operating utilities, regulatory bodies, valuation engineers, equipment industries, insurance companies and reference libraries.

## Tradition of Quality Continued

Since 1915, Whitman, Requardt and Associates, LLP, has been an independent consulting engineering firm organized to serve government, industry and private enterprise.

The firm has steadily expanded its engineering capabilities, providing complete services for civil, sanitary, structural, mechanical and electrical engineering and architectural projects from job

inception through construction management. Construction cost data from utility projects of all types are available from design and valuation assignments. The staff is composed of specialists in these and related disciplines who bring a diverse professional and academic expertise to each assignment. A full-time staff is maintained specifically for preparing the Handy-Whitman Index.

## Methods of Preparation of Indexes

An index number is a percentage ratio between the cost of an item at any stated time and its cost at a base period, or:

$$\text{Index Number} = \frac{\text{cost at stated time}}{\text{cost at base period}} \times 100$$

Index numbers have been prepared for many items, including wage rates, cost-of-living, material and equipment costs, and financial transactions. In the Handy-Whitman Index, index numbers have been developed for Building Construction, Electric Utility Construction, Gas Utility Construction and Water Utility Construction. Prices of basic materials such as cement, sand, gravel, cast iron pipe, wire, etc., are obtained from publications such as Engineering News-Record and checked against prices actually being paid for such materials. Labor cost trends are computed from labor rates obtained from sources such as the Construction Labor Research Council. Prices and cost trends of equipment are obtained from nationally recognized manufacturers, and operating utilities.

Handy-Whitman Index numbers are developed from wage rates and prices prevailing on January 1 and July 1 each year. The index numbers are generally based on 1973 = 100, although those items of recent origin are based on a later year.

The proportions of basic materials, labor, equipment and other cost components used in the Handy-Whitman Index are based on analyses developed during valuation and design assignments and on data furnished by utilities and industrial sources willing to assist with the Index. These data are reviewed continuously, and weightings and components are revised as required. This review assures that the indexes published reflect current construction practice.

## **Geographic Regions**

To reflect differing cost trends throughout the 48 contiguous states, the index has been divided into six geographical regions of similar characteristics. They are shown on the accompanying map.

## **Use of Index Numbers**

Handy-Whitman Index numbers have been widely used to trend earlier valuations and original cost records to estimate reproduction cost at prices prevailing at a certain date. The use of indexes for an appropriate property item or group will provide a reliable guide to changes in cost. Cost trends are given for all the important items of property. The electric and gas groups are arranged by the Federal Energy Regulatory Commission Uniform System of Accounts. The water property accounts are arranged to follow the classification of the National Association of Regulatory Utility Commissioners and the American Water Works Association.

The Handy-Whitman Index will furnish a yardstick for the fluctuations in value of property which will be satisfactory for many purposes. In rate cases, when a more exact determination of value is desired, however, the Index must be used carefully. Average prices and cost trends are used to develop the Index, and any direct application of cost trends without checking with actual local experience may not be accepted without controversy. When local experience is compared with the index and the correlation between the two trends is determined, the result is satisfactory. Costs trended by such a method are used to assist in establishing a rate base.

Indexes in these bulletins are used to trend earlier valuations or original cost records for insurance purposes.

The Handy-Whitman Index has a general application in valuations of all types of property. The building construction cost trends may be used wherever similar items of property are to be compared. Many of the other trends may be used for related items in other industries because of their similarity.

State-of-the-art changes often affect costs independently of inflation. New regulatory and environmental requirements, changes in work rules and improved design standards, for instance, increase construction costs even though the price of wages, materials and equipment may be static. Trended construction costs will not reflect such changes. However, trended costs are a reasonably accurate measure of the cost of reproducing actual plant.

Although every effort is made to maintain accuracy, Whitman, Requardt and Associates, LLP disclaim any responsibility for the use of these indexes, because local conditions may vary.

No guarantee or warranty of any kind is made in the sale of the Handy-Whitman Index. Published numbers are occasionally subject to change based upon receipt of new or different information. These numbers will be bolded.

Further inquiries on electric, gas and water indexes should be addressed to Whitman, Requardt and Associates, LLP.

## **Total Electric Plant and Function**

Three indexes are provided for total plant. The first is for all steam generation and the other two for weighted combinations of steam and nuclear, and steam and hydro generation. Indexes are also provided for each function.

Indexes are not maintained for plant accounts 323,324,325,341,345 and 346. We believe that indexes for comparable accounts in other functions are sufficiently accurate for these accounts.

The indexes for total nuclear production and total other production incorporate comparable indexes from the steam production function for the accounts not listed.

## **Value of Index Numbers**

We believe that present-day reproduction cost of any property can be calculated more accurately using index numbers than by repricing a complete inventory.

Trending the controlling items of property in any utility by the index method saves time and effort in arriving at a valuation. Analyzing and determining cost trends for all of the great numbers of articles of plant that represent only a very small proportion of the value of the utility is not necessary. They may be assumed to follow in general the trend of the controlling items, and the fluctuations in value above or below the trends of the controlling items will tend to offset each other and have a very slight effect on the total value.

## **Comments on Bulletin No. 189**

During the twelve month period ending July 1, 2018, the average index of all geographical regions for Total Gas Plant increased 9.3% and the comparable index for Electric Plant-All Steam Generation increased 5.0%.

May 2019

Whitman, Requardt and Associates, LLP

**Cost Trends Of**

# **Water Utility Construction**

**COST TREND TABLES  
1912 to July 1, 2018**

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS														
			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1	Source of Supply Plant																
2	Collecting & Impounding Res.	305	7	7	7	7	9	13	15	15	17	16	16	16	16		
3																	
4																	
5																	
6																	
7	Pumping Plant																
8	Structures & Improvements	304	8	8	8	9	11	16	17	18	20	18	18	18	19		
9	Electric Pumping Equipment	311	-	-	15	15	17	20	22	24	24	23	21	22	23		
10																	
11																	
12																	
13																	
14	Water Treatment Plant																
15	Structures & Improvements	304	8	8	8	9	11	16	17	18	20	18	18	18	19		
16	Large Treatment Plant Equip.	320	9	9	9	9	11	14	16	17	20	19	18	18	20		
17	Small Treatment Plant Equip.	320	10	10	10	10	13	17	19	19	22	20	20	20	20		
18																	
19																	
20																	
21																	
22	Transmission Plant																
23	Steel Reservoirs	330	4	4	4	12	15	17	19	20	15	13	12	13	13		
24	Elevated Steel Tanks	330	4	4	4	11	14	16	18	19	16	13	11	12	11		
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-	-		
26																	
27	Cast Iron Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-		
28	Steel Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-		
29	Concrete Cylinder Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-		
30																	
31																	
32																	
33	Distribution Plant																
34	Mains-Average All Types	331	9	10	8	9	11	16	19	20	22	22	20	21	22		
35	Cast Iron Mains	331	9	10	9	9	12	18	20	22	25	24	22	23	24		
36	Cement-Asbestos Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-		
37	Steel Mains	331	6	7	6	7	8	11	13	13	14	15	14	14	15		
38	PVC Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-		
39	Services Installed	333	6	6	5	6	6	9	10	11	12	13	12	12	13		
40	Meters	334	23	23	23	23	26	29	35	37	37	37	37	37	37		
41	Meter Installations	334	-	-	-	-	-	-	-	-	-	-	-	-	-		
42	Hydrants Installed	335	-	-	-	-	-	-	-	-	-	-	-	-	-		
43																	
44																	
45	Miscellaneous Items																
46	Flocculating Equipment-Installed	14	16	13	14	26	38	31	29	29	24	25	26	24	23		
47	Clarifier Equipment-Installed	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
48	Filter Gallery Piping-Installed	8	8	8	8	10	14	16	18	20	18	17	18	19	19		
49																	
50																	
51																	
52																	
53																	
54																	
55																	
56																	

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS													
			1	1	1	1	1	1	1	1	1	1	1	1	1	1
			9	9	9	9	9	9	9	9	9	9	9	9	9	9
1	<b>Source of Supply Plant</b>															
2	Collecting & Impounding Res.	305	17	17	17	17	17	16	14	14	15	15	15	17	17	17
3																
4																
5																
6																
7	<b>Pumping Plant</b>															
8	Structures & Improvements	304	19	18	18	18	17	16	15	15	16	16	16	18	18	18
9	Electric Pumping Equipment	311	23	23	23	22	22	22	22	23	24	24	25	26	26	26
10																
11																
12																
13																
14	<b>Water Treatment Plant</b>															
15	Structures & Improvements	304	19	18	18	18	17	16	15	15	16	16	16	18	18	18
16	Large Treatment Plant Equip.	320	20	20	20	20	20	19	17	17	18	18	18	20	20	20
17	Small Treatment Plant Equip.	320	20	20	20	20	20	19	17	17	19	19	19	21	21	21
18																
19																
20																
21																
22	<b>Transmission Plant</b>															
23	Steel Reservoirs	330	12	12	12	12	11	10	9	9	12	11	12	14	14	14
24	Elevated Steel Tanks	330	11	10	10	10	10	9	8	8	10	10	11	12	13	13
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26																
27	Cast Iron Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	Steel Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Concrete Cylinder Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30																
31																
32																
33	<b>Distribution Plant</b>															
34	Mains-Average All Types	331	21	21	20	20	20	20	18	18	19	19	20	21	22	22
35	Cast Iron Mains	331	23	21	20	21	21	20	18	18	20	20	21	23	24	24
36	Cement-Asbestos Mains	331	-	-	-	-	-	-	-	-	-	-	31	32	32	33
37	Steel Mains	331	15	15	15	16	16	16	14	13	14	14	14	16	16	16
38	PVC Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Services Installed	333	13	13	13	14	14	14	13	11	12	13	13	14	14	14
40	Meters	334	37	37	37	37	37	37	37	35	26	26	26	31	32	32
41	Meter Installations	334	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	Hydrants Installed	335	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43																
44																
45	<b>Miscellaneous Items</b>															
46	Flocculating Equipment-Installed		23	22	22	22	21	20	20	20	21	21	23	26	25	25
47	Clarifier Equipment-Installed		-	-	-	-	-	-	-	-	-	-	-	17	23	24
48	Filter Gallery Piping-Installed		19	18	18	18	18	18	15	16	18	18	18	19	20	20
49																
50																
51																
52																
53																
54																
55																
56																

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS													
			1	1	1	1	1	1	1	1	1	1	1	1	1	
			9	9	9	9	9	9	9	9	9	9	9	9	9	
			4	4	4	4	4	4	4	4	4	5	5	5	5	
			0	1	2	3	4	5	6	7	8	9	0	1	2	3
1	Source of Supply Plant															
2	Collecting & Impounding Res.	305	17	18	20	20	20	21	23	27	31	32	33	35	36	38
3																
4																
5																
6																
7	Pumping Plant															
8	Structures & Improvements	304	18	19	20	21	21	22	24	28	32	35	36	38	38	39
9	Electric Pumping Equipment	311	26	27	27	27	27	27	31	39	43	45	49	55	55	55
10																
11																
12																
13																
14	Water Treatment Plant															
15	Structures & Improvements	304	18	19	20	21	21	22	24	28	32	35	36	38	38	39
16	Large Treatment Plant Equip.	320	21	22	23	24	24	25	28	32	35	36	38	40	41	42
17	Small Treatment Plant Equip.	320	21	22	24	24	24	25	28	33	37	39	41	43	43	44
18																
19																
20																
21																
22	Transmission Plant															
23	Steel Reservoirs	330	14	16	16	13	14	16	20	26	29	27	28	30	31	32
24	Elevated Steel Tanks	330	12	15	15	14	15	14	17	23	26	25	26	28	29	31
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26																
27	Cast Iron Mains	331	-	-	-	-	-	-	-	-	-	-	-	42	43	45
28	Steel Mains	331	-	-	-	-	-	-	-	-	-	-	-	40	40	43
29	Concrete Cylinder Mains	331	-	-	-	-	-	-	-	-	-	-	-	44	45	47
30																
31																
32																
33	Distribution Plant															
34	Mains-Average All Types	331	23	23	24	25	25	26	29	35	41	42	43	45	47	48
35	Cast Iron Mains	331	24	25	27	27	28	28	32	39	46	46	48	50	51	53
36	Cement-Asbestos Mains	331	33	34	36	36	37	37	44	49	59	61	62	64	65	67
37	Steel Mains	331	16	17	18	18	18	19	21	24	28	29	31	32	34	36
38	PVC Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Services Installed	333	14	15	16	16	17	17	19	22	25	27	28	29	31	33
40	Meters	334	33	35	37	37	37	37	40	42	48	52	59	61	61	65
41	Meter Installations	334	-	-	-	-	-	-	-	-	-	29	31	34	35	36
42	Hydrants Installed	335	-	-	-	-	-	-	-	-	-	35	37	41	41	43
43																
44																
45	Miscellaneous Items															
46	Flocculating Equipment-Installed		25	27	28	28	28	30	33	38	44	45	45	49	49	50
47	Clarifier Equipment-Installed		25	26	27	27	27	29	32	37	43	43	44	46	46	49
48	Filter Gallery Piping-Installed		21	21	22	22	22	23	25	30	35	37	37	39	40	41
49																
50																
51																
52																
53																
54																
55																
56																

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS													
			1	1	1	1	1	1	1	1	1	1	1	1	1	
			9	9	9	9	9	9	9	9	9	9	9	9	9	9
			5	5	5	5	5	5	6	6	6	6	6	6	6	6
			4	5	6	7	8	9	0	1	2	3	4	5	6	7
1	<b>Source of Supply Plant</b>															
2	Collecting & Impounding Res.	305	39	41	44	47	49	51	52	53	55	56	57	59	61	64
3																
4																
5																
6																
7	<b>Pumping Plant</b>															
8	Structures & Improvements	304	41	43	46	49	50	52	53	53	54	55	56	57	59	61
9	Electric Pumping Equipment	311	55	56	63	69	73	74	74	71	71	71	73	74	78	81
10																
11																
12																
13																
14	<b>Water Treatment Plant</b>															
15	Structures & Improvements	304	41	43	46	49	50	52	53	53	54	55	56	57	59	61
16	Large Treatment Plant Equip.	320	44	45	48	50	52	54	55	56	58	59	60	62	64	67
17	Small Treatment Plant Equip.	320	46	47	50	53	54	56	58	58	60	60	62	63	66	68
18																
19																
20																
21																
22	<b>Transmission Plant</b>															
23	Steel Reservoirs	330	32	33	38	42	37	36	35	35	35	41	44	45	46	47
24	Elevated Steel Tanks	330	31	33	35	38	38	38	38	37	36	37	38	38	41	44
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26																
27	Cast Iron Mains	331	47	50	52	56	57	61	62	63	64	65	66	67	69	71
28	Steel Mains	331	44	46	49	52	55	57	57	58	59	60	61	63	65	67
29	Concrete Cylinder Mains	331	48	50	52	54	56	59	60	60	61	62	62	64	66	70
30																
31																
32																
33	<b>Distribution Plant</b>															
34	Mains-Average All Types	331	51	53	57	60	63	65	68	69	71	72	73	74	75	76
35	Cast Iron Mains	331	56	59	62	66	68	72	73	75	77	79	79	80	80	81
36	Cement-Asbestos Mains	331	68	70	75	78	81	84	86	86	87	89	88	81	82	82
37	Steel Mains	331	38	40	43	46	48	51	53	55	56	58	60	63	65	66
38	PVC Mains	331	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Services Installed	333	35	36	39	41	44	46	48	50	51	53	55	58	60	63
40	Meters	334	67	70	77	78	78	78	78	84	87	87	93	101	101	
41	Meter Installations	334	38	40	44	45	46	48	51	52	54	55	57	59	62	65
42	Hydrants Installed	335	44	44	48	50	51	53	54	55	56	57	58	58	61	64
43																
44																
45	<b>Miscellaneous Items</b>															
46	Flocculating Equipment-Installed		52	53	57	58	58	59	60	61	61	62	65	66	67	68
47	Clarifier Equipment-Installed		50	49	53	55	57	58	58	59	60	60	63	65	66	67
48	Filter Gallery Piping-Installed		44	46	48	50	53	54	56	57	58	59	60	61	63	65
49																
50																
51																
52																
53																
54																
55																
56																

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS														
			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
			6	6	7	7	7	7	7	7	7	7	7	7	7	8	8
			8	9	0	1	2	3	4	5	6	7	8	9	0	1	1
1	Source of Supply Plant																
2	Collecting & Impounding Res.	305	67	72	78	86	94	100	115	127	133	139	148	164	179	189	
3																	
4																	
5																	
6																	
7	Pumping Plant																
8	Structures & Improvements	304	64	69	75	84	92	100	117	127	130	137	148	163	181	191	
9	Electric Pumping Equipment	311	53	64	89	93	96	100	122	155	176	184	192	205	222	245	
10																	
11																	
12																	
13																	
14	Water Treatment Plant																
15	Structures & Improvements	304	64	69	75	84	92	100	117	127	130	137	148	163	181	191	
16	Large Treatment Plant Equip.	300	69	73	79	89	96	100	118	134	144	152	162	175	191	208	
17	Small Treatment Plant Equip.	320	70	74	80	96	96	100	120	139	150	160	172	186	204	223	
18																	
19																	
20																	
21																	
22	Transmission Plant																
23	Steel Reservoirs	330	49	53	75	82	85	100	140	159	171	172	175	178	191	208	
24	Elevated Steel Tanks	350	48	53	71	80	86	100	152	183	182	189	195	206	226	250	
25	Concrete Reservoirs	330															
26																	
27	Cast Iron Mains	333	74	78	84	91	96	100	125	137	142	150	158	166	180	196	
28	Steel Mains	331	69	74	80	83	96	100	113	125	133	141	152	166	180	199	
29	Concrete Cylinder Mains	334	72	78	80	88	95	100	113	134	138	140	148	162	176	189	
30																	
31																	
32																	
33	Distribution Plant																
34	Mains Average All Types	331	77	80	84	94	98	100	110	146	154	162	173	185	202	219	
35	Cast Iron Mains	331	82	83	88	97	99	100	143	158	163	167	178	185	202	218	
36	Cement-Asbestos Mains	331	82	85	88	97	98	100	127	148	159	167	176	202	212	234	
37	Steel Mains	331	64	72	78	88	97	100	115	128	139	151	164	179	197	212	
38	PVC Mains	331								25	100	104	108	113	122	132	138
39	Services Installed	333	66	72	79	89	96	100	115	123	130	139	145	160	175	184	
40	Meters	334	101	106	108	108	106	100	93	93	98	101	106	108	122	127	
41	Meter Installations	334	66	73	79	89	97	100	113	120	131	147	152	162	177	189	
42	Hydrants Installed	335	68	72	80	90	96	100	123	143	157	167	182	194	207	222	
43																	
44																	
45	Miscellaneous Items																
46	Flocculating Equipment Installed		69	74	82	93	98	100	139	174	195	218	246	290	350	406	
47	Clarifier Equipment Installed		68	72	82	93	98	100	140	167	181	199	210	232	272	310	
48	Filter Gallery Piping Installed		68	72	78	90	97	100	119	130	136	144	151	158	171	185	
49																	
50																	
51																	
52																	
53																	
54																	
55																	
56																	

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS														
			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
			8	8	8	8	8	8	8	9	9	9	9	9	9		
			2	3	4	5	6	7	8	9	0	1	2	3	4	5	
1	<b>Source of Supply Plant</b>																
2	Collecting & Impounding Res.	305	197	206	217	227	234	238	248	255	258	262	270	282	295	302	
3																	
4																	
5																	
6																	
7	<b>Pumping Plant</b>																
8	Structures & Improvements	304	198	206	218	225	233	239	251	265	271	274	281	294	308	316	
9	Electric Pumping Equipment	311	260	271	277	282	284	299	311	330	349	355	368	386	428	442	
10																	
11																	
12																	
13																	
14	<b>Water Treatment Plant</b>																
15	Structures & Improvements	304	198	206	218	225	233	239	251	265	271	274	281	294	308	316	
16	Large Treatment Plant Equip.	320	227	242	251	262	269	276	286	301	313	322	332	342	348	357	
17	Small Treatment Plant Equip.	320	243	259	268	279	286	293	303	317	328	334	343	354	360	366	
18																	
19																	
20																	
21																	
22	<b>Transmission Plant</b>																
23	Steel Reservoirs	330	210	182	184	181	184	196	220	216	229	253	261	248	246	250	
24	Elevated Steel Tanks	330	244	197	200	198	207	219	260	268	278	285	277	249	242	252	
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26																	
27	Cast Iron Mains	331	208	222	225	236	235	242	253	266	273	279	284	295	305	305	
28	Steel Mains	331	215	223	230	234	232	241	255	272	279	287	293	302	316	324	
29	Concrete Cylinder Mains	331	203	213	218	232	239	243	258	269	277	288	295	303	311	317	
30																	
31																	
32																	
33	<b>Distribution Plant</b>																
34	Mains-Average All Types	331	231	239	244	254	255	263	280	295	301	307	311	321	327	332	
35	Cast Iron Mains	331	223	245	253	264	263	269	282	296	304	313	320	329	339	341	
36	Cement-Asbestos Mains	331	253	244	249	255	259	275	315	340	338	332	319	335	338	354	
37	Steel Mains	331	233	228	231	237	242	248	265	277	281	288	295	302	304	311	
38	PVC Mains	331	137	151	149	151	150	160	197	217	211	200	183	193	191	204	
39	Services Installed	333	198	207	215	221	226	230	245	258	262	272	283	292	300	307	
40	Meters	334	128	141	148	135	135	137	140	150	159	162	196	195	175	200	
41	Meter Installations	334	207	230	239	247	255	259	269	282	294	310	320	337	347	358	
42	Hydrants Installed	335	245	264	270	285	296	307	320	343	363	372	378	385	391	398	
43																	
44																	
45	<b>Miscellaneous Items</b>																
46	Flocculating Equipment-Installed		458	496	506	540	560	575	579	580	565	528	539	555	562	566	
47	Clarifier Equipment-Installed		356	389	398	431	442	446	451	455	442	416	435	458	492	514	
48	Filter Gallery Piping-Installed		201	217	223	234	237	243	251	266	279	289	297	309	319	321	
49																	
50																	
51																	
52																	
53																	
54																	
55																	
56																	

Line	CONSTRUCTION AND EQUIPMENT	N	COST INDEX NUMBERS													
			1	2	3	4	5	6	2001		2002		2003		2004	
									Jan	Jul	Jan	Jul	Jan	Jul	Jan	Jul
									1	1	1	1	1	1	1	1
1	Source of Supply Plant															
2	Collecting & Impounding Res.	305	309	317	318	318	326	328	338	338	346	344	345	364	370	
7	Pumping Plant															
8	Structures & Improvements	304	321	331	337	343	362	370	380	382	390	393	388	405	418	
9	Electric Pumping Equipment	311	430	473	483	505	530	531	531	516	513	534	546	547	569	
14	Water Treatment Plant															
15	Structures & Improvements	304	321	331	337	345	362	370	380	382	390	393	388	405	418	
16	Large Treatment Plant Equip.	320	367	380	391	401	413	419	429	435	445	443	449	461	462	
17	Small Treatment Plant Equip.	320	375	389	401	410	424	431	440	444	454	456	457	470	476	
22	Transmission Plant															
23	Steel Reservoirs	330	251	263	268	268	270	270	275	275	275	275	275	278	313	
24	Elevated Steel Tanks	330	264	273	283	286	299	305	314	429	429	429	429	438	481	
25	Concrete Reservoirs	350														
27	Cast Iron Mains	331	311	320	323	328	348	353	365	368	387	390	381	387	386	
28	Steel Mains	331	329	337	343	351	377	384	392	394	400	404	395	421	437	
29	Concrete Cylinder Mains	331	324	331	338	345	372	395	405	409	416	420	411	417	423	
33	Distribution Plant															
34	Mains - Any Size All Types	331	339	347	355	361	377	383	392	395	406	407	403	415	426	
35	Cast Iron Mains	331	340	358	364	370	390	396	406	409	424	426	422	430	428	
36	Concrete Asbestos Mains	331	364	372	375	382	405	418	423	429	448	450	441	450	454	
37	Steel Mains	331	316	322	334	339	346	352	359	361	363	364	363	378	413	
38	PVC Mains	331	211	216	216	219	231	241	241	246	254	256	250	258	259	
39	Services Installed	333	321	329	330	334	348	352	355	354	361	363	365	377	386	
40	Meters	334	207	197	197	198	205	206	206	207	207	207	207	207	207	
41	Meter Installations	334	375	381	387	392	406	413	418	421	428	436	437	449	455	
42	Hydrants Installed	335	418	475	493	506	526	538	554	557	566	569	568	576	583	
45	Miscellaneous Items															
46	Flocculating Equipment Installed	579	603	622	642	652	667	670	676	685	687	688	724	754		
47	Clarifier Equipment Installed	540	562	572	579	593	599	602	609	617	623	625	646	649		
48	Filter Gallery Piping Installed	328	337	344	349	363	369	379	384	400	406	404	417	415		

Line	CONSTRUCTION AND EQUIPMENT	N A R R U C	COST INDEX NUMBERS											
			2005		2006		2007		2008		2009		2010	
			Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	<b>Source of Supply Plant</b>													
2	Collecting & Impounding Res.	305	388	394	400	405	413	439	457	466	470	465	475	478
3														
4														
5														
6														
7	<b>Pumping Plant</b>													
8	Structures & Improvements	304	442	447	456	464	481	494	516	543	551	536	552	558
9	Electric Pumping Equipment	311	604	611	620	619	639	628	640	666	679	688	707	701
10														
11														
12														
13														
14	<b>Water Treatment Plant</b>													
15	Structures & Improvements	304	442	447	456	464	481	494	516	543	551	536	552	558
16	Large Treatment Plant Equip.	320	480	482	499	500	516	533	566	582	614	616	631	638
17	Small Treatment Plant Equip.	320	498	502	520	518	539	559	602	624	666	669	686	693
18														
19														
20														
21														
22	<b>Transmission Plant</b>													
23	Steel Reservoirs	330	329	338	348	375	494	537	537	722	722	722	722	722
24	Elevated Steel Tanks	330	524	524	524	596	657	657	680	866	866	866	866	867
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-
26														
27	Cast Iron Mains	331	411	415	442	451	480	484	510	534	578	576	601	601
28	Steel Mains	331	509	508	530	539	528	527	543	606	605	585	593	609
29	Concrete Cylinder Mains	331	436	440	454	459	460	462	468	475	502	502	494	495
30														
31														
32														
33	<b>Distribution Plant</b>													
34	Mains-Average All Types	331	462	464	485	494	524	523	550	588	624	608	617	623
35	Cast Iron Mains	331	457	460	483	492	525	528	556	579	625	624	647	648
36	Cement-Asbestos Mains	331	480	483	538	546	599	597	621	632	691	678	638	649
37	Steel Mains	331	459	460	467	477	494	487	514	582	595	559	565	575
38	PVC Mains	331	277	278	321	321	365	361	372	374	419	408	353	363
39	Services Installed	333	404	407	421	459	478	481	501	511	534	534	545	554
40	Meters	334	207	207	235	248	260	262	373	373	373	373	374	376
41	Meter Installations	334	466	467	482	530	549	552	572	573	597	598	612	623
42	Hydrants Installed	335	597	597	613	647	663	669	693	699	732	731	740	721
43														
44														
45	<b>Miscellaneous Items</b>													
46	Flocculating Equipment-Installed		801	801	852	852	869	983	1187	1373	1645	1645	1699	1744
47	Clarifier Equipment-Installed		709	709	729	729	760	892	920	944	997	997	991	1001
48	Filter Gallery Piping-Installed		438	438	468	470	500	501	530	543	589	590	613	614
49														
50														
51														
52														
53														
54														
55														
56														

NORTH ATLANTIC REGION (1973=100)

Line	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS													
			2011		2012		2013		2014		2015		2016		2017	
			Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	<b>Source of Supply Plant</b>															
2	Collecting & Impounding Res.	305	492	495	501	502	507	505	515	517	526	521	526	532	543	549
3																
4																
5																
6																
7	<b>Pumping Plant</b>															
8	Structures & Improvements	304	571	583	597	600	618	608	621	630	642	646	655	659	672	671
9	Electric Pumping Equipment	311	708	760	780	785	800	844	856	900	928	931	990	1013	1052	1135
10																
11																
12																
13																
14	<b>Water Treatment Plant</b>															
15	Structures & Improvements	304	571	583	597	600	618	608	621	630	642	646	655	659	672	671
16	Large Treatment Plant Equip.	320	642	653	669	680	689	697	713	725	736	737	755	758	774	785
17	Small Treatment Plant Equip.	320	706	712	740	754	764	779	800	813	832	840	861	864	881	897
18																
19																
20																
21																
22	<b>Transmission Plant</b>															
23	Steel Reservoirs	330	771	771	795	810	778	780	715	742	742	742	742	774	784	784
24	Elevated Steel Tanks	330	1079	1079	1059	1082	1089	1099	1131	1131	1131	1131	1131	1143	1161	1161
25	Concrete Reservoirs	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26																
27	Cast Iron Mains	331	602	610	634	669	691	684	712	743	733	744	754	759	793	785
28	Steel Mains	331	644	659	711	708	724	704	694	708	712	713	697	705	723	726
29	Concrete Cylinder Mains	331	510	517	523	526	547	534	535	547	562	575	591	592	601	592
30																
31																
32																
33	<b>Distribution Plant</b>															
34	Mains Average All Types	331	633	644	669	690	698	693	720	733	736	738	747	750	774	772
35	Cast Iron Mains	331	654	660	681	716	733	730	759	781	780	785	795	797	832	826
36	Cement Asbestos Mains	331	658	683	716	721	712	707	704	721	724	731	741	743	751	746
37	Steel Mains	331	593	606	633	637	638	631	665	665	673	670	678	681	697	701
38	PVC Mains	331	369	389	412	412	391	392	383	383	387	387	388	388	387	387
39	Services Installed	333	568	574	589	600	602	602	603	605	617	616	622	617	638	651
40	Meters	334	379	379	379	379	380	381	381	381	400	400	403	403	404	418
41	Meter Installations	334	635	635	646	673	677	677	688	688	702	702	709	709	722	733
42	Hydrants Installed	335	730	731	757	758	774	784	807	849	877	930	971	972	980	981
43																
44																
45	<b>Miscellaneous Items</b>															
46	Flocculating Equipment-Installed		1823	1848	1904	1973	1978	2015	2041	2078	2167	2177	2192	2192	2198	2213
47	Clarifier Equipment-Installed		1056	1060	1077	1102	1105	1136	1154	1162	1184	1188	1229	1272	1311	1315
48	Filter Gallery Piping-Installed		620	620	641	666	677	680	713	728	727	728	735	738	772	772
49																
50																
51																
52																
53																
54																
55																
56																

NORTH ATLANTIC REGION (1973=100)

L i n e	CONSTRUCTION AND EQUIPMENT	N A R U C	COST INDEX NUMBERS													
			2018		2019		2020		2021		2022		2023		2024	
			Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1	Jan. 1	Jul. 1
1	Source of Supply Plant															
2	Collecting & Impounding Res.	305	559	570	576											
3																
4																
5																
6																
7	Pumping Plant															
8	Structures & Improvements	304	687	706	717											
9	Electric Pumping Equipment	311	1146	1216	1261											
10																
11																
12																
13																
14	Water Treatment Plant															
15	Structures & Improvements	304	687	706	717											
16	Large Treatment Plant Equip.	320	797	812	832											
17	Small Treatment Plant Equip.	320	911	934	960											
18																
19																
20																
21																
22	Transmission Plant															
23	Steel Reservoirs	330	801	820	832											
24	Elevated Steel Tanks	330	1181	1200	1244											
25	Concrete Reservoirs	330	-	-	-											
26																
27	Cast Iron Mains	331	810	825	844											
28	Steel Mains	331	733	770	792											
29	Concrete Cylinder Mains	331	620	626	639											
30																
31																
32																
33	Distribution Plant															
34	Mains-Average All Types	331	790	801	819											
35	Cast Iron Mains	331	855	864	883											
36	Cement-Asbestos Mains	331	763	770	784											
37	Steel Mains	331	704	717	734											
38	PVC Mains	331	397	397	401											
39	Services Installed	333	661	667	677											
40	Meters	334	434	434	443											
41	Meter Installations	334	750	750	765											
42	Hydrants Installed	335	1012	1024	1049											
43																
44																
45	Miscellaneous Items															
46	Flocculating Equipment-Installed		2223	2264	2360											
47	Clarifier Equipment-Installed		1369	1401	1462											
48	Filter Gallery Piping-Installed		801	808	825											
49																
50																
51																
52																
53																
54																
55																
56																

**BULLETIN No. 190**

1912 to July 1, 2019

THE  
**HANDY-WHITMAN INDEX**  
Of  
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**TRENDS OF**  
**CONSTRUCTION COSTS**

**Preliminaries**

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HANDY-WHITMAN INDEX OF PUBLIC UTILITY CONSTRUCTION COSTS

ADVANCE NUMBERS BULLETIN 190

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9	1346	1346	1346	1346	1346	1346
15	713	599	679	583	662	716
16	842	752	804	752	763	863
17	975	904	947	908	919	1003
23	832	832	832	832	832	832
24	1244	1244	1244	1244	1244	1244
27	858	818	840	827	836	882
28	785	714	751	739	725	787
29	641	579	617	580	589	645
34	826	762	793	736	753	819
35	894	873	894	845	862	904
36	793	643	700	623	651	681
37	736	633	686	622	636	738
38	401	347	379	343	349	389
39	684	534	619	536	535	661
40	443	443	443	443	443	443
41	772	641	711	648	653	767
42	1063	999	1020	1002	1002	1084
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**Pennsylvania American Water Company**  
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**Appraisal Work Papers**  
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**Cost Indices**

**AUS Consultants Index of General Support Assets**

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## AUS Telephone Plant Index

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# AUS Telephone Plant Index

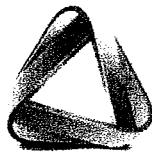
Cost Trend Tables from 1946 to July 1, 2019

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To July 1, 2019

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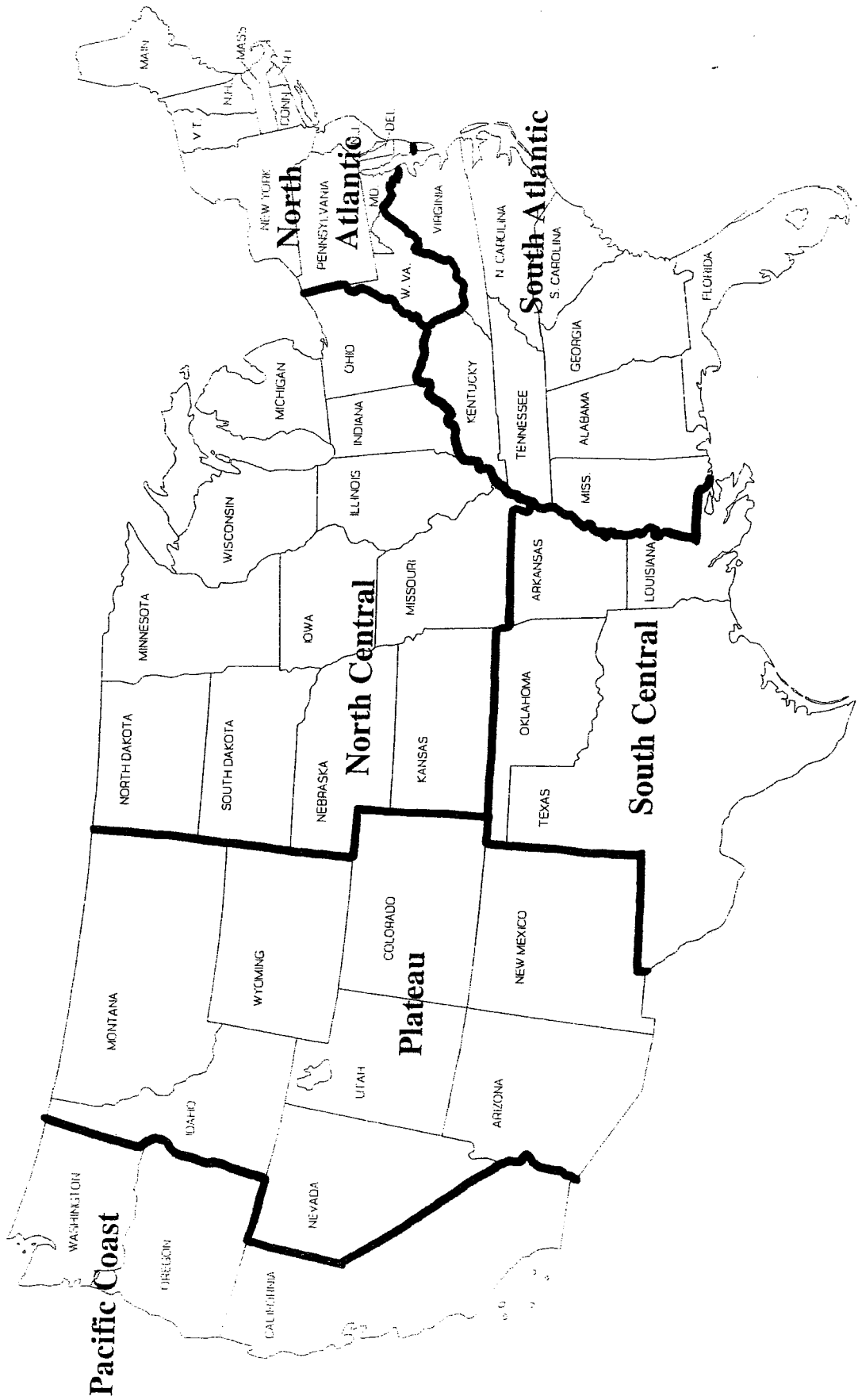
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## FOREWORD

The AUS Telephone Plant Index, which follows this foreword was first introduced in 1977 by Associated Utility Services, Inc., and published as part of the Handy-Whitman Index of Public Utility Construction Costs through 1989. In 1990 AUS Consultants, the successor company to Associated Utility Services, Inc., decided to publish the Telephone Plant Index under the name C.A. Turner Utility Reports publication division. In 2005 the index changed its name from C.A. Turner Telephone Plant Index to AUS Telephone Plant Index.

The 1990 AUS Telephone Plant Index (TPI) was the first nationally available TPI based on the Federal Communication Commission (FCC) Uniform System of Accounts (USOA) Part 32. The prior published TPI, also prepared by AUS staff, was based on the earlier USOA Part 31 Standards.

### Telephone Plant Index Description

The TPI consists of a separate cost index series for each of six geographic regions shown on the map at page iv. These regions are designated: North Atlantic, South Atlantic, North Central, South Central, Plateau, and Pacific Coast. The regional designation are the same as those used in the prior issues of the cost index and are based on similarity of characteristics among the contiguous 48 states.

Each cost index series within a region consists of one index labeled "Total Plant Account" and up to 31 individual cost index series for the individual plant account identified in the left hand columns.

The Base Year for each cost index is 1973=100. Some plant accounts will not show an index number of 100 at year 1973 due to a subsequent adjustment for FCC Part 31 to Part 32, changes explained later in this foreword. In a few accounts the item described in the account was not included in the index series until after 1973 and the base year is considered the first year of entry.

The index for most plant accounts begins with a single entry in year 1946 and continues with a single number for each year through 1973. Beginning in 1974 there are two index numbers for each year; one for January 1 and one for July 1. These numbers represent the prevailing wages and material prices and weightings at that point in time.

### Index History

An index is a tool for identifying the relative price change of an item, or group of items over an identified period of time. Price indexes have been in use for many years for a variety of reasons. One example is an index developed in the eighteenth century by an Italian named Carli to determine the effect of the discovery of America upon the level of prices in Italy of three commodities between the years 1500 and 1750. In the current century, numerous organizations, including the United States Bureau of Statistic, have developed a variety of indexes ranging from the cost of basic commodities to manufactured goods and building construction cost.

Interest in telephone utility cost indexes has varied over time depending on the need to develop reproduction cost values for utility properties. Previous uses of cost indexes included such things as the determination trended original cost in fair value rate jurisdictions and current cost pricing for FASB-33 financial accounting disclosures. Due to changes in rate regulation proceedings and financial disclosure requirements, the need in these two specific areas has declined. Other areas in which reproduction cost indexes were utilized included insurance valuations, property tax valuations, retirement accounting and cost forecasting, etc.

Most recently, interest in cost indexes for the telecommunication industry has increased due to the possible implementation of price cap regulation. This form of regulation incorporates the use of changes in price levels by regulators to set rates. Under one proposal, customer tariff prices are adjusted to give consideration to productivity improvements, therefore, the development of the construction cost indexes will have an indirect bearing on the level of the company revenue requirements.

### **Index Design**

The telephone plant index was designed as a product which could be utilized by any of the various telephone operating companies to develop the reproduction cost of the company's property at the selected test year date. Due to the variation of many design construction specifics from one company to another, it is impossible to produce an index which will exactly mirror the construction cost changes for each company. In circumstances where companies desire a more specific reproduction cost of their property, a custom index should be prepared or, alternately, the company's property should be inventoried and unit priced. Such unit cost work efforts, of course, will be significantly more expensive and time consuming to complete.

As indicated, the telephone plant index is a standard index which is published on a semi-annual basis. The yearly average index is calculated via a 1-2-1 weighting process which is the sum of 25% of the January index, 50 of the July index, and 25% of the succeeding year's January index.

In general terms, the telephone plant index was constructed around the FCC Part 32 system of accounts to aid companies in ease of application of the published index. Each embedded property account was reviewed to determine the components which comprise the large segment of the property investment in each account. In this manner, the resulting telephone plant index was a reasonable proxy for determining the reproduction cost of the embedded investment of the independent telephone industry.

With the exception of the General Support Asset Group, the FCC Part 32 based indexes were adjusted for all index years 1987 and prior to compensate for the change in overhead capitalization policies effective with the new regulations. That is, under FCC Part 31 regulation, a greater level of overheads were previously incorporated in the plant in service investments contained on the company's books and records. The adjusted indexes for the years 1946 through 1987, when applied to the company's original costs, will produce the applicable reproduction cost under FCC Part 32 accounting treatment. The index adjustment for Part 31 to Part 32 accounting results in the plant accounts not having an index number of 100 at the 1973 base year.



The AUS Telephone Plant Index was designed around thirty-six component indexes representing the basic components of material and labor which make up the construction of the various telephone plant accounts. The components include such items as Buildings, Switching Equipment, Circuit Equipment, Poles, Cable, Wire Vehicles, Tools, Furniture, Installer Labor and Lineman Labor, etc. The components were composited together into account level indexes based upon material and labor weights derived from a study of independent telephone construction cost experience.

Introduction of new technologies into a reproduction cost index required the review of composite weight included in development of the account level index to reflex the new mix of property.

The goal of the telephone plant index was to produce a product which when utilized together with each companies' books and records would produce a reproduction cost value.

The AUS Telephone Plant Index does not reflect replacement cost inasmuch as it was designed to produce the reproduction cost (the cost in today's dollars to reproduce the company's embedded plant in service).

### **Index Functions**

The AUS Telephone Plant Index series was initially prepared to address a very specific function. That is, it was designed to enable companies to produce trended original cost values to the historical original cost of plant in service on the companies' books and records. This trended original cost is a general representation of the cost to reconstruct the property in question at the price level of the selected period. If a company desires a more specific estimate of reconstruction, the property specific indexes can be developed giving consideration to the actual history of the company's wages and material cost in comparison to the labor and material costs. For an even more specific cost estimated to rebuild the plant in serve, engineering estimated can be completed based upon the property inventory and the current unit costs for constructing the various plant categories.

In summary, the index was designed to be applied on a vintage and account level basis to determine the reproduction cost of local distribution companies' plant in service, as of the selected price level.

A tool can be utilized correctly only within the boundaries for which the product was originally designed. Uses above and beyond the scope of the original design may or may not produce reliable results. That is, the use of a generalized index to prepare a reproduction cost will provide general results within the range of reasonableness. If more specific or exact results are required, alternative methods or procedures (i.e., custom indexes or specific detail pricing) should be employed.

An effort has been made to carefully construct an index which produces a reasonable proxy of reproduction cost for the telephone plant or local distribution companies giving consideration to the fact that there are variances in material and labor costs, as well as, construction methods and practices from one company to another. Nevertheless, we believe that there is sufficient similarity in the cost trends to make the AUS Telephone Plant Index a useful tool when carefully applied to a company's historical cost base.



# North Atlantic

AUS TELEPHONE INDEX BULLETIN NO. 60



AUS

L I N E  N O	PLANT IN SERVICE  DESCRIPTION	F c  A c c t	COST INDEX NUMBER														L I N E  N O		
			1	1	1	1	1	1	1	1	1	1	1	1	1	1			
			9	9	9	9	9	9	9	9	9	9	9	9	9	9		9	
1	Total Plant.....		85	89	91	91	92	95	96	96	94	94	97	97	96	96	97	96	1
2																			2
3																			3
4	Motor Vehicles.....	2112	57	57	63	67	67	70	74	74	74	77	81	84	87	89	88	87	4
5	Aircraft.....	2113	56	56	62	66	66	69	73	73	73	75	80	83	86	88	86	86	5
6	Special Purpose Vehicles.....	2114	30	34	38	41	42	46	47	48	49	51	56	60	62	65	66	67	6
7	Garage Work Equipment.....	2115	36	38	42	44	46	51	51	52	53	56	61	65	67	69	70	70	7
8	Other Work Equipment.....	2116	50	50	52	54	55	59	59	61	62	64	67	70	71	74	75	77	8
9																			9
10																			10
11	Buildings.....	2121	24	28	32	34	35	37	38	39	41	42	46	49	50	52	53	52	11
12	Furniture.....	2122	43	43	46	47	50	56	56	57	57	60	64	68	70	70	71	71	12
13	Office Equipment.....	2123	67	67	69	69	70	75	74	76	77	79	82	85	87	88	88	89	13
14	General Purpose Computer.....	2124	67	67	69	69	70	75	74	76	77	79	82	85	87	88	88	89	14
15																			15
16																			16
17	Analog Electronic Switching.....	2211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
18	Digital Electronic Switching.....	2212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
19																			19
20																			20
21	Electro Mechanical Switching.....	2215	36	48	49	57	62	64	67	66	64	65	68	70	69	72	70	72	21
22																			22
23	Operator Systems.....	2220	37	50	51	59	64	67	69	68	66	67	70	72	71	73	71	74	23
24																			24
25																			25
26	Radio System—Analog.....																		26
27	Radio Systems—Digital.....	22311	51	57	62	63	63	66	64	60	58	58	49	49	46	47	36	36	27
28	Circuit Equipment—Analog.....	22312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
29	Circuit Equipment—Digital.....	22321	347	392	417	411	410	423	410	401	348	311	319	317	303	299	312	297	29
30		22322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
31																			31
32	Public Telephone Term Eq.....	2351	148	151	145	145	148	154	143	144	146	158	159	164	164	164	165	165	32
33																			33
34																			34
35	Poles.....	2411	33	37	39	41	42	45	47	49	51	50	54	58	59	59	60	61	35
36	Aerial Cable—Metallic.....	24211	44	47	49	49	51	58	61	64	64	68	74	72	70	71	72	70	36
37	Aerial Cable—Fiber.....	24212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
38	Underground Cable—Metallic.....	24221	48	52	54	53	55	64	67	71	69	75	82	78	75	76	78	75	38
39	Underground Cable—Fiber.....	24222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
40	Buried Cable—Metallic.....	24231	50	54	56	55	57	66	70	74	72	78	85	81	77	78	80	76	40
41	Buried Cable—Fiber.....	24232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
42	Submarine Cable—Metallic.....	24241	43	45	48	48	50	56	59	62	61	65	71	69	68	69	71	70	42
43	Submarine Cable—Fiber.....	24242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
44	Intra Building Cable—Metallic.....	24261	43	47	49	48	50	58	61	64	63	68	74	71	69	70	72	70	44
45	Intra Building Cable—Fiber.....	24262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
46	Aerial Wire.....	2431	33	36	38	38	40	45	47	50	50	55	58	57	57	59	61	62	46
47	Conduit Systems.....	2441	54	55	57	59	60	63	64	64	65	65	67	69	71	72	73	74	47
48																			48
49	Aerial Cable-FTTP (Distribution)...	24213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
50	Underground Cable-FTTP (Dist.)...	24223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
51	Buried Cable-FTTP (Distribution)..	24233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51
52	Submarine Cable-FTTP (Dist.).....	24243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
53	Intra Building Cable-FTTP (Dist.)...	24263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
54																			54



L I N E  N O	COST INDEX NUMBER														L I N E  N O											
	1	1	1	1	1	1	1	1	1	1	1	1	1974	1975		1976	1977		1978		1979					
	9	9	9	9	9	9	9	9	9	9	9	9	J	J		J	J	J	J	J	J	J	J			
	6	6	6	6	6	6	6	6	7	7	7	7	a	a		a	a	a	a	a	a	a	a			
2	3	4	5	6	7	8	9	0	1	2	3	n	l	n	l	l	n	l	l	l	l					
													l	l	l	l	l	l	l	l	l					
1	95	94	94	94	95	96	96	97	101	101	102	105	108	113	116	116	117	120	122	123	125	128	131	135	1	
2																									2	
3																									3	
4	87	86	86	85	85	86	88	89	92	97	99	100	102	105	116	116	123	124	131	132	140	143	149	155	4	
5	85	85	84	84	84	84	86	88	91	96	99	100	102	109	119	123	128	131	136	140	146	151	157	163	5	
6	67	68	70	72	74	77	81	85	89	93	96	100	103	114	130	141	147	151	158	162	171	177	187	195	6	
7	71	71	72	73	76	79	82	85	90	94	96	100	114	118	134	139	143	147	153	159	165	172	180	189	7	
8	78	79	79	79	81	85	88	93	98	100	100	100	100	111	118	122	119	122	124	130	131	137	141	147	8	
9																									9	
10																									10	
11	53	54	56	57	59	61	64	68	74	84	91	100	107	119	125	128	126	131	132	136	140	148	154	163	11	
12	71	71	72	72	73	77	80	83	89	91	93	100	103	114	130	128	129	135	136	144	149	155	160	171	12	
13	89	90	90	90	91	92	93	93	96	97	99	100	101	105	109	111	110	112	111	113	114	118	119	123	13	
14	89	90	90	90	91	92	93	93	96	97	99	100	100	100	102	103	100	100	98	90	90	90	90	90	14	
15																									15	
16																									16	
17	0	0	0	0	0	0	0	0	0	0	0	104	103	106	110	111	111	113	113	113	115	119	122	125	17	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	105	100	95	95	95	96	96	18	
19																									19	
20																									20	
21	71	76	78	75	72	71	75	81	84	88	98	104	106	110	115	120	124	127	132	136	140	145	151	156	21	
22																									22	
23	73	77	79	76	72	71	76	81	85	89	98	104	106	108	111	114	117	119	121	122	125	128	132	136	23	
24																									24	
25																									25	
26																									26	
27	46	49	52	60	58	63	62	66	78	97	102	104	102	102	102	102	97	98	103	104	106	106	103	103	27	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
29	273	234	228	214	224	210	173	159	163	128	108	104	105	108	111	112	111	111	115	118	118	119	120	122	29	
30	0	0	0	0	0	0	0	0	0	0	0	104	104	104	105	105	110	116	121	126	126	127	123	120	30	
31																									31	
32	165	165	166	130	122	123	120	118	108	107	108	107	106	107	110	109	109	111	112	114	116	119	123	127	32	
33																									33	
34																									34	
35	62	63	65	66	68	71	76	79	83	88	97	107	119	131	144	157	158	160	164	169	176	183	196	208	35	
36	70	70	70	73	77	81	84	88	96	97	100	107	114	125	129	126	130	135	140	144	148	152	158	170	36	
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
38	74	73	72	75	80	84	87	91	100	99	100	107	114	127	130	125	129	134	138	143	145	149	155	168	38	
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
40	76	74	73	77	81	85	88	91	101	99	100	107	114	128	131	124	128	133	138	142	144	147	153	167	40	
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
42	70	70	71	73	77	81	84	88	95	96	101	107	113	123	128	126	131	136	141	145	150	154	160	171	42	
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
44	70	70	70	73	77	81	84	88	96	96	100	107	114	125	129	126	130	136	140	145	148	152	158	170	44	
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
46	63	65	66	70	73	75	78	84	91	93	100	107	114	125	130	131	134	139	142	146	145	150	158	172	46	
47	74	77	78	79	82	84	84	87	89	94	102	107	111	117	127	130	135	139	144	150	159	163	169	180	47	
48																									48	
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
54																										54



SCHEDULE No. T-1

AUS TELEPHONE PLANT INDEX  
NORTH ATLANTIC REGION 1973=100

L I N E  N O	PLANT IN SERVICE  DESCRIPTION	F C C  A c c t	COST INDEX NUMBER																L I N E  N O
			1980		1981		1982		1983		1984		1985		1986		1987		
			J a n 1	J u n 1	J a n 1	J u n 1	J a n 1	J u n 1	J a n 1	J u n 1	J a n 1	J u n 1	J a n 1	J u n 1	J a n 1	J u n 1	J a n 1	J u n 1	
1	Total Plant.....		140	146	146	149	150	152	156	159	156	154	156	158	156	154	154	155	1
2																			2
3																			3
4	Motor Vehicles.....	2112	162	167	178	186	195	195	201	199	203	204	206	210	215	215	227	220	4
5	Aircraft.....	2113	170	180	195	205	215	217	224	223	227	228	230	234	238	237	233	231	5
6	Special Purpose Vehicles.....	2114	206	220	231	245	254	263	266	270	271	274	274	277	278	281	283	287	6
7	Garage Work Equipment.....	2115	200	213	223	234	241	248	250	251	253	257	260	263	264	267	268	270	7
8	Other Work Equipment.....	2116	153	165	170	181	183	189	189	189	189	190	192	197	199	202	204	205	8
9																			9
10																			10
11	Buildings.....	2121	176	183	188	193	192	198	200	206	210	218	223	224	228	234	234	239	11
12	Furniture.....	2122	174	182	187	199	210	213	215	222	224	229	232	238	242	245	248	252	12
13	Office Equipment.....	2123	125	130	132	136	137	140	140	143	142	142	140	142	143	143	143	146	13
14	General Purpose Computer.....	2124	90	90	90	90	87	83	76	69	59	48	48	48	48	47	47	47	14
15																			15
16																			16
17	Analog Electronic Switching.....	2211	130	140	149	163	168	175	183	188	193	199	202	204	205	208	210	210	17
18	Digital Electronic Switching.....	2212	96	96	97	97	94	90	84	77	67	57	57	57	57	56	56	56	18
19																			19
20																			20
21	Electro Mechanical Switching.....	2215	167	188	199	213	219	226	232	248	268	277	282	281	283	286	287	287	21
22																			22
23	Operator Systems.....	2220	146	157	166	176	180	185	191	197	204	211	213	215	216	218	219	219	23
24																			24
25																			25
26																			26
27	Radio System—Analog.....	22311	100	100	101	102	90	91	94	94	79	80	80	81	77	78	82	82	27
28	Radio Systems—Digital.....	22312	0	0	0	0	0	0	115	115	115	117	119	121	122	124	126	124	28
29	Circuit Equipment—Analog.....	22321	125	130	129	128	130	132	121	154	153	152	153	152	147	144	145	146	29
30	Circuit Equipment—Digital.....	22322	114	107	100	93	93	94	95	96	89	82	80	78	68	59	49	39	30
31																			31
32	Public Telephone Term Eq.....	2351	132	141	145	150	158	167	190	196	201	206	210	212	213	217	219	218	32
33																			33
34																			34
35	Poles.....	2411	220	232	240	249	254	259	263	268	272	273	280	283	287	292	295	297	35
36	Aerial Cable—Metallic.....	24211	182	193	191	197	202	204	208	213	211	209	219	231	227	223	225	228	36
37	Aerial Cable—Fiber.....	24212	0	0	0	0	0	0	136	138	132	127	119	111	108	105	108	110	37
38	Underground Cable—Metallic.....	24221	181	192	187	191	195	196	199	203	197	193	204	217	212	205	206	209	38
39	Underground Cable—Fiber.....	24222	0	0	0	0	0	0	130	131	125	119	110	101	98	94	97	100	39
40	Buried Cable—Metallic.....	24231	180	192	186	189	192	193	195	199	192	187	198	212	205	198	198	201	40
41	Buried Cable—Fiber.....	24232	0	0	0	0	0	0	129	131	124	118	109	100	97	93	96	98	41
42	Submarine Cable—Metallic.....	24241	181	192	193	199	205	209	214	219	219	218	227	238	237	235	238	240	42
43	Submarine Cable—Fiber.....	24242	0	0	0	0	0	0	147	149	145	141	134	128	126	124	127	130	43
44	Intra Building Cable—Metallic.....	24261	182	193	191	197	202	205	209	214	211	210	220	231	228	224	226	230	44
45	Intra Building Cable—Fiber.....	24262	0	0	0	0	0	0	136	138	132	127	119	111	108	105	108	111	45
46	Aerial Wire.....	2431	182	191	198	206	210	214	219	225	232	239	243	248	250	252	253	253	46
47	Conduit Systems.....	2441	188	196	203	211	219	220	228	240	246	253	257	262	267	271	276	278	47
48																			48
49	Aerial Cable-FTTP (Distribution)...	24213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
50	Underground Cable-FTTP (Dist.)...	24223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
51	Buried Cable-FTTP (Distribution)...	24233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51
52	Submarine Cable-FTTP (Dist.).....	24243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
53	Intra Building Cable-FTTP (Dist.)..	24263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
54																			54

