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October 29, 2021

Via Electronic Filing

Rosemary Chiavetta, Secretary
Secretary's Bureau
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, Second Floor
Harrisburg, PA 17120

In Re: Application of Columbia Water Company Pursuant to Sections 1102 of the Public Utility Code For: Approval Of the Acquisition Of the Water System Of East Donegal Township Municipal Authority; Approval Of The Right For Columbia Water Company To Offer, Render Furnish And Supply Water Service To The Public In Portions Of East Donegal Township, Lancaster County; Registration Of A Securities Certificate; And all Other Approvals Or Certificates Appropriate, Customary Or Necessary Under The Public Utility Code To Carry Out The Transactions Described In The Application; Request For Certificates Of Filing For Contracts Between Columbia Water Company And East Donegal Township Municipal Authority, Pursuant To Section 507 Of The Public Utility Code; Docket No. A-2021-3027134 and S-2021-3027145; **RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET I**

Dear Secretary Chiavetta,

Enclosed for filing on behalf of Columbia Water Company please find responses to BTUS Data Requests, Set I in this proceeding. Columbia Water is providing responses to the following data requests in this filing:

- A-1 through A-9
- A-14
- A-17 through A-18
- A-20 through A-23
- A-25

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
November 4, 2021
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- A-27
- A-29 through A-30
- A-33

Columbia Water will provide responses to the remaining data requests at its earliest convenience.

Respectfully submitted,

/s/ Whitney E. Snyder

Thomas J. Sniscak
Whitney E. Snyder
Bryce R. Beard

Counsel for Columbia Water Company

WES/das
Enclosure

cc: Matthew Lamb (mlamb@pa.gov)
David Lewis
Michael Davis (mdavis@barley.com)
Daniel Desmond (ddesmond@barley.com)

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-1. The Application’s Appendix 1, Exhibit B titled “Promissory Note”, Section 2.(b)(i), references Amortization Schedule, Exhibit A. However, a copy of Amortization Schedule, Exhibit A was not included in the Application. Please provide a copy of Amortization Schedule, Exhibit A.

RESPONSE: The Amortization schedule cannot be prepared until the final Purchase Price is determined pursuant to Section 2(b) of the Water Production and Distribution System Sale and Purchase Agreement. A draft amortization schedule is attached for reference only. We anticipate the final amortization schedule to be materially the same as this draft schedule.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

LOAN AMORTIZATION SCHEDULE

ENTER VALUES

Loan amount	\$2,250,000.00
Annual interest rate	3.00%
Loan period in years	7
Number of payments per year	12
Start date of loan	1/1/2022
Optional extra payments	

LOAN SUMMARY

Scheduled payment	\$29,729.93
Scheduled number of payments	84
Actual number of payments	84
Total early payments	\$0.00
Total interest	\$247,313.71

LENDER NAME

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PMT NO	PAYMENT DATE	BEGINNING BALANCE	SCHEDULE D PAYMENT	EXTRA PAYMENT	TOTAL PAYMENT	PRINCIPAL	INTEREST	ENDING BALANCE	CUMULATIVE INTEREST
1	1/1/2022	\$2,250,000.00	\$29,729.93	\$0.00	\$29,729.93	\$24,104.93	\$5,625.00	\$2,225,895.07	\$5,625.00
2	2/1/2022	\$2,225,895.07	\$29,729.93	\$0.00	\$29,729.93	\$24,165.19	\$5,564.74	\$2,201,729.89	\$11,189.74
3	3/1/2022	\$2,201,729.89	\$29,729.93	\$0.00	\$29,729.93	\$24,225.60	\$5,504.32	\$2,177,504.29	\$16,694.06
4	4/1/2022	\$2,177,504.29	\$29,729.93	\$0.00	\$29,729.93	\$24,286.16	\$5,443.76	\$2,153,218.12	\$22,137.82
5	5/1/2022	\$2,153,218.12	\$29,729.93	\$0.00	\$29,729.93	\$24,346.88	\$5,383.05	\$2,128,871.24	\$27,520.87
6	6/1/2022	\$2,128,871.24	\$29,729.93	\$0.00	\$29,729.93	\$24,407.75	\$5,322.18	\$2,104,463.50	\$32,843.05
7	7/1/2022	\$2,104,463.50	\$29,729.93	\$0.00	\$29,729.93	\$24,468.77	\$5,261.16	\$2,079,994.73	\$38,104.21
8	8/1/2022	\$2,079,994.73	\$29,729.93	\$0.00	\$29,729.93	\$24,529.94	\$5,199.99	\$2,055,464.79	\$43,304.19
9	9/1/2022	\$2,055,464.79	\$29,729.93	\$0.00	\$29,729.93	\$24,591.26	\$5,138.66	\$2,030,873.53	\$48,442.85
10	10/1/2022	\$2,030,873.53	\$29,729.93	\$0.00	\$29,729.93	\$24,652.74	\$5,077.18	\$2,006,220.79	\$53,520.04
11	11/1/2022	\$2,006,220.79	\$29,729.93	\$0.00	\$29,729.93	\$24,714.37	\$5,015.55	\$1,981,506.41	\$58,535.59
12	12/1/2022	\$1,981,506.41	\$29,729.93	\$0.00	\$29,729.93	\$24,776.16	\$4,953.77	\$1,956,730.25	\$63,489.36
13	1/1/2023	\$1,956,730.25	\$29,729.93	\$0.00	\$29,729.93	\$24,838.10	\$4,891.83	\$1,931,892.15	\$68,381.18
14	2/1/2023	\$1,931,892.15	\$29,729.93	\$0.00	\$29,729.93	\$24,900.19	\$4,829.73	\$1,906,991.96	\$73,210.91
15	3/1/2023	\$1,906,991.96	\$29,729.93	\$0.00	\$29,729.93	\$24,962.45	\$4,767.48	\$1,882,029.51	\$77,978.39
16	4/1/2023	\$1,882,029.51	\$29,729.93	\$0.00	\$29,729.93	\$25,024.85	\$4,705.07	\$1,857,004.66	\$82,683.47
17	5/1/2023	\$1,857,004.66	\$29,729.93	\$0.00	\$29,729.93	\$25,087.41	\$4,642.51	\$1,831,917.25	\$87,325.98
18	6/1/2023	\$1,831,917.25	\$29,729.93	\$0.00	\$29,729.93	\$25,150.13	\$4,579.79	\$1,806,767.12	\$91,905.77
19	7/1/2023	\$1,806,767.12	\$29,729.93	\$0.00	\$29,729.93	\$25,213.01	\$4,516.92	\$1,781,554.11	\$96,422.69
20	8/1/2023	\$1,781,554.11	\$29,729.93	\$0.00	\$29,729.93	\$25,276.04	\$4,453.89	\$1,756,278.07	\$100,876.57
21	9/1/2023	\$1,756,278.07	\$29,729.93	\$0.00	\$29,729.93	\$25,339.23	\$4,390.70	\$1,730,938.84	\$105,267.27
22	10/1/2023	\$1,730,938.84	\$29,729.93	\$0.00	\$29,729.93	\$25,402.58	\$4,327.35	\$1,705,536.26	\$109,594.62
23	11/1/2023	\$1,705,536.26	\$29,729.93	\$0.00	\$29,729.93	\$25,466.08	\$4,263.84	\$1,680,070.18	\$113,858.46
24	12/1/2023	\$1,680,070.18	\$29,729.93	\$0.00	\$29,729.93	\$25,529.75	\$4,200.18	\$1,654,540.43	\$118,058.63
25	1/1/2024	\$1,654,540.43	\$29,729.93	\$0.00	\$29,729.93	\$25,593.57	\$4,136.35	\$1,628,946.85	\$122,194.98
26	2/1/2024	\$1,628,946.85	\$29,729.93	\$0.00	\$29,729.93	\$25,657.56	\$4,072.37	\$1,603,289.30	\$126,267.35
27	3/1/2024	\$1,603,289.30	\$29,729.93	\$0.00	\$29,729.93	\$25,721.70	\$4,008.22	\$1,577,567.59	\$130,275.57
28	4/1/2024	\$1,577,567.59	\$29,729.93	\$0.00	\$29,729.93	\$25,786.01	\$3,943.92	\$1,551,781.59	\$134,219.49
29	5/1/2024	\$1,551,781.59	\$29,729.93	\$0.00	\$29,729.93	\$25,850.47	\$3,879.45	\$1,525,931.12	\$138,098.95
30	6/1/2024	\$1,525,931.12	\$29,729.93	\$0.00	\$29,729.93	\$25,915.10	\$3,814.83	\$1,500,016.02	\$141,913.77
31	7/1/2024	\$1,500,016.02	\$29,729.93	\$0.00	\$29,729.93	\$25,979.89	\$3,750.04	\$1,474,036.13	\$145,663.81
32	8/1/2024	\$1,474,036.13	\$29,729.93	\$0.00	\$29,729.93	\$26,044.83	\$3,685.09	\$1,447,991.30	\$149,348.90
33	9/1/2024	\$1,447,991.30	\$29,729.93	\$0.00	\$29,729.93	\$26,109.95	\$3,619.98	\$1,421,881.35	\$152,968.88
34	10/1/2024	\$1,421,881.35	\$29,729.93	\$0.00	\$29,729.93	\$26,175.22	\$3,554.70	\$1,395,706.13	\$156,523.59
35	11/1/2024	\$1,395,706.13	\$29,729.93	\$0.00	\$29,729.93	\$26,240.66	\$3,489.27	\$1,369,465.47	\$160,012.85
36	12/1/2024	\$1,369,465.47	\$29,729.93	\$0.00	\$29,729.93	\$26,306.26	\$3,423.66	\$1,343,159.21	\$163,436.52

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PMT NO	PAYMENT DATE	BEGINNING BALANCE	SCHEDULE D PAYMENT	EXTRA PAYMENT	TOTAL PAYMENT	PRINCIPAL	INTEREST	ENDING BALANCE	CUMULATIVE INTEREST
37	1/1/2025	\$1,343,159.21	\$29,729.93	\$0.00	\$29,729.93	\$26,372.03	\$3,357.90	\$1,316,787.18	\$166,794.41
38	2/1/2025	\$1,316,787.18	\$29,729.93	\$0.00	\$29,729.93	\$26,437.96	\$3,291.97	\$1,290,349.23	\$170,086.38
39	3/1/2025	\$1,290,349.23	\$29,729.93	\$0.00	\$29,729.93	\$26,504.05	\$3,225.87	\$1,263,845.17	\$173,312.25
40	4/1/2025	\$1,263,845.17	\$29,729.93	\$0.00	\$29,729.93	\$26,570.31	\$3,159.61	\$1,237,274.86	\$176,471.87
41	5/1/2025	\$1,237,274.86	\$29,729.93	\$0.00	\$29,729.93	\$26,636.74	\$3,093.19	\$1,210,638.12	\$179,565.05
42	6/1/2025	\$1,210,638.12	\$29,729.93	\$0.00	\$29,729.93	\$26,703.33	\$3,026.60	\$1,183,934.79	\$182,591.65
43	7/1/2025	\$1,183,934.79	\$29,729.93	\$0.00	\$29,729.93	\$26,770.09	\$2,959.84	\$1,157,164.71	\$185,551.49
44	8/1/2025	\$1,157,164.71	\$29,729.93	\$0.00	\$29,729.93	\$26,837.01	\$2,892.91	\$1,130,327.69	\$188,444.40
45	9/1/2025	\$1,130,327.69	\$29,729.93	\$0.00	\$29,729.93	\$26,904.11	\$2,825.82	\$1,103,423.59	\$191,270.22
46	10/1/2025	\$1,103,423.59	\$29,729.93	\$0.00	\$29,729.93	\$26,971.37	\$2,758.56	\$1,076,452.22	\$194,028.78
47	11/1/2025	\$1,076,452.22	\$29,729.93	\$0.00	\$29,729.93	\$27,038.79	\$2,691.13	\$1,049,413.43	\$196,719.91
48	12/1/2025	\$1,049,413.43	\$29,729.93	\$0.00	\$29,729.93	\$27,106.39	\$2,623.53	\$1,022,307.03	\$199,343.44
49	1/1/2026	\$1,022,307.03	\$29,729.93	\$0.00	\$29,729.93	\$27,174.16	\$2,555.77	\$995,132.88	\$201,899.21
50	2/1/2026	\$995,132.88	\$29,729.93	\$0.00	\$29,729.93	\$27,242.09	\$2,487.83	\$967,890.78	\$204,387.04
51	3/1/2026	\$967,890.78	\$29,729.93	\$0.00	\$29,729.93	\$27,310.20	\$2,419.73	\$940,580.58	\$206,806.77
52	4/1/2026	\$940,580.58	\$29,729.93	\$0.00	\$29,729.93	\$27,378.47	\$2,351.45	\$913,202.11	\$209,158.22
53	5/1/2026	\$913,202.11	\$29,729.93	\$0.00	\$29,729.93	\$27,446.92	\$2,283.01	\$885,755.19	\$211,441.22
54	6/1/2026	\$885,755.19	\$29,729.93	\$0.00	\$29,729.93	\$27,515.54	\$2,214.39	\$858,239.65	\$213,655.61
55	7/1/2026	\$858,239.65	\$29,729.93	\$0.00	\$29,729.93	\$27,584.33	\$2,145.60	\$830,655.33	\$215,801.21
56	8/1/2026	\$830,655.33	\$29,729.93	\$0.00	\$29,729.93	\$27,653.29	\$2,076.64	\$803,002.04	\$217,877.85
57	9/1/2026	\$803,002.04	\$29,729.93	\$0.00	\$29,729.93	\$27,722.42	\$2,007.51	\$775,279.62	\$219,885.35
58	10/1/2026	\$775,279.62	\$29,729.93	\$0.00	\$29,729.93	\$27,791.73	\$1,938.20	\$747,487.90	\$221,823.55
59	11/1/2026	\$747,487.90	\$29,729.93	\$0.00	\$29,729.93	\$27,861.21	\$1,868.72	\$719,626.69	\$223,692.27
60	12/1/2026	\$719,626.69	\$29,729.93	\$0.00	\$29,729.93	\$27,930.86	\$1,799.07	\$691,695.83	\$225,491.34
61	1/1/2027	\$691,695.83	\$29,729.93	\$0.00	\$29,729.93	\$28,000.69	\$1,729.24	\$663,695.15	\$227,220.58
62	2/1/2027	\$663,695.15	\$29,729.93	\$0.00	\$29,729.93	\$28,070.69	\$1,659.24	\$635,624.46	\$228,879.82
63	3/1/2027	\$635,624.46	\$29,729.93	\$0.00	\$29,729.93	\$28,140.86	\$1,589.06	\$607,483.59	\$230,468.88
64	4/1/2027	\$607,483.59	\$29,729.93	\$0.00	\$29,729.93	\$28,211.22	\$1,518.71	\$579,272.38	\$231,987.59
65	5/1/2027	\$579,272.38	\$29,729.93	\$0.00	\$29,729.93	\$28,281.74	\$1,448.18	\$550,990.63	\$233,435.77
66	6/1/2027	\$550,990.63	\$29,729.93	\$0.00	\$29,729.93	\$28,352.45	\$1,377.48	\$522,638.19	\$234,813.25
67	7/1/2027	\$522,638.19	\$29,729.93	\$0.00	\$29,729.93	\$28,423.33	\$1,306.60	\$494,214.86	\$236,119.84
68	8/1/2027	\$494,214.86	\$29,729.93	\$0.00	\$29,729.93	\$28,494.39	\$1,235.54	\$465,720.47	\$237,355.38
69	9/1/2027	\$465,720.47	\$29,729.93	\$0.00	\$29,729.93	\$28,565.62	\$1,164.30	\$437,154.84	\$238,519.68
70	10/1/2027	\$437,154.84	\$29,729.93	\$0.00	\$29,729.93	\$28,637.04	\$1,092.89	\$408,517.81	\$239,612.57
71	11/1/2027	\$408,517.81	\$29,729.93	\$0.00	\$29,729.93	\$28,708.63	\$1,021.29	\$379,809.18	\$240,633.86
72	12/1/2027	\$379,809.18	\$29,729.93	\$0.00	\$29,729.93	\$28,780.40	\$949.52	\$351,028.77	\$241,583.38
73	1/1/2028	\$351,028.77	\$29,729.93	\$0.00	\$29,729.93	\$28,852.35	\$877.57	\$322,176.42	\$242,460.96
74	2/1/2028	\$322,176.42	\$29,729.93	\$0.00	\$29,729.93	\$28,924.48	\$805.44	\$293,251.94	\$243,266.40
75	3/1/2028	\$293,251.94	\$29,729.93	\$0.00	\$29,729.93	\$28,996.80	\$733.13	\$264,255.14	\$243,999.53
76	4/1/2028	\$264,255.14	\$29,729.93	\$0.00	\$29,729.93	\$29,069.29	\$660.64	\$235,185.85	\$244,660.16
77	5/1/2028	\$235,185.85	\$29,729.93	\$0.00	\$29,729.93	\$29,141.96	\$587.96	\$206,043.89	\$245,248.13
78	6/1/2028	\$206,043.89	\$29,729.93	\$0.00	\$29,729.93	\$29,214.82	\$515.11	\$176,829.08	\$245,763.24
79	7/1/2028	\$176,829.08	\$29,729.93	\$0.00	\$29,729.93	\$29,287.85	\$442.07	\$147,541.22	\$246,205.31
80	8/1/2028	\$147,541.22	\$29,729.93	\$0.00	\$29,729.93	\$29,361.07	\$368.85	\$118,180.15	\$246,574.16
81	9/1/2028	\$118,180.15	\$29,729.93	\$0.00	\$29,729.93	\$29,434.47	\$295.45	\$88,745.68	\$246,869.61
82	10/1/2028	\$88,745.68	\$29,729.93	\$0.00	\$29,729.93	\$29,508.06	\$221.86	\$59,237.62	\$247,091.48
83	11/1/2028	\$59,237.62	\$29,729.93	\$0.00	\$29,729.93	\$29,581.83	\$148.09	\$29,655.79	\$247,239.57
84	12/1/2028	\$29,655.79	\$29,729.93	\$0.00	\$29,655.79	\$29,581.65	\$74.14	\$0.00	\$247,313.71

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-2. The Application’s Appendix 1, Exhibit C titled “Open-End Mortgage and Security Agreement”, references Description of Premises, Exhibit A. However, a copy of Description of Premises, Exhibit A was not included in the Application. Please provide a copy of Description of Premises, Exhibit A.

RESPONSE: Attached is a copy of the Description of Premises, Exhibit A.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

992068279

Quit Deed

B. SET

SEP 25 1992

IN LIEU OF CONDEMNATION

THIS IS A COPY
MADE BY
THE RECORDER OF DEEDS
LANCASTER, PA. 17301
ALL RIGHTS RESERVED

Made the 22nd day of September
Nineteen hundred and Ninety-Two (1992).

Between ROBERT P. HOFFINES and LINDA F. HOFFINES, husband and wife, of the Township of East Donegal, County of Lancaster, Commonwealth of Pennsylvania, Parties of the first part, hereinafter referred to as the Grantors; AND

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY, a municipal authority organized under the Municipal Authorities Act of 1945, as amended, having its principal office at 117 South River Road, P.O. Box 82, Maytown, Lancaster County, Pennsylvania, Party of the second part, hereinafter referred to as the Grantee.

RECORDED OR FILED
92 SEP 25 PM 4: 25
RECORDER OF DEEDS
LANCASTER, PA.

Citizenseth, That in consideration of One and 00/100 (\$1.00)

Dollars,
in hand paid, the receipt whereof is hereby acknowledged, the said grantor s do hereby grant and convey to the said grantees , its successors and assigns

All THAT CERTAIN lot or tract of unimproved land being situate in the Township of East Donegal, County of Lancaster and the Commonwealth of Pennsylvania, said tract being more particularly shown as Lot No. 1 on a Final Plan prepared for the East Donegal Township Municipal Authority by D.C. Gohn Associates, Inc., Surveyors, Engineers and Landscape Architects on May 11, 1992, said Final Plan being recorded in the Office of the Recorder of Deeds for Lancaster County, Pennsylvania in Subdivision Plan Book J-179, Page 104, on September 2, 1992, and all the same being more fully bounded and described as follows, to wit:

BEGINNING at a point in the centerline of State Route 0441 (Pennsylvania Traffic Route 441 - River Road), said point being located a distance of two thousand three and one tenth (2,003.1) feet more or less West of the centerline of Township Road No. 673 (Vinegar Ferry Road), and said point also being a corner of property of Robert P. and Linda F. Hoffines, of which the herein described Lot No. 1 was formerly a part; thence continuing in and through the said centerline of State Route 0441 (Pennsylvania Traffic Route 441 - River Road), South seventy-four (74) degrees forty-three (43) minutes forty-four (44) seconds West, a distance of one hundred twelve and twenty-five hundredths (112.25) feet to a point, a corner of property of Samuel III and Sue Brown Heineman; thence continuing along said property of Samuel III and Sue Brown Heineman, North thirty-four (34) degrees seven (07) minutes forty-seven (47) seconds East, a distance of one hundred sixteen and forty-seven hundredths (116.47) feet to a point, a corner of the aforementioned property of Robert P. and Linda F. Hoffines; thence continuing along said property of Robert P. and Linda F. Hoffines, the following two (2) courses: (1) North seventy-four (74) degrees forty-three (43) minutes forty-four (44) seconds East, a distance of twenty-three and eighty-two hundredths (23.82) feet to a point, (2) South fifteen (15) degrees sixteen (16) minutes sixteen (16) seconds East, a distance of seventy-five and seventy-nine hundredths (75.79) feet to a point, the place of Beginning.

3634 0518

CONTAINING an area of five thousand one hundred fifty-six and fifty-three hundredths (5,156.53) square feet or 0.118 acre of land, which includes the right-of-way area of State Route 0441 (Pennsylvania Traffic Route 441 - River Road).

BEING ^{a portion of} ~~the same~~ premises which Daniel A. Schadt, by his Deed dated March 14, 1983 and recorded on March 14, 1983 in and for Lancaster County, Pennsylvania, in Deed Book, H, Volume 86, Page 97, granted and conveyed unto Robert P. Hoffines and Linda F. Hoffines, their heirs and assigns.

This conveyance is made pursuant to a resolution of condemnation passed by East Donegal Township Municipal Authority on August 17, 1992, and duly entered on minutes of said Authority for said date, but in lieu of condemnation proceedings duly brought before the Court.

3634 0519

And the said grantors, do hereby warrant SPECIALLY the property hereby conveyed,

In Witness Whereof, said grantor have hereunto set their hand and seal the day and year first above written.

Signed, Sealed and Delivered
In the Presence of

Maria D. Guaiwan

[Signature]
Robert P. Hoffines

Linda F. Hoffines
Linda F. Hoffines

Commonwealth of Pennsylvania

County of LANCASTER } ss:

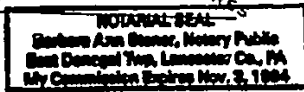
On this, the 22nd day of September 1992, before me

the undersigned officer, personally appeared Robert P. Hoffines and Linda F. Hoffines

known to me (or satisfactorily proven) to be the persons whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and notarial seal.

MY COMMISSION EXPIRES



Barbara Ann Stoner

Notary Public

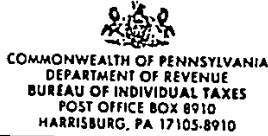
Barbara ANN Stoner

I Hereby Certify, that the precise address of the grantee herein is 117 South River Road, P.O. Box 82, Maytown, PA 17550.

BARLEY, SNYDER, SENFT & COHEN

[Signature]

3634 0520



REALTY TRANSFER TAX STATEMENT OF VALUE

See Reverse for Instructions

RECORDER'S USE ONLY	
State Tax Paid	-0-
Book Number	3634
Page Number	58
Date Recorded	SEP 25 1992

Complete each section and file in duplicate with Recorder of Deeds when (1) the full value/consideration is not set forth in the deed, (2) when the deed is without consideration, or by gift, or (3) a tax exemption is claimed. A Statement of Value is not required if the transfer is wholly exempt from tax based on: (1) family relationship or (2) public utility easement. If more space is needed, attach additional sheet(s).

A CORRESPONDENT - All inquiries may be directed to the following person:

Name: Kathleen A. Gray, Esquire
Barley, Snyder, Senft & Cohen
Telephone Number:
Area Code (717) 299-5201
Street Address: 126 East King Street, Lancaster, PA 17602
City: Lancaster, State: PA, Zip Code: 17602

B TRANSFER DATA

Grantor(s)/Lessor(s) Robert P. and Linda F. Hoffines Street Address: R.D. #1, Box 160 City: Marietta, PA 17547	Date of Acceptance of Document	Grantee(s)/Lessee(s) East Donegal Township Municipal Authority Street Address: P.O. Box 82, 117 South River Road City: Maytown, PA 17550
---	--------------------------------	---

C PROPERTY LOCATION

Street Address: Lot No. 1 - Route 441 (River Road)
County: Lancaster, School District: East Donegal, Tax Parcel Number: A portion of 11D-6-9 (not separately assessed)

D VALUATION DATA

1. Actual Cash Consideration \$1.00	2. Other Consideration + -	3. Total Consideration (assessed) = \$1.00
4. County Assessed Value 10,270*	5. Common Level Ratio Factor x 5.49	6. Fair Market Value = 56,382.30*

E EXEMPTION DATA

1a. Amount of Exemption Claimed: 100%
1b. Percentage of Interest Conveyed: .001%

2. Check Appropriate Box Below for Exemption Claimed
- Will or intestate succession _____ (Name of Decedent) _____ (Estate File Number)
 - Transfer to Industrial Development Agency.
 - Transfer to agent or straw party. (Attach copy of agency/straw party agreement).
 - Transfer between principal and agent. (Attach copy of agency/straw trust agreement). Tax paid prior deed \$ _____.
 - Transfers to the Commonwealth, the United States, and Instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (Attach copy of resolution).
 - Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____.
 - Corrective deed (Attach copy of the prior deed).
 - Statutory corporate consolidation, merger or division. (Attach copy of articles).
 - Other (Please explain exemption claimed, if other than listed above.) *Calculations are for complete parcel. Transfer is exempt from realty transfer tax.

Under penalties of law, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

Signature of Correspondent or Responsible Party: *Kathleen A. Gray* Date: *Sept 25, 1992*

3634 0521 (SEE REVERSE)

395038220

7999

DIST 50 MAP 1/C BIX 7 JOT 16

VT 50 RF 23.00 AM 50 TOT 35.00

Gift Deed

3500 ft.

JUL 28 1995

SEAL OF THE RECORDER OF DEEDS
LANCASTER, PA.
112 NORTH MARKET

Made the 21st day of July
Nineteen hundred and ninety-five

Between ROWENNA WATER COMPANY, a Pennsylvania corporation and public utility, of the Township of East Donegal, County of Lancaster and Commonwealth of Pennsylvania, party of the first part, hereinafter referred to as the Grantor;
AND

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY, a municipal authority organized under the Municipal Authorities Act of 1945, as amended, having its principal office at 117 South River Road, P.O. Box 82, Maytown, Lancaster County, Pennsylvania, party of the second part, hereinafter referred to as the Grantee.

I Certify This Document To Be
Recorded in Lancaster Co., Pa.



Ronell N. Cohen
Recorder of Deeds

RECORDED OR FILED
JUL 28 PM 2:53
RECORDER OF DEEDS
LANCASTER, PA.

Witnesseth, That in consideration of - - - One (\$1.00) - - -

Dollars,
in hand paid, the receipt whereof is hereby acknowledged, the said grantor do hereby grant and convey to the said grantee, its successors and assigns

All THAT CERTAIN tract of land being situate in the Township of East Donegal, County of Lancaster and the Commonwealth of Pennsylvania, said tract being more particularly shown on a Right-of-Way and Easement Plan prepared for the East Donegal Township Municipal Authority by D. C. Gohn Associates, Inc., Surveyors, Engineers and Landscape Architects on December 22, 1993 (Drawing No. CG-1709) and all the same being more fully bounded and described as follows, to wit:

BEGINNING at a point in line of property of Robert L. and Drema A. Shireman, said point being the Northwest corner of the hereindescribed property, said point also being located from the Northeastly line of State Route 0441 (River Road) a distance of seven hundred thirteen and nine tenths (713.9) feet, more or less, said point also being the Northerly most corner of property of Esther V. Neff; thence continuing along the aforementioned property of Robert L. and Drema A. Shireman, North thirty-four (34) degrees five (05) minutes eight (08) seconds East, a distance of fifty (50.00) feet to a point, a corner of property of Raymond E. Fantom; thence continuing along said property of Raymond E. Fantom the following two courses: (1) South fifty-five (55) degrees fifty-four (54) minutes fifty-two (52) seconds East, a distance of one hundred sixty-four (164.00) feet to a point, and (2) South thirty-four (34) degrees five (05) minutes eight (08) seconds West, a distance of fifty (50.00) feet to a point in line of the aforementioned property of Esther V. Neff; thence continuing along said property of Esther V. Neff, North fifty-five (55) degrees fifty-four (54) minutes fifty-two (52) seconds West, a distance of one hundred sixty-four (164.00) feet to a point, the place of BEGINNING.

CONTAINING an area of 8,200.72 square feet, or 0.188 acre of land.

TOGETHER with the Right-of-Way Agreement recorded on even date herewith, in the Office of the Recorder of Deeds in and for Lancaster County, Pennsylvania in Record Book ____, Volume ____, Page ____, such right-of-way being granted and conveyed unto Grantee of this Deed, its successors and assigns.

BEING the same premises which John Zigler and Barbara Zigler, by their deed dated December 28, 1893 and recorded on March 26, 1894, in and for Lancaster County, Pennsylvania, in Deed Book R, Volume 14, Page 178, granted and conveyed unto Grantor, their successors and assigns.

4697 0374

THIS CONVEYANCE is made pursuant to a Resolution of Acceptance passed by the East Donegal Township Municipal Authority on the 21st day of March 1994, and duly entered on minutes of said Authority for said date in which Grantee resolved to accept these premises as a gift.

4697 0375

And the said grantor, does hereby warrant specially the property hereby conveyed.

In Witness Whereof, said grantor has hereunto set its hand and seal the day and year first above written.

Signed, Sealed and Delivered
In the Presence of

Barbara A. Stoner

ROWENNA WATER COMPANY

By: Graver T. Mackison
Graver T. Mackison, President



Commonwealth of Pennsylvania

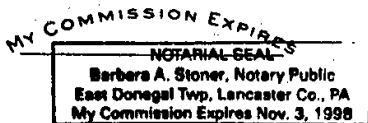
County of Lancaster

On this, the 19th day of July 1995, before me

the undersigned officer, personally appeared GRAVER T. MACKISON, who acknowledged himself to

be the President of Rowenna Water Company, a Pennsylvania corporation, and being authorized to do so, executed the foregoing instrument for the purpose therein contained by signing the name of the corporation as officer.

IN WITNESS WHEREOF, I have hereunto set my hand and notarial seal.



Barbara A. Stoner
Notary Public

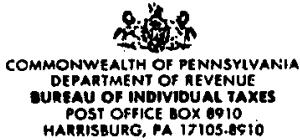
I Herby Certify, that the precise address of the grantee herein is

117 South River Road, P.O. Box 82
Maytown, Lancaster County, Pennsylvania

BARLEY, SNYDER, SENFT & COHEN

By: [Signature]

4697 0376



REALTY TRANSFER TAX STATEMENT OF VALUE

See Reverse for Instructions

RECORDER'S USE ONLY	
State Tax Paid	0-
Book Number	4697
Page Number	374
Date Recorded	JUL 28 1995

Complete each section and file in duplicate with Recorder of Deeds when (1) the full value/consideration is not set forth in the deed, (2) when the deed is without consideration, or by gift, or (3) a tax exemption is claimed. A Statement of Value is not required if the transfer is wholly exempt from tax based on: (1) family relationship or (2) public utility easement. If more space is needed, attach additional sheet(s).

A CORRESPONDENT - All inquiries may be directed to the following person:

Name: Aubrey L. Hanford Telephone Number:
c/o BARLEY, SNYDER, SENFT & COHEN Area Code (717) 299-5201
Street Address: 126 East King Street, Lancaster, PA 17602 City: State: Zip Code:

B TRANSFER DATA

Grantor(s)/Lessor(s)			Date of Acceptance of Document		
Rowenna Water Company			April, 1994		
Street Address			Grantee(s)/Lessee(s)		
R. D. #1			East Donegal Township Municipal Authority		
City	State	Zip Code	Street Address		
Marietta	PA	17547	117 South River Road, P.O. Box 82		
City	State	Zip Code	City	State	Zip Code
			Maytown	PA	17550

C PROPERTY LOCATION

Street Address Portion of PA 441		City, Township, Borough East Donegal Township
County Lancaster	School District Donegal	Tax Parcel Number -11C - 7 - 16

D VALUATION DATA

1. Actual Cash Consideration \$ 1.00	2. Other Consideration + -0-	3. Total Consideration = \$ 1.00
4. County Assessed Value \$520.00	5. Common Level Ratio Factor x 5.56	6. Fair Market Value = \$2,891.20

E EXEMPTION DATA

1a. Amount of Exemption Claimed 100%	1b. Percentage of Interest Conveyed 100%
---	---

2. Check Appropriate Box Below for Exemption Claimed

- Will or intestate succession _____ (Name of Decedent) _____ (Estate File Number)
- Transfer to Industrial Development Agency.
- Transfer to agent or straw party. (Attach copy of agency/straw party agreement).
- Transfer between principal and agent. (Attach copy of agency/straw trust agreement). Tax paid prior deed \$ _____
- Transfers to the Commonwealth, the United States, and Instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (Attach copy of resolution).
- Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____
- Corrective deed (Attach copy of the prior deed).
- Statutory corporate consolidation, merger or division. (Attach copy of articles).
- Other (Please explain exemption claimed, if other than listed above.) _____

Under penalties of law, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

Signature of Correspondent or Responsible Party <i>A. Hanford</i>	Date 05.15.95
--	------------------

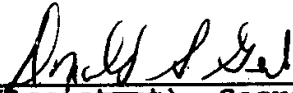
(SEE REVERSE)

4697 0377

CERTIFICATE OF SECRETARY

I HEREBY CERTIFY that I am the (Assistant) Secretary of East Donegal Township Municipal Authority, and that the Resolution, a true and correct copy of which is attached hereto, was duly adopted on March 21, 1994, and remains in full force and effect on the date hereof.

IN WITNESS WHEREOF, this Certificate is executed the 21st day of March, 1994.



(Assistant) Secretary

4697 0378

**RESOLUTIONS OF THE BOARD OF
EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY**

WHEREAS, East Donegal Township Municipal Authority (the "Authority") by agreement with Rowenna Water Company dated December 23, 1993, has agreed to upgrade, extend and take over operation of the Rowenna Water System; and

WHEREAS, as part of the transactions described in the aforesaid agreement, Rowenna Water Company has agreed to convey and transfer to the Authority certain water line easements, access easements and the existing reservoir property in connection with the Rowenna project; and

WHEREAS, it has been determined by the Board of the Authority that it would be in the best interest of the Authority to accept the transfer and conveyance of the water line easements, access easements and reservoir property currently owned by Rowenna Water Company and as shown on a plan for East Donegal Township Municipal Authority by D.C. Gohn Associates, Inc., Project No. 3469, Drawing No. CG-1709 dated December 22, 1993 (hereinafter the "Plan").

NOW, THEREFORE, be it

RESOLVED, that the Board of East Donegal Township Municipal Authority does hereby authorize the acceptance by the Authority of the transfer and conveyance of the water line easements and

4697 0379

the access easements from the Rowenna Water Company as shown on the Plan; and

RESOLVED, that the Board of East Donegal Township Municipal Authority does hereby authorize and approve the acquisition by gift from the Rowenna Water Company of the reservoir property as shown on the Plan; and

BE IT FURTHER RESOLVED, that the Chairman or Vice-Chairman and Secretary or Assistant Secretary of the Authority are hereby authorized and directed to execute and acknowledge all documents and to take whatever other actions may be necessary to implement the December 23, 1993 Agreement and this resolution.

4697 0380

ROWENNA WATER COMPANY**WRITTEN CONSENT OF**
DIRECTOR AND SHAREHOLDER TO CORPORATE ACTIONS

Pursuant to Sections 1727(b) and 1766(a) of the Pennsylvania Business Corporation Law of 1988, the undersigned, being the only director and shareholder of Rowenna Water Company (the "Corporation"), hereby unanimously consents in writing to the following corporate actions:

WHEREAS, East Donegal Township Municipal Authority (the "Authority") by agreement with the Corporation dated December 23, 1993 (the "Agreement"), has agreed to upgrade, extend and take over operation of the Rowenna water system; and

WHEREAS, as part of the transaction described in the Agreement, the Corporation had agreed to convey and transfer to the Authority, certain water line easements, access easements, and the existing reservoir property used in connection with the Rowenna project; and

WHEREAS, it has been determined by the sole director and shareholder of the Corporation that it would be in the best interest of the Corporation to transfer and convey the water line easements, access easements and reservoir property currently owned by the Corporation and as shown on a plan for East Donegal Township Municipal Authority prepared by D. C. Gohn Associates, Inc., project no. 3469, drawing no. CG-1709, dated December 22, 1993 (hereinafter the "Plan").

4697 0381

NOW THEREFORE, it is hereby

RESOLVED, that the Corporation does hereby approve the transfer of the water line easements, access easements and reservoir property as shown on the Plan; and

RESOLVED, that the President of the Corporation is hereby authorized and directed to execute and acknowledge all documents and to take any other actions necessary to implement the Agreement and this Written Consent.

IN WITNESS WHEREOF, this written consent is executed the 19 day of July, 1995.

Graver T. Mackison
Graver T. Mackison,
Shareholder and Director

FILED with the undersigned as Secretary of the Corporation, the 19 day of July, 1995.

Graver T. Mackison
Graver T. Mackison,
Secretary

4697 0382

998036418

JTR/MISC#377978.1.052198

MAY 27 1998

11.50 n.

I Certify This Document To Be Recorded in Lancaster Co. Pa.



STEVE McDONALD Recorder of Deeds

IN THE COURT OF COMMON PLEAS OF LANCASTER COUNTY, PENNSYLVANIA CIVIL ACTION - LAW

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY vs. JOHN E. HESS and BONNIE L. HESS,

No. CI-98-0975

In Rem

RECORDED OR FILED 98 MAY 27 PM 2:54 LANCASTER, PA.

NOTICE

NOW, this 21 day of May, 1998

NOTICE is hereby given of the filing, by East Donegal Township Municipal Authority, of a Declaration of Taking of a fee simple interest in certain property owned by John E. Hess and Bonnie L. Hess and shown on the plot plan prepared by Goodkind & O'Dea, Inc., dated April, 1998, a copy of which is attached hereto as Exhibit "A." A legal description of the land to be taken is attached hereto as Exhibit "B" and made a part hereof. The address of the Condemnor/grantor, EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY, is 190 Rock Point Road, Marietta, PA 17547. The address of the Condemnee/grantee, John E. Hess and Bonnie L. Hess, is 218 Rock Point Road, Marietta, PA 17547.

Said Declaration of Taking was filed in the Court of Common Pleas of Lancaster County, Pennsylvania, on May 27, 1998, and is indexed to No. CI-98-0975.

WT .50 RIF 9.60 SF 2.00 AH TOT 11.50

5754 0643

ALL THAT CERTAIN tract of land and premises situate, lying and being in the Township of East Donegal in the County of Lancaster and Commonwealth of Pennsylvania, more particularly described as follows:

BEGINNING at a point in the center of Rock Point Road (T-673) having a 33-foot right-of-way, said point being South 89 degrees 08 minutes 21 seconds West a distance of five hundred thirty-seven and ninety-nine one-hundredths (537.99) feet from a point in the center of said Rock Point Road, said point being the Northeast corner of lands now or formerly of Daniel B. & Louise M. Cavanaugh; thence through lands of John E. & Bonnie L. Hess, South 00 degrees 00 minutes 00 seconds East a distance of eighty-nine and twelve one-hundredths (89.12) feet to a point; thence through same the following eight (8) courses and distances: (1) South 35 degrees 13 minutes 02 seconds East a distance of three hundred forty-three and six one-hundredths (343.06) feet to a point; (2) South 00 degrees 00 minutes 00 seconds East a distance of forty-three and eighty-five one-hundredths (43.85) feet to a point; (3) South 90 degrees 00 minutes 00 seconds East a distance of three hundred fifty and zero one-hundredths (350.00) feet to a point; (4) South 00 degrees 00 minutes 00 seconds East a distance of four hundred and zero one-hundredths (400.00) feet to a point; (5) South 90 degrees 00 minutes 00 seconds West a distance of four hundred and zero one-hundredths (400.00) feet to a point; (6) North 00 degrees 00 minutes 00 seconds West a distance of four hundred twenty-seven and ninety-eight one-hundredths (427.98) feet to a point; (7) North 35 degrees 13 minutes 02 seconds West a distance of three hundred sixty-six and sixty-seven one-hundredths (366.67) feet to a point; and (8) North 28 degrees 15 minutes 13 seconds West a distance of seventy-six and eighty-six one-hundredths (76.86) feet to a point in the southerly right-of-way line of Rock Point Road; thence through the right-of-way of Rock Point Road North 00 degrees 00 minutes 00 seconds a distance of sixteen and fifty one-hundredths (16.50) feet to a point in the center of Rock Point Road; thence along the centerline of said Road North 89 degrees 08 minutes 21 seconds East a distance of one hundred and zero one-hundredths (100.00) feet to a point, the Point of BEGINNING.

Said tract or parcel contains 186,911.6 square feet, or 4.29 acres.

g:\1662\13\prop1eg1

EXHIBIT B

5754 0646

999068445

SEP - 3 1999

SPECIAL
WARRANTY DEED

RECORDED OR FILED
~~PART OF PARCEL NO.~~
119-11-2-28 SEP 1999 71-1355

THIS DEED IN LIEU OF CONDEMNATION,

RECORDER OF DEEDS
LANCASTER, PA. ✓

MADE the 3rd day of September in the year nineteen hundred and ninety-nine.

BETWEEN

GROSSMOND, INC., a Pennsylvania corporation, Grantor

- A N D -

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY, Grantee

WITNESSETH, that in consideration of Nine Hundred Twenty-four Thousand Three Hundred Forty-six and 11/100 Dollars (\$924,346.11), in hand paid, the receipt whereof is hereby acknowledged, the said grantor does hereby grant and convey to the said grantee,

ALL THAT CERTAIN tract of land and premises situate, lying and being on the East side of Fuhrman Road (T-132), a Township road, in the Township road, in the Township of East Donegal in the County of Lancaster and Commonwealth of Pennsylvania, said tract being Lot 2 of the Gary L. Grossman Tract subdivision of the Frey-Hoffer Joint Venture property as recorded in the Office of the Recorder of Deeds in and for Lancaster County Deed Book J-201-11 and being more particularly described as follows:

BEGINNING at a point in the westerly property line of lands of Raymond C. and Dorothy M. Denlinger, said point being N 29° 28' 35" E a distance of ninety-eight and ninety-four one-hundredths (98.94') feet along said property line from a point, said point being the intersection of said property line with the northerly right-of-way line of a two hundred (200') foot wide right-of-way of the Pennsylvania Power and Light Company (PP&L); thence through lands of Frey-Hoffer Joint Venture N 60° 31' 25" W a distance of one hundred fifty and zero one-hundredths (150.00') feet to a point; thence through same N 29° 28' 35" E a distance of two hundred ninety and zero one-hundredths (290.00') feet to a point; thence through same S 60° 31' 25" W a distance of one hundred fifty and zero one-hundredths (150.00') feet to a point in the westerly property line of lands of Raymond C. and Dorothy M. Denlinger; thence along said lands S 29° 28' 35" W a distance of two hundred ninety and zero one-hundredths (290.00') feet to a point, the place of BEGINNING.

Said Lot or parcel contains forty-three thousand four hundred seventy-two and eighty-eight one-hundredths 43,472.88 square

6368 0291

WT 50 PF 1300 SF 2.00 AH // ST. 101. 27 DIST ASD MAP 11D BLK 9 LOT 13

feet, or 0.998 Acres.

BEING the same premises which Frey-Hoffer Joint Venture Partnership a/k/a Hoffer-Frey Joint Venture Partnership, a Pennsylvania general partnership, by deed dated August 26, 1998, and recorded November 25, 1998, in the Office of the Recorder of Deeds in and for Lancaster County, Pennsylvania, in Record Book 5992, Page 586, granted and conveyed unto Grossmond, Inc.

This conveyance is made pursuant to a Resolution of Condemnation adopted by East Donegal Township Municipal Authority on August 30, 1999, and duly entered on the minutes of said Authority for said date, but in lieu of condemnation proceedings duly brought before the Court of Common Pleas.

**I Certify This Document To Be
Recorded in Lancaster Co. Pa.**



STEVE McDONALD
Recorder of Deeds

6368 0292

UNDER AND SUBJECT to easements, covenants, reservations, restrictions and right-of-ways of record.

AND the said grantor will SPECIALLY WARRANT AND FOREVER DEFEND the property hereby conveyed.

IN WITNESS WHEREOF, the grantor has hereunto set its hand and seal the day and year first above written.

Signed and delivered in the presence of

Gary L. Grossman

GROSSMOND, INC.

By: *Gary L. Grossman Pres.*



CERTIFICATE OF RESIDENCE

I hereby certify that the precise residence of the grantee herein is as follows: 190 Rockpoint Road Marietta, PA 17547

Mark S. Korman

Commonwealth of Pennsylvania
County of Lancaster

On this, the 3rd day of September, 1999, before me, the undersigned officer, personally appeared Gary L. Grossman, who acknowledged himself to be the President of Grossmond, Inc., a corporation, and that he as such President, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My commission expires:

Mark S. Korman
Notary Public





COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF REVENUE
BUREAU OF INDIVIDUAL TAXES
DEPT. 280603
HARRISBURG, PA 17120-0603

REALTY TRANSFER TAX STATEMENT OF VALUE

See Reverse for Instructions

RECORDER'S USE ONLY	
State Tax Field	6
Book Number	63168
Page Number	291
Date Recorded	SEP - 3 1999

Complete each section and file in duplicate with Recorder of Deeds when (1) the full value/consideration is not set forth in the deed, (2) when the deed is without consideration, or by gift, or (3) a tax exemption is claimed. A Statement of Value is not required if the transfer is wholly exempt from tax based on: (1) family relationship or (2) public utility easement. If more space is needed, attach additional sheet(s).

A CORRESPONDENT All inquiries may be directed to the following:

Name	Phillip A. Holgawath Kathleen A. Gray, Esq.	Telephone Number	
Street Address	126 East King Street Lancaster PA 17602	Area Code (717)	299-5201

B TRANSFER DATA

Grantor(s)/Lessor(s)	Grossmond, Inc	Grantee(s)/Lessee(s)	East Donegal Township Municipal Authority
Street Address	20 Charles Road	Street Address	190 Rock Point Road
City	Lancaster PA 17603	City	Marietta PA 17547

C PROPERTY LOCATION

Street Address	Lot 2 Fuhrman Road, Rear	City, Township, Borough	East Donegal Township
County	Lancaster	School District	Donegal
		Tax Parcel Number	11D-9-13

D VALUATION DATA

1. Actual Cash Consideration	\$924,346.11	2. Other Consideration	+ None (0)	3. Total Consideration	= \$924,346.11
4. County Assessed Value	\$ 49,800.00	5. Common Level Ratio Factor	x 1.05	6. Fair Market Value	= \$ 52,290.00

E EXEMPTION DATA

1a. Amount of Exemption Claimed	100%	1b. Percentage of Interest Conveyed	100%
---------------------------------	------	-------------------------------------	------

2. Check Appropriate Box Below for Exemption Claimed

- Will or intestate succession _____ (Name of Decedent) _____ (Estate File Number)
- Transfer to Industrial Development Agency.
- Transfer to a trust. (Attach complete copy of trust agreement identifying all beneficiaries.)
- Transfer between principal and agent. (Attach complete copy of agency/straw party agreement.)
- Transfers to the Commonwealth, the United States and Instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (If condemnation or in lieu of condemnation, attach copy of resolution.) SEE ATTACHED.
- Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____
- Corrective or confirmatory deed. (Attach complete copy of the prior deed being corrected or confirmed.)
- Statutory corporate consolidation, merger or division. (Attach copy of articles.)
- Other (Please explain exemption claimed, if other than listed above.) _____

Under penalties of law, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

Signature of Correspondent or Responsible Party	Date
<i>Kathleen A. Gray</i>	Sept 3, 1999

FAILURE TO COMPLETE THIS FORM PROPERLY OR ATTACH APPLICABLE DOCUMENTATION MAY RESULT IN THE RECORDER'S REFUSAL TO RECORD THE DEED.

6368 0294

ruary Term, 1935, Register of Wills Office, in and for Lancaster County) by virtue of which death the premises vested absolutely in Ruth A. Gable.

AND the said Ruth A. Gable has since been remarried, having married Francis Lindemuth a party hereto.

UNDER AND SUBJECT TO the following covenants, obligations and restrictions upon the part of the Grantee herein, his heirs and assigns to be kept and performed:

That no house shall be erected closer to the building line on Park Avenue Boulevard than fifteen (15) feet.

That no tight board fences shall ever be erected on any portion of the premises, but hedge or wire fences may be erected around the boundary lines.

That no barns, stables, coups or other buildings of any character shall be erected on the rear of the premises with the exception of a one story brick stucco or iron clad garage to accommodate not more than two cars.

That no cesspool of any kind whatsoever shall ever be erected on any portion of the premises with the exception of a septic tank for the disposal of sewage such as approved by the United States Department of Agriculture.

That no outside closets shall be erected on the premises but such closet shall be made a part of the house or garage and connected to and operated through or by means of the above mentioned septic tank.

That no part of the premises or the building or buildings erected hereon shall be used at any time for any occupation, trade or calling which may in any way be dangerous, noxious or injurious to the health or offensive to the inhabitants of the neighborhood.

That no livestock, pigs or swine are to be kept on any part of the premises which shall be at all times be kept free and clear of weeds and rubbish.

AND the said grantors, do hereby warrant specially the property hereby conveyed, IN WITNESS WHEREOF, said Grantors have hereunto set their hands and seals the day and year first above written. (U.S.I.R. \$0.55)

Signed, Sealed and Delivered in the presence of: Ruth A. Lindemuth (SEAL) Margaret J. H. Hassel, Kerrill L. Hassel Francis Lindemuth (SEAL)

COMMONWEALTH OF PENNSYLVANIA, COUNTY OF LANCASTER, SS: On this , the 6th day of January 1949, before me a Notary Public the undersigned officer, personally appeared Ruth A. Lindemuth and Francis Lindemuth, her husband, known to me (or satisfactorily proven) to be the person whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purpose therein contained. IN WITNESS WHEREOF, I have hereunto set my hand and Notarial seal.

My Commission Expires January 7, 1951. Mrs. Margaret J. H. Hassel, Notary Public (N.P. SEAL)

I HEREBY CERTIFY that the precise address of the grantees herein is 746 Marietta Ave., City.

Recorded January 6, 1949. John J. Musser, Attorney Recorder.

28622 IRWIN B. GLATFELTER, ET.UX. TO EAST DCNEGAL TOWNSHIP MUNICIPAL AUTHORITY

THIS INDENTURE, Made the 23rd day of December in the year of our Lord one thousand nine hundred and forty-eight (1948). BETWEEN IRWIN B. GLATFELTER and JANE O. GLATFELTER, husband and wife, of the Borough of West Lawn, County of Berks and State of Pennsylvania, Parties of the First Part, hereinafter called the Grantors, and EAST DCNEGAL TOWNSHIP MUNICIPAL AUTHORITY, a municipal Authority organized under the Laws of the Commonwealth of Pennsylvania, having its office and principal place of

business in the Village of Maytown, Township of East Donegal, County of Lancaster and State of Pennsylvania, Party of the Second Part, hereinafter called the Grantee.

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of Fifteen Hundred (\$1,500.00) Dollars unto them well and truly paid by the said party of the second part, at or before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, have granted, bargained, sold, aliened, enfeoffed, released, conveyed and confirmed, and by these presents do grant, bargain, sell, alien, enfeoff, release, convey and confirm, unto the said party of the second part, its successors and assigns, forever.

ALL THAT CERTAIN tract or piece of land situate in the Township of East Donegal, County of Lancaster and State of Pennsylvania, bounded and described as follows, to wit:

BEGINNING at the Northeasternmost corner thereof, at a point on the existing property line between land now or late of A. H. Martin and remaining land of the Grantors, which point is three hundred seventeen and seven-tenths (317.7) feet Southeast from the Northwest terminus of the line described in Deed Book V, Volume 33, Page 326, as being "South twenty-eight and three-fourths (28 3/4) degrees East two hundred twenty-nine (229) chains"; thence continuing along the same line and property now or late of A. H. Martin, South twenty-four (24) degrees twenty-eight (28) minutes East, a distance of one hundred ten and two hundredths (110.02) feet to a point; thence by property of the Grantors the following three courses and distances: South sixty-six (66) degrees thirty (30) minutes West, a distance of three hundred five and forty-seven hundredths (305.47) feet to a point; North twenty-three (23) degrees thirty (30) minutes West, a distance of one hundred ten (110) feet to a point; North sixty-six (66) degrees thirty (30) minutes East, a distance of three hundred three and sixty-two hundredths (303.62) feet to a point and place of Beginning.

CONTAINING seventy-seven hundredths (.77) acres, according to a Plan and Survey made by C. F. Fallow, Registered Engineer, August 25, 1948, for the Capitol Engineering Company of Dillsburg, Pennsylvania.

BEING part of the same premises which Irwin B. Glatfelter and Jane C. Glatfelter, his wife, by deed dated October 25, 1938, recorded in the Recorder of Deeds' Office in and for Lancaster County, Pa., in Deed Book W, Volume 35, Page 326, granted and conveyed unto Irwin B. Glatfelter and Jane C. Glatfelter, husband and wife.

AND the Grantors herein, for themselves, their heirs, administrators, executors and assigns, as a covenant running with the land, do grant, bargain and sell unto the grantee herein, its successors and assigns, the perpetual right to use and withdraw any or all of the water, whether surface or underground, from the spring presently located on the land herein conveyed, and from any additional spring or well which may at any time hereafter be developed thereon, or in any other manner howsoever, hereby releasing the grantee herein, its successors and assigns, from any and all liability for or by reason of its execution of the rights herein granted.

THIS CONVEYANCE is under and Subject to the condition and covenant running with the land, that the grantee herein shall erect and perpetually maintain, at its own cost, fences adequate to turn poultry and livestock on the three sides of the property above described which adjoin remaining land of the Grantors.

TOGETHER with a right of way for an electric line, with all necessary poles, wires and other appurtenances, extending along lanes, roads or fence lines over the remaining land of the Grantors, either from the terminus of the present electric line at the Grantors' farm house or from the nearest public road (as may be selected by the Grantee, its successors or assigns) to the land herein conveyed in fee simple, together with the right of ingress and egress along the course of such right-of-way for purpose of construction, inspection and maintenance, subject to payment by the Grantee of any actual damage caused to the Grantors' remaining land, crops,

fences, or other structures. Poles erected on said right-of-way shall be located at places not objectionable to the Grantors, their heirs and assigns; guy wires shall extend lengthwise along fences, and not sidewise into fields, without permission of the Grantors, their heirs and assigns. Nor shall any tree or part thereof on the Grantors' remaining land be cut or trimmed by the Grantee or those acting under it, without permission of the Grantors, their heirs or assigns, unless the part to be trimmed or cut is within ten (10) feet of the wires of the electric line.

TOGETHER with all and singular the buildings, improvements, ways, water courses, rights, liberties, privileges, hereditaments and appurtenances, whatsoever thereunto belonging, or in any wise appertaining, and the reversions and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, property, claim and demand whatsoever of the said parties of the first part, in law, equity or otherwise howsoever, of, in and to the same and every part thereof.

TO HAVE AND TO HOLD the said lands and tenements, hereditaments and premises hereby granted, or mentioned, and intended so to be, with the appurtenances, unto the said party of the second part, its successors and assigns, to and for the only proper use and behoof of the said party of the second part, its successors and assigns, forever.

AND the said parties of the first part, for themselves, their heirs, executors and administrators, do by these presents covenant, grant and agree to and with the said party of the second part, its successors and assigns, that they, ~~the said parties of the second part, its successors and assigns, that they,~~ the said parties of the first part, their heirs, all and singular the hereditaments and premises hereinbefore described and granted, or mentioned, and intended so to be, with the appurtenances, unto the said party of the second part, its successors and assigns, against them the said parties of the first part, and their heirs, and against all and every other person or persons whomsoever, lawfully claiming or to claim the same, or any part thereof, by, from or under them or any of them, shall and will warrant and forever defend.

IN WITNESS WHEREOF, the said parties of the first part have to these presents set their hands and seals. Dated the day and year first above written.

Signed, Sealed and Delivered in the Presence of: Irwin B. Glatfelter (SEAL)
H. Donald Barr, George W. Wertley Jane O. Glatfelter (SEAL)

THIS CONVEYANCE is being made to a Municipal Authority, which is a political subdivision, and therefore is not subject to federal revenue stamps.

COMMONWEALTH OF PENNSYLVANIA, COUNTY OF LANCASTER, SS: On this 23rd day of December Anno Domini 1948, before me, the undersigned officer, a Justice of the Peace came the above named Irwin B. Glatfelter and Jane O. Glatfelter, husband and wife, known to me (or satisfactorily proven) to be the persons whose names they subscribed to the within indenture, and acknowledged the foregoing indenture to be their act and deed, and desired the same to be recorded as such. WITNESS my hand and Official seal the day and year aforesaid.

My Commission Expires the First Monday in January, 1952. George W. Wertley, Justice of the Peace (J.P. SEAL)

I HEREBY CERTIFY that the precise address of the grantee herein is Maytown, Lancaster County, Pennsylvania.

Recorded January 6, 1949.

Paul A. Mueller, Attorney (S)
Paul A. Mueller Recorder.

28623 CHARLES H. RICH, ET. UX.)
TO)
CHARLES H. RICH, ET. UX.)

THIS DEED, Made the 6th day of January, in the year Nineteen Hundred and forty-nine (1949) BETWEEN CHARLES H. RICH and MARVELLA G. RICH, his wife, of the Borough of Marietta, County of

Prepared By/

Return To: Daniel T. Desmond, Esquire
Barley Snyder
126 East King Street
Lancaster, PA 17602

Property Addresses: _____

Parcel Nos: _____

OPEN-END MORTGAGE AND SECURITY AGREEMENT

THIS OPEN-END MORTGAGE and SECURITY AGREEMENT (“**Mortgage**”), is made this ___ day of _____, 2021, by **COLUMBIA WATER COMPANY**, a Pennsylvania corporation (“**Mortgagor**”) in favor of **EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY**, a Pennsylvania municipal authority (“**Mortgagee**”).

BACKGROUND

A. Mortgagee has made available to Mortgagor a loan in the amount of Two Million Two Hundred Fifty Thousand Dollars (\$2,250,000.00), which indebtedness is evidenced by a Promissory Note in the original principal amount of Two Million Two Hundred Fifty Thousand Dollars (\$2,250,000.00) dated as of even date herewith and executed by Mortgagor in favor of Mortgagee (the “**Note**”), and issued pursuant to a Water Production and Distribution System Sale and Purchase Agreement between Buyer and Seller dated as of _____, 2021 among Mortgagor and Mortgagee (the “**Purchase Agreement**”). This Mortgage is the “Mortgage and Security Agreement” referred to in the Purchase Agreement and attached thereto as Exhibit C.

B. The Note, the Purchase Agreement and all other documents to be delivered by Mortgagor (and/or its affiliates) to Mortgagee or caused to be delivered by Mortgagor (and/or its affiliates) to Mortgagee are collectively referred to in this Mortgage as the “**Transaction Documents**”.

C. Mortgagor desires to secure payment and performance of the amounts due under the Note and the performance of all other covenants, conditions, terms and provisions contained in this Mortgage.

D. Mortgagor is the owner of certain real estate located in East Donegal Township, Lancaster County, Pennsylvania as more fully described in Exhibit A attached to this Mortgage (collectively, the “**Premises**”).

E. Mortgagor is also the owner of the Assets (as defined in the Purchase Agreement) purchased from Mortgagee pursuant to the Purchase Agreement, as more fully described therein (the “**Assets**”).

NOW, THEREFORE, incorporating the foregoing recitals as a material part of this Mortgage and intending to be legally bound hereby, Mortgagor for the purpose of securing the payment and performance of the following liabilities (the “**Liabilities**”): (a) all amounts due or to become due under the Note and any renewals, modifications or extensions thereof; (b) any present or future amounts advanced by Mortgagee pursuant to any of the provisions of this Mortgage, the Note, or any other document evidencing the Liabilities; and (c) any other amounts recoverable by Mortgagee, and all other obligations of Mortgagor and its affiliates under the Note, this Mortgage, or any other documents evidencing the Liabilities or in any extension, renewal or modification thereof which wholly or partly secure the Note;

AND IN CONSIDERATION of the Liabilities and according to the conditions of the Note and in discharge thereof, in consideration of the further amount of One Dollar (\$1.00) in hand paid by Mortgagee, receipt whereof is hereby acknowledged, Mortgagor has granted, bargained, sold, alienated, released, conveyed and confirmed and by these presents does grant, bargain, sell, alien, release, convey and confirm to Mortgagee, its successors and assigns, the Premises, including any structures and improvements erected on the Premises, as well as all alterations, additions, and improvements now or hereafter made to the Premises (the “**Improvements**”);

TOGETHER WITH all machinery, appliances, apparatus, equipment, fittings, fixtures, furniture, furnishings, inventory, goods, and articles of personal property of every kind and nature whatsoever owned by Mortgagor, now or hereafter located on, about, under or in the Premises or the Improvements or at any time erected thereon, without regard to whether the same may be affixed to the Premises or Improvements, at any time or from time to time, and used or usable in connection with any present or future operation and/or occupancy of the Improvements, and all parts and accessories therefor and all substitutions and replacements thereon, and the cash and non-cash proceeds of all of the foregoing, including but not limited to the proceeds of any policy or policies of insurance thereon (collectively the “**Equipment**”); and

TOGETHER WITH all awards, decrees and settlements made to or for the benefit of Mortgagor by reason of damage to, destruction of or taking of the Premises or any part thereof or any Improvements or any Equipment, whether such award shall be made by reason of the exercise of the right of eminent domain or otherwise, or by any public or private authority, tribunal, corporation or other entity or by any natural person (the “**Awards**”), and upon the occurrence of an Event of Default as defined in this Mortgage, Mortgagee is irrevocably appointed agent and attorney-in-fact for Mortgagor to collect and receive the Awards, to appear in and prosecute any proceedings therefor and to give receipts and acquittances thereof; and

TOGETHER WITH all right, title and interest now owned or hereafter acquired by Mortgagor, in and to all leases and other agreements affecting the use or occupancy of any portion or all of the Premises or Improvements, whether heretofore or hereafter executed, and all rights of Mortgagor to payment under any such lease or agreement, including without limitation any deposits, rents (including additional rent), income, receipts, revenues, issues and profits, now

or hereafter due (collectively the “**Leases**”); and

TOGETHER WITH all right, title and interest now owned or hereafter acquired by Mortgagor, in and to all rights, covenants, privileges, tenements, hereditaments, appurtenances and awards belonging to the Premises or any part thereof, or in any way appertaining thereto, and all streets, roads, lanes, alleys, passages, ways, water courses, and all leasehold estates, easements, licenses, privileges, agreements and covenants now existing or hereafter created for the benefit of Mortgagor, or any subsequent owner or tenant of the Premises over ground adjoining the Premises, all rights to enforce the maintenance thereof, and all other rights, liberties, and privileges of whatsoever kind or character, and the reversions and remainders, income, rents, issues, profits, fees, payments, grants, franchises, concessions and operating privileges arising therefrom, and all the estate, right, title, interest, property, possession, claim and demand whatsoever, at law or in equity, of Mortgagor in and to the Premises or any part thereof, together with all of Mortgagor’s contract rights, accounts and general intangibles (the “**Hereditaments**”); and

All Improvements, Equipment, Leases and Hereditaments are declared and shall be deemed to be fixtures and a part of the Premises as between Mortgagor and Mortgagee, their respective successors and assigns, and all persons, including creditors, claiming by, through or under them or any of them, it being the intention of Mortgagor and Mortgagee that the Liabilities shall be secured inter alia, by the Improvements erected on the Premises as furnished and equipped and that all articles of real, personal or fixed property, furniture, furnishings, machinery and equipment as well as all building materials and plans, drawings and specifications, and contracts owned by Mortgagor or in which Mortgagor has an interest, necessary or useful for any purpose to which such Improvements are now or hereafter put, which may at any time hereafter be in, on or about the Premises, not limited to those enumerated above, as well as the proceeds thereof, shall be deemed to be a part of the security for the Liabilities and subject to the lien of this Mortgage. This Mortgage shall also constitute a security agreement under the Pennsylvania Uniform Commercial Code so that Mortgagee shall have and may enforce a security interest, to secure payment of the Liabilities, in the Improvements, Equipment, Awards, Leases, Hereditaments, and other articles of real, personal or fixed property in addition to (but not in limitation of) the lien upon the Premises imposed by the foregoing provisions hereof, such security interest to attach at the earliest moment permitted by law and also to include and attach to all of the following as they may relate to the Assets, being such contract rights, accounts, leases, chattel paper, instruments, receivables, revenues derived from the System (as such term is defined in the Purchase Agreement and without limiting any other rights to accounts and receivables as set forth herein), proceeds, including but not limited to, insurance proceeds, any policy or policies of insurance thereon and general intangibles of Mortgagor obtained in connection with or relating to the operation, construction and maintenance of the Premises, whether now existing or hereafter arising, as well as any and all additions, accessions and attachments to the foregoing and all substitutions and replacements of the foregoing now existing or hereafter acquired (the “**Article 9 Collateral**”). Mortgagor shall execute, deliver, file and refile any financing statements, continuation statements, or other security agreements Mortgagee may require from time to time to perfect, conform, preserve and maintain the validity and priority of this security interest, and without limiting these covenants, Mortgagor irrevocably appoints Mortgagee, attorney-in-fact for Mortgagor to execute, deliver and file such financing statements and other documents for, or on behalf of Mortgagor with such appointment being

coupled with an interest.

TO HAVE AND TO HOLD the Premises, together with the Assets, Improvements, Equipment, Awards, Leases, Hereditaments and Article 9 Collateral, to Mortgagee, its successors and assigns, forever (all the property of whatever kind secured by this Mortgage, shall be referred to as the “**Mortgaged Property**”).

PROVIDED ALWAYS, that if Mortgagor shall pay or cause to be paid to Mortgagee, the Liabilities and all other indebtedness secured by this Mortgage, and Mortgagor shall perform and comply with all the agreements, conditions, covenants, provisions and stipulations contained in this Mortgage and the Note, then this Mortgage and the estate granted shall cease, determine and become void, and Mortgagor shall pay all satisfaction costs, including without limitation the cost of preparing, recording and acknowledging the satisfaction of this Mortgage in order to effectuate the foregoing.

Mortgagor represents, warrants and covenants as follows:

1. Title. As of the date of this Mortgage: (a) Mortgagor has good and marketable title to an indefeasible fee estate in the Mortgaged Property free and clear of all liens and encumbrances except those in favor of Mortgagee or as approved by Mortgagee and disclosed to Mortgagee in writing; (b) this Mortgage is and shall remain a first-position, valid and enforceable lien on the Mortgaged Property; (c) Mortgagor has full power and lawful authority to create this Mortgage on the Mortgaged Property and there is no restriction or limitation on the right of Mortgagor to encumber the Mortgaged Property as intended by this Mortgage; and (d) Mortgagor shall preserve such title and shall forever warrant and defend the validity and first-position priority of the lien of this Mortgage against the claims of all persons and entities whomsoever claiming by, through or under Mortgagor.

2. Payment and Performance. Mortgagor shall punctually pay the Liabilities and all other indebtedness secured by this Mortgage, in the amounts and at the times and places that the same may be due, and perform and comply with all of the terms, covenants, conditions and obligations contained in this Mortgage and the Note.

3. Taxes and Other Charges. Subject to the terms of this Mortgage, Mortgagor shall pay or cause to be paid all taxes of every kind and nature which may become a lien against any part of the Mortgaged Property, all general and special assessments, water and sewer rents and charges, and all levies, permits, inspection and license fees and other public charges now or hereafter levied or assessed against the Mortgaged Property as liens or assessments (individually called a “**Tax**” and collectively called the “**Taxes**”) as the same shall become due and payable from time to time; provided, however, that Mortgagor shall not be required to pay any Tax to the extent that nonpayment thereof is permitted while the validity thereof is being contested, Mortgagor notifies Mortgagee in writing of its intention to contest the validity thereof, the validity thereof is being contested diligently and in good faith by Mortgagor and Mortgagor deposits into an escrow account if Mortgagee so requests an amount sufficient to make such payment if the contest is unsuccessful. Notwithstanding the foregoing, Mortgagor shall under no circumstances permit the Mortgaged Property to be sold for nonpayment of any Tax.

4. Insurance. Mortgagor shall maintain such types of insurance on the Mortgaged Property as Mortgagee may reasonably require from time to time. Such insurance shall include, but may not be limited to, the following:

(a) Commercial general liability insurance on an “occurrence basis” against claims for “personal injury”, including bodily injury, death and property damage occurring on, in or about the Mortgaged Property or the adjoining streets, sidewalks, passageways, alleys, driveways, easements, vaults, way or water courses, with minimum coverage as may be reasonably required by Mortgagee. Each policy of such insurance shall contain an endorsement naming Mortgagee as mortgagee, loss payee and additional insured.

(b) Property insurance on an all-risk form in an amount satisfactory to Mortgagee upon all of the real and personal property including without limitation sprinkler, boiler and machinery insurance covering pressure vessels, air tanks, boilers, machinery and pressure piping, and sprinkler, fire extinguishing, heating, air conditioning, elevator and escalator systems (to the extent that such systems exist and are part of the Mortgaged Property), with insurance companies permitted to insure risks in Pennsylvania, satisfactory to Mortgagee, naming Mortgagee as mortgagee, loss payee and additional insured with loss adjustment clause.

(c) Such other insurance as may be reasonably required by Mortgagee.

(d) All of the above described insurance policies shall have the standard mortgagee and loss payee clauses attached in a form reasonably satisfactory to Mortgagee and copies of such policies, certificates and endorsements thereto shall be delivered to and held by the Mortgagee until the Liabilities are fully repaid. Each of the above-described insurance policies shall contain a provision that it cannot be amended, modified, canceled or terminated without giving thirty (30) days’ prior written notice to Mortgagee. In the event Mortgagor receives notice that any such insurance will lapse, be terminated or otherwise become unavailable, then Mortgagor shall, prior to the date of such lapse, termination or unavailability, provide replacement policies in form and substance similar to that previously in place in the same principal amount of such prior policy of insurance. No less than thirty (30) days prior to any date upon which any premium or installment thereof for such insurance shall be due and payable, Mortgagor shall deliver to Mortgagee satisfactory evidence that the entire year’s premiums have been paid, and further, not less than thirty (30) days prior to the expiration of any insurance policy, Mortgagor shall deliver to Mortgagee satisfactory evidence of the renewal of such policies.

(e) Mortgagor shall notify Mortgagee in writing immediately upon the occurrence of any loss required to be insured under this Mortgage. If Mortgagor fails to diligently proceed to do so, Mortgagee may settle all claims under all property insurance policies and may demand, receive and give receipt for all monies becoming payable thereunder. Mortgagor directs any insurer to pay directly to Mortgagee any monies payable under any property insurance policy, and Mortgagor appoints Mortgagee as attorney-in-fact to endorse any draft therefor.

(f) In the event Mortgagor fails to cause the insurance policies in this paragraph to be written and pay the premiums therefor and deliver such policies and renewal certificates thereof to Mortgagee upon Mortgagee’s request (notwithstanding Mortgagee’s right to declare an

Event of Default), Mortgagee shall nevertheless have the right, without being obligated to do so, to effectuate such insurance and pay the premiums therefor. All such premiums paid by Mortgagee shall be repaid by Mortgagor to Mortgagee on demand, together with any interest at the rate specified in the Note from the date such payment was made, and the aggregate amount thereof, including such interest, shall become part of the Liabilities.

(g) Mortgagor shall comply with and conform to (i) all provisions of each insurance policy and (ii) all requirements of the insurers, applicable to Mortgagor or the Mortgaged Property or to the use, manner of use, occupancy, possession, operation, maintenance, alteration or repair of any of the Mortgaged Property, even if such compliance necessitates structural changes or improvements or results in interference with the use or enjoyment of any of the Mortgaged Property. Mortgagor shall not use any of the Mortgaged Property in any manner which would permit the insurer to cancel any insurance policy.

(h) In the event that the Mortgaged Property is partially or totally damaged or destroyed, the insurance proceeds shall be paid to the Mortgagee. Mortgagor shall have the right to use the insurance proceeds to reconstruct, repair or restore the damaged portion of the Mortgaged Property under the following conditions:

- (i) There is no existing Event of Default as defined in this Mortgage;
- (ii) Mortgagor presents Plans and Specifications for the proposed reconstruction, repair and restoration of the Mortgaged Property, in a form satisfactory to Mortgagee;
- (iii) The insurance proceeds are deposited into escrow with Mortgagee plus any other additional amounts necessary to reconstruct, repair or restore the Mortgaged Property; and
- (iv) Mortgagor uses the monies on deposit with Mortgagee in accordance with guidelines as may be reasonably established at that time by Mortgagee.

In the event these conditions are not complied with, Mortgagee may apply the insurance proceeds on account of the Liabilities.

(i) If Mortgagee shall acquire title to the Mortgaged Property either by virtue of a deed in lieu of foreclosure or a judicial sale of the Mortgaged Property, then all of Mortgagor's estate, right, title and interest in and to all such policies, including unearned premiums on such policies and the proceeds of such policies, shall vest in Mortgagee.

5. Preservation of Lien. Mortgagor shall pay from time to time as and when the same shall become due, all claims and demands of any persons or entities which, if unpaid, might result in or permit the creation of a lien on the Mortgaged Property, and in general shall do or cause to be done everything necessary so that the lien hereof shall be fully preserved as a lien second only to liens in favor of Mortgagee, provided, however, that (i) Mortgagor shall not be required to pay any claims or demands to the extent that nonpayment thereof is permitted while the validity thereof is being contested, Mortgagor notifies Mortgagee in writing of its intention to contest the validity thereof, the validity thereof is being contested diligently and in good faith by

Mortgagor, and Mortgagor deposits into an escrow account if Mortgagee so requests, an amount sufficient to make such payment if the contest is unsuccessful, and (ii) Mortgagor shall be permitted to incur Subordinate Liens (as defined in Section 11). Notwithstanding the foregoing, Mortgagor shall under no circumstances permit the Mortgaged Property to be sold for nonpayment of any claim or demand.

6. No Transfer of Title. Mortgagor shall not cause any transfer of legal or equitable interest, rights or title in or to the Mortgaged Property or any part thereof, voluntarily or by operation of law (other than by execution on any of the Liabilities or foreclosure under this Mortgage); including, without limitation, by sale, exchange, conveyance, merger, consolidation or otherwise.

7. Future Advances. This Mortgage shall also cover present and future advances made pursuant to this Mortgage and the Note including, but not limited to, payment of costs for the construction, renovation, repair or alteration of Improvements to the Mortgaged Property, taxes, assessments, maintenance charges, insurance premiums and other costs incurred for the protection of the Mortgaged Property or the lien of this Mortgage and expenses incurred by Mortgagee by reason of default including but not limited to attorney's fees and late charges. Such advances shall become part of the Liabilities and shall relate back to the date of this Mortgage.

8. Condemnation. In the event that the whole or any part of the Mortgaged Property secured by this Mortgage is condemned or taken for any period of time, or there is any other injury to or decrease in value of the Mortgaged Property as a result of any public or quasi-public authority or corporation exercising the power of eminent domain or otherwise, all amounts awarded as damages for such condemnation or taking to which Mortgagor is entitled shall be paid over immediately to Mortgagee for the benefit of Mortgagor. Mortgagee may participate in the condemnation proceedings and settlement thereof, and deduct the reasonable costs of same from these proceeds. If Mortgagor fails to proceed in a timely manner, Mortgagee may settle all condemnation proceedings and may demand, receive and receipt for all monies becoming payable under such settlements and proceedings. Mortgagor irrevocably appoints Mortgagee as attorney-in-fact to endorse any draft or other instrument therefor, for, or on behalf of, Mortgagor with such appointment being coupled with an interest. Mortgagee shall have the discretion as to whether or not it shall apply the condemnation proceeds to the reconstruction or restoration of the condemned portion or other portion of the Mortgaged Property affected by such condemnation; otherwise, Mortgagee shall apply the proceeds or any excess proceeds toward the payment of the Liabilities.

9. Maintenance and Repair. Mortgagor shall cause the Mortgaged Property to be maintained in good order, condition and repair (normal wear and tear excepted), and shall not commit or suffer waste with respect thereto. The Improvements and the Equipment shall not be removed, demolished or materially altered other than in the normal course of business without prior written consent of Mortgagee which consent shall not be unreasonably withheld or delayed, and any such removal, demolition or alteration shall not materially reduce the value of the Improvements or Equipment. Mortgagor shall promptly and at all times comply with all laws, orders, ordinances, regulations, restrictions and requirements of governmental authorities and courts applicable to Mortgagor or affecting the Mortgaged Property or the use thereof.

10. Leases, Licenses and Other Agreements. Other than leases, licenses and other agreements relating specifically to the development of the Premises, or in the ordinary course of its business, Mortgagor shall not enter into any lease, license or similar agreement relating to the Mortgaged Property without the prior written consent of Mortgagee. Nothing in this Section 10 shall be interpreted to prohibit Mortgagor from, or otherwise require Mortgagor to obtain the prior written consent of Mortgagee for, the replacement or substitution of an existing Lease and/or otherwise modification or amendment to an existing Lease, so long as the terms of such new Lease and/or modification/amendment are in the ordinary course of Mortgagor's business.

11. No Superior Liens. Mortgagor shall not, without the prior written consent of Mortgagee, create, cause or permit to exist any lien on, or security interest in the Mortgaged Property, and shall not, except in the ordinary course of its business, without the prior written consent of Mortgagee, incur any indebtedness for money borrowed to purchase or improve the Mortgaged Property or any part thereof, except for the Liabilities; provided, however, that Mortgagor may, without Mortgagee's prior written consent, create, cause or permit to exist a lien or security interest in the Mortgaged Property subordinate to Mortgagee's in connection with indebtedness being financed to make improvements to the Mortgaged Property, and provided that Mortgagor is not then in default under any of the Transaction Documents, including, without limitation, Section 8(c) of the Purchase Agreement (a "Subordinate Lien").

12. Required Notice. Mortgagor shall give Mortgagee prompt written notice of any action or proceeding purporting to affect the Mortgaged Property including, without limitation, the following:

(a) A fire or other casualty causing damage to the Mortgaged Property in excess of Ten Thousand Dollars (\$10,000.00);

(b) Receipt of notice of condemnation of all or any portion of the Mortgaged Property;

(c) Commencement of any legal or governmental proceeding, or any threat thereof, the outcome of which could materially or adversely affect (i) the Mortgaged Property or the use thereof or (ii) Mortgagor's financial condition. Mortgagee shall have the right to appear in or defend any such action or proceeding to the same extent as Mortgagor at Mortgagee's expense unless there has occurred and is continuing an Event of Default as defined in this Mortgage in which case, Mortgagor shall pay the costs and expenses incurred by Mortgagee. Furthermore, Mortgagee shall have the right to bring any action or proceeding, in the name and on behalf of itself or Mortgagor, which Mortgagee, in its discretion, decides should be brought to protect its interest in the Mortgaged Property or any part thereof at Mortgagee's expense unless there has occurred and is continuing an Event of Default as defined in this Mortgage in which case, Mortgagor shall pay the costs and expenses incurred by Mortgagee; and

(d) Any Event of Default (as defined herein) or any default of Mortgagor under any provision of the Transaction Documents.

13. Mortgagee's Right to Cure. Mortgagee may, at Mortgagee's election, cure any Event of Default by Mortgagor under this Mortgage or the Transaction Documents, including

without limitation the making of necessary repairs to the Mortgaged Property. The amount of any payments made or expenses incurred by Mortgagee in the exercise of such right shall be repayable on demand by Mortgagor, together with interest at the rate specified in the Note and/or Transaction Documents from the date such payment was made or such expense was incurred, and the aggregate amount thereof, including such interest, shall become part of the Liabilities.

14. Right to Inspect. After reasonable notice to Mortgagor, which notice may be verbal or written, Mortgagee and its agents may enter and inspect the Mortgaged Property or any part thereof at all reasonable times. However, after the occurrence of an Event of Default as defined in this Mortgage, Mortgagee and its agents may enter and inspect the Mortgaged Property or any part thereof without providing prior notice to Mortgagor.

15. Compliance With All Applicable Environmental Laws, Regulations and Ordinances. Mortgagor shall not bring or permit any lessee of all or part of the Mortgaged Property to bring any hazardous substance or waste onto the Mortgaged Property for storage, processing, distillation, treatment, manufacturing, disposal, release or any other purpose unless with Mortgagee's prior specific written consent, which consent may be withheld with or without just cause except substances classified as hazardous substances presently or in the future, which are used by Mortgagor or any lessee in the normal course of its business and are maintained, stored and used in accordance with all applicable federal, state and local laws, regulations and ordinances. Mortgagor shall comply with all applicable laws, regulations and ordinances, federal, state and local relating to the use and possession of the Mortgaged Property.

While Mortgagor has been in possession of the Mortgaged Property, to the best of Mortgagor's knowledge, there has been no use, manufacture, storage, treatment, disposal or release of any hazardous substance or waste on, under or about the Mortgaged Property in violation of any applicable law, nor does Mortgagor have actual knowledge of the existence of any such activities occurring on the Mortgaged Property prior to Mortgagor's possession of the Mortgaged Property which activities have not previously been disclosed in writing to the Mortgagee. To the best of Mortgagor's knowledge, neither Mortgagor nor the Mortgaged Property is the subject of pending or threatened litigation, regulatory proceedings, or investigations regarding any hazardous substance or waste or other activities conducted on or about the Mortgaged Property which have not been previously disclosed in writing to Mortgagee. As used in this Mortgage, "hazardous substance or waste" means any substance, pollutant or material which does not occur naturally on the Mortgaged Property and which is defined as or designated in any federal, state or local statute, ordinance, rule or regulation as a "hazardous substance", "toxic substance", "hazardous material", "hazardous waste", "restricted hazardous waste", "pollutant", "toxic pollutant" or words of similar meaning.

16. Indemnification by Mortgagor. Mortgagor agrees to defend, indemnify, and hold harmless Mortgagee, its directors, officers, employees, agents, contractors, subcontractors, licensees, and invitees from and against any and all claims, demands, judgments, damages, actions, causes of actions, injuries, administrative orders, consent agreements and orders, liabilities, injuries, penalties, costs and expenses, including claims arising out of loss of life or injury to persons, property, or business and/or damage to natural resources occasioned wholly or in part by any condition, accident or event caused by any act or omission of Mortgagor or any third party which arises out of the actual or threatened storage, processing, distillation, treatment,

manufacturing, disposal, release or any other use of any hazardous substance or waste on, under or about the Mortgaged Property. Mortgagor shall bear, pay and discharge when and as the same become due and payable, any and all judgments or claims for damages, penalties or otherwise against Mortgagee, and shall hold Mortgagee harmless for such judgments or claims, and shall assume the burden and expense of defending all suits, administrative proceedings and negotiations of any description with any and all persons, political subdivisions or governmental agencies arising out of any of the occurrences set forth in this paragraph.

17. Events of Default. The occurrence of any one or more of the following events shall constitute an Event of Default under this Mortgage:

(a) Any "Event Of Default" under the Note;

(b) Mortgagor fails to comply with, keep and perform any other covenant, agreement or condition contained in this Mortgage or the Note (which default is not otherwise specifically addressed therein) and such noncompliance is not corrected within a period of thirty (30) days after written notice thereof by Mortgagee to Mortgagor; provided, however, if such failure is not capable of being cured within such thirty (30) day period, but Mortgagor has commenced and is diligently pursuing all efforts to cause such noncompliance to be corrected, the cure period shall be reasonably extended but in any case such failure to comply with the terms and provisions of this Mortgage or the Note shall become an Event of Default within ninety (90) days after the initial written notice by Mortgagee to Mortgagor of such noncompliance; and

(c) Foreclosure or sale proceedings are instituted against or with respect to any portion of the Mortgaged Property upon any other lien or claim, whether alleged to be superior or junior to the lien of this Mortgage.

18. Remedies. In addition to any other remedy maintained by Mortgagee, after the occurrence of an Event of Default:

(a) The Liabilities shall become due and payable immediately without presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor, all of which are expressly waived by Mortgagor.

(b) Mortgagee may institute appropriate proceedings at law or equity to collect the Liabilities or for specific performance of any of the covenants of Mortgagor under this Mortgage or the Note (and Mortgagor acknowledges that all such covenants may be specifically enforced by Mortgagee by injunction or other appropriate equitable remedy), or to recover damages for any breach thereof, or to foreclose this Mortgage and upon commencement of any such suit or any such foreclosure of this Mortgage, the Liabilities, if not previously declared due and payable in its entirety, shall at once become due and payable in its entirety.

(c) With demand upon Mortgagor for the surrender of possession, Mortgagee may enter upon and take possession of the Mortgaged Property, breaking locks if necessary and without liability for trespass, damages or otherwise and, upon so doing, Mortgagee may, in its discretion and in addition to any of its other rights, as mortgagee-in-possession, alter, improve, complete or repair the Mortgaged Property (and in so doing shall have the right to use the

Mortgaged Property and to expend such amounts for that purpose as Mortgagee shall deem best, all of which, with interest thereon at the rate specified in the Note and/or Note from date of payment, shall be repayable by Mortgagor on demand and shall be secured by this Mortgage), and operate, rent, sell or lease the same in the name of Mortgagor or Mortgagee upon such terms and conditions as Mortgagee shall deem best.

(d) Mortgagee may initiate an action for possession, dispossess any tenants, users or occupiers of the Mortgaged Property in default in the payment of any rent or other charge for the use thereof; Mortgagor irrevocably appoints Mortgagee attorney-in-fact for Mortgagor for such purposes. If Mortgagor remains in possession after demand by Mortgagee for surrender of possession of the Mortgaged Property, such continued possession by Mortgagor shall be as tenants of Mortgagee, and Mortgagor agrees to pay monthly in advance to Mortgagee such rent for the Mortgaged Property so occupied as Mortgagee may demand, and in default of so doing, Mortgagor may also be dispossessed. In case of the appointment of a receiver of the rents, the foregoing agreement of Mortgagor to pay rent shall inure to the benefit of such receiver.

(e) MORTGAGOR IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OF RECORD, OR THE PROTHONOTARY OR CLERK OR DEPUTY CLERK OF ANY COURT IN THE COMMONWEALTH OF PENNSYLVANIA OR ELSEWHERE, AS ATTORNEY FOR MORTGAGOR, AS WELL AS FOR ALL PERSONS CLAIMING UNDER, BY OR THROUGH MORTGAGOR, TO ENTER JUDGMENT IN EJECTMENT FOR POSSESSION OF THE MORTGAGED PROPERTY, WITHOUT THE NECESSITY OF FILING ANY BOND AND WITHOUT ANY STAY OF EXECUTION OR APPEAL AGAINST MORTGAGOR AND ALL PERSONS CLAIMING UNDER, BY OR THROUGH MORTGAGOR, AND THEREIN CONFESS JUDGMENT FOR THE RECOVERY BY MORTGAGEE OF POSSESSION OF THE MORTGAGED PROPERTY FOR WHICH THIS INSTRUMENT (OR A COPY THEREOF VERIFIED BY AFFIDAVIT) SHALL BE A SUFFICIENT WARRANT; WHEREUPON A WRIT OF POSSESSION OR OTHER APPROPRIATE PROCESS TO OBTAIN POSSESSION OF THE MORTGAGED PROPERTY MAY BE ISSUED. MORTGAGOR RELEASES AND AGREES TO RELEASE MORTGAGEE AND ANY SUCH ATTORNEY FROM ALL PROCEDURAL ERRORS AND DEFECTS WHATSOEVER IN ENTERING SUCH ACTION OR JUDGMENT OR IN CAUSING SUCH WRIT OF PROCESS TO BE ISSUED OR IN ANY PROCEEDING THEREON OR CONCERNING THE SAME, PROVIDED THAT MORTGAGEE SHALL HAVE FILED IN SUCH ACTION AN AFFIDAVIT MADE ON MORTGAGEE'S BEHALF SETTING FORTH THE FACTS NECESSARY TO AUTHORIZE THE ENTRY OF SUCH JUDGMENT ACCORDING TO THE TERMS OF THIS MORTGAGE, OF WHICH FACTS SUCH AFFIDAVIT SHALL BE PRIMA FACIE EVIDENCE; AND IT IS EXPRESSLY AGREED THAT IF FOR ANY REASON AFTER ANY SUCH ACTION HAS BEEN COMMENCED, THE SAME SHALL BE DISCONTINUED, MARKED SATISFIED OF RECORD OR BE TERMINATED, OR POSSESSION OF THE MORTGAGED PROPERTY REMAIN IN OR BE RESTORED TO MORTGAGOR OR ANYONE CLAIMING UNDER, BY OR THROUGH MORTGAGOR, MORTGAGEE MAY, WHENEVER AND AS OFTEN AS MORTGAGEE SHALL HAVE THE RIGHT TO TAKE POSSESSION AGAIN OF THE MORTGAGED PROPERTY, CONFESS ONE OR MORE FURTHER JUDGMENTS IN EJECTMENT TO RECOVER POSSESSION

OF THE MORTGAGED PROPERTY, AND THE AUTHORITY AND POWER ABOVE GIVEN TO ANY SUCH ATTORNEY SHALL EXTEND TO ALL SUCH FURTHER JUDGMENTS IN EJECTMENT. MORTGAGEE SHALL HAVE THE RIGHT TO CONFESS JUDGMENT IN EJECTMENT WHETHER BEFORE OR AFTER AN ACTION OF MORTGAGE FORECLOSURE IS BROUGHT OR OTHER PROCEEDINGS IN EXECUTION ARE INSTITUTED UPON THIS MORTGAGE AND AFTER JUDGMENT THEREON AND AFTER A JUDICIAL SALE OF THE MORTGAGED PROPERTY.

(f) **The Mortgagor acknowledges and agrees that (a) the foregoing warrant of attorney to confess judgment is being executed in connection with a commercial transaction, (b) the Mortgagee's confession of judgment in accordance with the foregoing warrant of attorney and following an Event of Default would be in accordance with the Mortgagor's reasonable expectations, and (c) the Mortgagee does not and, in regards to the obligations or the Transaction Documents, shall not have any of the duties to the Mortgagor set forth in 20 Pa.C.S.A. §5601.3(b).**

(g) With or without taking possession of the Mortgaged Property, Mortgagee may collect and receive all income, rents and profits thereof, and after deducting the reasonable cost of all alterations, improvements, repairs, completion, partial completion, operation, sale, rental, leasing, commissions and charges, including reasonable attorney's fees, incurred by Mortgagee, apply the net income to the Liabilities in such manner as Mortgagee in its discretion shall determine. Mortgagee shall be liable to account only for income, rents and profits actually received by Mortgagee.

(h) To the extent permitted by law and subject to the rights of tenants in security deposits, all deposits held in connection with the sale, rental, lease, license, or use of space or other facilities on the Mortgaged Property at the time of the occurrence of an Event of Default, all interest of Mortgagor in all premiums for, or dividends upon, any insurance for the Mortgaged Property, and all refunds or rebates of taxes and assessments upon the Mortgaged Property which are received by Mortgagor during the continuance of an Event of Default, are assigned to Mortgagee as further security for the payment of the Liabilities.

19. Remedies Cumulative, Etc.

(a) No right or remedy conferred upon or reserved to Mortgagee under this Mortgage or the Transaction Documents or with respect to the Mortgaged Property or now or hereafter existing at or in equity or by statute or other legislative enactment, is intended to be exclusive of any other such right or remedies and each and every such right or remedy shall be cumulative and concurrent, and shall be in addition to every other such right or remedy, and may be pursued separately, concurrently, successively or otherwise, at the sole discretion of Mortgagee, and shall not be exhausted by any one exercise thereof but may be exercised as often as occasion therefor shall occur. No act of Mortgagee shall be deemed or construed as an election to proceed under any one such right or remedy to the exclusion of any other such right or remedy; furthermore, each such right or remedy of Mortgagee shall be separate, distinct and cumulative and none shall be given effect to the exclusion of any other. The failure to exercise or delay in exercising any such right or remedy, or the failure to insist upon strict performance of

any term of this Mortgage or the Transaction Documents shall not be construed as a waiver or release of the same, or of any default or Event of Default thereunder, or of any obligation or liability of Mortgagor thereunder.

(b) The recovery of any judgment by Mortgagee or the levy or execution under any judgment upon the Mortgaged Property shall not affect in any manner or to any extent the lien of this Mortgage upon the Mortgaged Property, or any security interest in any other collateral, or any rights, remedies or powers of Mortgagee under this Mortgage or the Transaction Documents or with respect to any collateral, but such lien and such security interest and such rights, remedies and powers of Mortgagee shall continue unimpaired as before. Further, the entry of any judgment by Mortgagee shall not affect in any way the interest payable under this Mortgage or the Transaction Documents on any amounts due to Mortgagee. Interest shall continue to accrue on such amounts at the rate specified in this Mortgage or the Transaction Documents after the entry of any judgment and continuing until distribution of the proceeds of any Sheriff's sale.

(c) Mortgagor waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor, and all notices in connection with any default in the payment of, or any enforcement of the payment of, the Liabilities except as provided for in the Transaction Documents. To the extent permitted by law, Mortgagor waives the right to any stay of execution and the benefit of all exemption laws now or hereinafter in effect.

(d) Mortgagor agrees that Mortgagee may release, compromise, forbear with respect to, waive, suspend, extend or renew any of the terms of this Mortgage or the Transaction Documents and that Mortgagee may resort to any collateral in such order and manner as it may think fit, or accept the assignment, substitution, exchange or pledge of any other collateral or guarantee in place of, or release for such consideration, or none, as it may require, all or any portion of any collateral, without in any way affecting the validity of its lien over or other security interest in the remainder of any such collateral; and any action taken by Mortgagee pursuant to any of the foregoing shall in no way be construed as a waiver or release of any right or remedy of Mortgagee, or of any Event of Default, or of any liability or obligation of Mortgagor under this Mortgage or the Transaction Documents.

(e) To the extent permitted by law, Mortgagor shall not at any time insist upon, or plead, or in any manner whatever claim or take any benefit or advance of any stay or extension or moratorium law, or any exemption from execution or sale of the Mortgaged Property, wherever enacted, now or at any time hereafter in force, which may affect the covenants and terms of performance of this Mortgage, nor claim, take, or insist upon any benefit or advantage of any law now or hereafter in force providing for the valuation or appraisal of the Mortgaged Property, prior to any sale or sales of any of Mortgagor's interest therein; nor, after any such sale or sales, claim or exercise any right under any statute heretofore or hereafter enacted to redeem the Mortgaged Property so sold or any part thereof, and Mortgagor expressly waives all benefit or advantage of any such law or laws, and covenant not to hinder, delay or impede the execution of any power herein granted to Mortgagee, but to suffer and permit the execution of every power as though no such law or laws had been made or enacted. Mortgagor further waives, to the extent that they lawfully may, all right to have the Mortgaged Property marshalled upon any foreclosure hereof. Mortgagor further waives and releases all procedural errors, defects and

imperfections in any proceeding instituted by Mortgagee under this Mortgage or the Transaction Documents.

20. Costs and Expenses. Following the occurrence of any Event of Default, Mortgagor shall pay upon demand all reasonable costs and expenses (including attorney's fees) reasonably incurred by Mortgagee in the exercise of any of its rights, remedies or powers under this Mortgage or the Transaction Documents. Any amount not paid promptly following demand together with interest at the rate specified in the Note and/or Transaction Documents from the date of the payment of such cost or expense shall become part of the Liabilities.

21. Severability. In the event that for any reason one or more of the provisions of this Mortgage or their application to any person or circumstance shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provision of this Mortgage.

22. Notice. Any notice required to be given under this Mortgage may be made by personal service by any nationally recognized courier service or by the United States mail, such notice shall be deemed effective when personally delivered, addressed to the Mortgagee and the Mortgagor at the addresses set forth in the Purchase Agreement.

23. Captions. The captions of the paragraphs in this Mortgage are for convenience only and shall not control or affect the meaning or construction of any of the terms or provisions of this Mortgage.

24. Open-End Mortgage. This Mortgage is an Open-End Mortgage securing an open-end credit to Mortgagor of any kind or nature described in 42 Pa. C.S. Section 8144. This Mortgage secures to Mortgagee the repayment of the Liabilities. This Mortgage also secures the unpaid balances of advances made with respect to the Mortgaged Property for the payment of costs relating to the construction, renovation, alteration or repair of the Mortgaged Property, the payment of taxes, assessments, maintenance, insurance premiums or costs incurred for the protection of the Mortgaged Property or the lien of the Mortgage, late fees imposed under the provisions of the Transaction Documents and expenses incurred by the Mortgagee under the Transaction Documents, plus interest thereon as permitted by the Transaction Documents. This Mortgage further secures the performance of all covenants contained in the Note, and all extensions, renewals, modifications and amendments thereof.

25. Governing Law. This Mortgage shall be governed by, construed and interpreted in accordance with the laws of the Commonwealth of Pennsylvania.

26. Exclusive Jurisdiction. Section 11 of the Note is hereby incorporated herein by reference with respect to this Mortgage.

27. Successors and Assigns. This Mortgage shall be binding upon and inure to the benefit of the Mortgagor, Mortgagee and their respective successors and assigns, it being understood that Mortgagor may not assign its rights or obligations under this Mortgage without

the prior written consent of the Mortgagee. Mortgagee may assign this Mortgage to East Donegal Township without Mortgagor's consent.

28. Waiver of Trial by Jury. Mortgagor agrees that any suit, action or proceeding, whether claim or counterclaim, brought or instituted by either Mortgagor or Mortgagee or any successor or assign of either Mortgagor or Mortgagee on or with respect to this Mortgage, or which in any way relates directly or indirectly to the Liabilities or any event, transaction or occurrence arising out of or in any way connected with the transaction contemplated by the Note, or the dealings of Mortgagor or Mortgagee with respect thereto, shall be tried only by a court and not by a jury. **Mortgagor hereby expressly waives any right to a trial by jury in any such suit, action or proceeding. Mortgagor acknowledges and agrees that this Paragraph 28 is a specific and material aspect of this Mortgage.**

[Signature Page Follows]

IN WITNESS WHEREOF, and intending to be legally bound, Mortgagor has caused this Mortgage to be duly executed on the day and year first above written.

COLUMBIA WATER COMPANY, a
Pennsylvania corporation

By: _____

Name: _____

Title: _____

I HEREBY CERTIFY that the address of the Mortgagee is:

East Donegal Township Municipal Authority
117 South River Road
P.O. Box 82
Maytown, PA 17550

On behalf of the Mortgagee

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-3. The Application’s Appendix 1, Exhibit D titled “Assignment of Lease”, Page 1 references Lease Agreement between EDTMA and East Donegal Township (Lease Agreement), Exhibit A. However, a copy of Lease Agreement, Exhibit A was not included in the Application. Please provide a copy of Lease Agreement, Exhibit A.

RESPONSE: Attached is a copy of the Lease Agreement, Exhibit A

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

LEASE

This Lease Agreement entered this 6th day of MAY, 2021, by and between East Donegal Township, 190 Rock Point Road, Marietta, Pennsylvania 17547, ("Township"), and East Donegal Township Municipal Authority, 190 Rock Point Road, Marietta, Pennsylvania 17547 ("Authority").

WHEREAS, Township owns a storage building ("Storage Building") located on the Township municipal campus along Rock Point Road in East Donegal Township, Lancaster County, Pennsylvania;

WHEREAS, Authority desires to lease a portion of the Storage Building for use by the Authority for location and operation of Authority equipment, the well house for Well No. 1, Well No. 1 and for other functions relating to Authority operations; and

WHEREAS, Township is willing to rent a portion of the Storage Building to Authority for the uses as described herein.

NOW THEREFORE, in consideration of the mutual promises and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, the parties hereby agree as follows:

1. **LEASED PREMISES:** The Township hereby leases to the Authority, and the Authority hereby leases from Township, upon the provisions and conditions hereinafter set forth, that certain portion of the Storage Building located on the municipal campus in East Donegal Township, as shown on **Exhibit A** attached hereto and made a part of hereof ("Leased Premises"). The Leased Premises shall be subject to any and all building restrictions, set-back lines, rules, laws, ordinances and regulations now or at any time hereafter imposed or enacted by any governmental agency or department, and further subject to any easement and rights of way of record in force and effect.

2. **LEASE TERM:** The term of this Lease shall be on a year-to-year basis, commencing April 1, 2021, and will automatically renew for a new Lease term unless Authority notifies Township thirty (30) days in advance of the expiration of the existing term that it intends to terminate the Lease.

3. **RENT:** Authority shall pay rent to the Township in the annual amount of Five Thousand Dollars (\$5,000). Rent shall be paid in equal semi-annual payments on January 1st and July 1st of each lease year. The first semi-annual rent payment shall be due on January 1, 2022.

4. **RIGHT-OF-WAY:** Township hereby grants and conveys to Authority, its agents, successors and assigns, for the term of this Lease and any extension thereof, the right to cross the Township property from Rock Point Road to the Leased Premises and to use available parking spaces on the Township property.

5. TERMINATION: If the Leased Premises shall be damaged or destroyed by fire, the elements, unavoidable accident, or other casualty, Authority shall have the right to restore and/or rebuild its facilities on the Leased Premises, at Authority's sole expense, and the Lease shall continue. Authority must express its exercise of this right of restoration/rebuild within thirty (30) days of any such occurrence. If the Authority does not timely notify Township of its intention to restore and/or rebuild its facilities after any such occurrence, Township shall have the right at any time thereafter and upon written notice to Authority, to terminate this Lease, in which event this Lease and the tenancy hereby created shall cease as of the date of said occurrence and the rent shall be adjusted as of such date. Township shall also have the right to terminate this Lease if Authority is in default under the terms of this Lease and Authority fails to cure such default within ten (10) days after written notice of the default from Township. Where Authority's default cannot be reasonable cured within the 10-day cure period, Authority must commence its cure within the 10-day cure period and then diligently pursue and complete the cure to the default to avoid termination of the Lease.

6. IMPROVEMENTS AND MAINTENANCE: Authority agrees to maintain the Leased Premises in good condition and repair, shall be responsible for routine maintenance and upkeep of the Leased Premises, and shall not cause any damage to the Leased Premises during the term of this Lease. Township shall be responsible for any major repairs to the Leased Premises and the Storage Building, including any systems thereof but not including Authority equipment, and in compliance with all applicable ordinances and regulations. Township shall maintain the remaining portion of the Storage Building.

7. DAMAGE, INJURY, LOSS, THEFT: Authority is liable and responsible for any and all damage, injury, loss, or theft, occurring on the Leased Premises, occurring to its employees, subcontractors, and visitors, including any loss, damage or theft of any of its equipment on the Leased Premises. Upon termination or expiration of this Lease, any improvements remaining on the Leased Premises shall become the property of Township.

8. INSURANCE: Authority, at its sole cost and expense, shall maintain (i) comprehensive public liability insurance against any claims for bodily injury, death or property damage, occurring on, in or about the Leased Premises, and on, in or about the adjoining streets, property, parking lots and passageways, and against contractual liability for any such claims, such insurance to afford minimum protection in such amounts as are commercially reasonable during the Term and any extensions thereto; (ii) worker's compensation insurance, to the extent necessary under applicable law. Authority shall name Township as additional insured on its commercial general liability policy.

Authority hereby releases Township from and against any and all claims, demand, liabilities or obligations whatsoever for damage to the Leased Premises or loss resulting from or in any way connected with any fire, accident or other casualty on the Leased Premises, whether or not such fire, accident or other casualty shall have been caused by the negligence or contributory negligence of the Township or by any agent, associate or employee of Township, if such damage or loss results from a peril insured against under any insurance contract which at the time of such damage or loss permits waiver of subrogation rights prior to a loss thereunder,

and provided further, that such waiver would not result in a loss of any of the benefits of such insurance contracts.

9. INDEMNIFICATION:

a. Authority will defend and will indemnify Township and save it harmless from and against any and all claims, actions, damages, liability and expense (including, but not limited to, attorney's fees and disbursements) in connection with the loss of life, bodily injury or damage to property arising from, related to, or in connection with the occupancy of the Leased Premises or any part thereof or occasioned wholly or in part by act or omission of Authority, its contractors, subcontractors, licenses, or invitees or its or their respective agents, or servants. Authority shall not, however, be liable for damages or injury occasioned by the negligence or willful acts of Township or its agents, employees, contractors, subcontractors, or servants, unless such damage or injury arises from perils against which Authority is required by this Lease to insure.

b. Township will defend and will indemnify Authority and save it harmless from and against any and all claims, actions, damages, liability and expense (including, but not limited to, attorney's fees and disbursements) in connection with the loss of life, bodily injury or damage to the Leased Premises arising from, related to, or in connection with any breach or default on the part of Township in the performance of its obligations under this Lease. Township shall not, however, be liable for damages or injury occasioned by the negligence or willful acts of Authority or its agents, employees, or servants, unless such damage or injury arises from perils against which Township is required by this Lease to insure.

c. Township assumes no responsibility for equipment or for vehicles or other property on the Leased Premises. Township shall not be responsible for any loss or theft of, or damage to any equipment or to any other property placed on the Leased Premises. Authority shall indemnify and hold Township harmless against all such claims of loss or damage, including attorney fees.

10. MISCELLANEOUS:

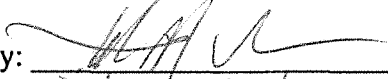
a. In construing this Lease, where the content requires, the singular shall be deemed to include the plural, the plural the singular; and each gender shall include all genders; and all reference to any of the parties hereto shall include their respective heirs, personal representatives, successors, and assigns.

b. If any term or provision of this Lease or the application thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Lease or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Lease shall be valid and be enforced to the fullest extent permitted by law.

c. This Lease contains the entire agreement between the parties hereto, and shall not be modified in any manner except by an instrument in writing executed by the parties.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals as of the date first above written with the intention that they and each of them shall be legally bound.

TOWNSHIP OF EAST DONEGAL

By: 
Name: *Thomas M. Jones*
Title: *Chairman, Board of Supervisors*

EAST DONEGAL TOWNSHIP
MUNICIPAL AUTHORITY

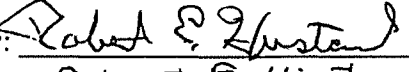
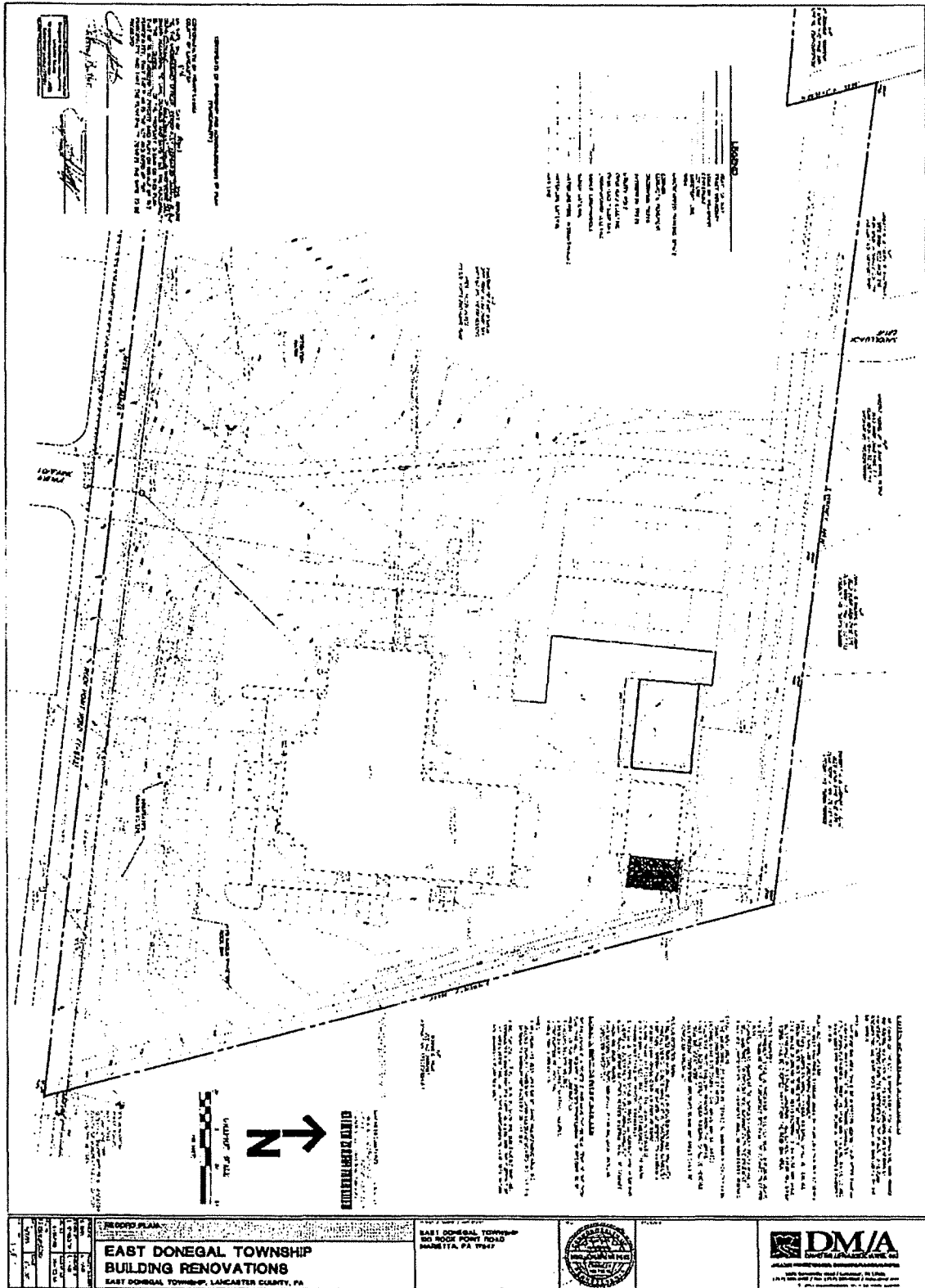
By: 
Name: *Robert E. Hiestand*
Title: *Chairman*

EXHIBIT A



Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-4. The Application's Appendix 1, Schedule 2(a)(i), provided a list of equipment including total pipeline lengths and associated material type. However, the list did not provide a breakdown of EDTMA's water system pipeline network by pipe diameter. Please provide a list of all EDTMA's water system assets broken down by major plant categories detailing each item description along with the associated pipe diameter, material type, pipe length, and/or quantity

RESPONSE: Attached is a detailed breakdown of the EDTMA's water system assets as requested.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

Original Cost Study Inventory Sheet
 Non-Mass Property
 East Donegal Township Municipal Authority

Location Name: Pump House No. 2 - Well No. 1
 Address: 190 Rock Point Road, Marietta, PA 17547

No.	Item	Serial No.	Model	Description
1	One story block building			Building is 26 ft x 38 ft with 9 ft ceiling. Building and well is <u>located on property owned by the Township</u> and is physically connected to the Township's maintenance building. Asphalt shingles. Two rooms in the building - one for pump and piping and the other for storage and the emergency generator. Building constructed in 1981.
2	Peerless line shaft turbine well pump	9927042187	8MA-119TAGE	250 gpm, pump sets 207 ft below surface
3	GE motor on well pump	ULP6281MS01B	5KS266QNM4J	30 HP
4	Drexel Brook pressure transducer	AFU000444	70-0005-035	Ametek sensing element
5	Cla-Val pump control valve	4-41-01AB	41-01-4B EZ	
6	Sensus 4" turbo meter		W1000	
7	Singer 2" pressure relief valve		106/206 RPS	installed 2011
8	Security system			Intrusion alarm system
9	Emergency generator	13890286		Detroit Diesel (Army surplus), 125 kW installed used in 1986
10	Manual transfer switch	64907	7807	service amp 400, voltage amp 200
11	SCADA panel			Allen Bradley, RTU, Mier Logix 1400, MDS adaptive broadband model 9810
12	Low water cut off switch	81-89661	DA31-153	mercoird controled
13	Misc piping, valves, etc.			
14	2 HP air compressor for well level			
15				

Original Cost Study Inventory Sheet
 Non-Mass Property
 East Donegal Township Municipal Authority

Location Name: Pump House No. 3 - Well No. 2
 Address: 215 Rock Point Road, Marietta, PA 17547

No.	Item	Serial No.	Model	Description
1	250 ft of 6 ft high chain link fence with 3 strands of barbed wire at the top			Includes one double wide vehicle gate
2	Two (2) 1,000 gallon propane tanks			Above ground propane tanks used to power the emergency generator
3	One story block and brick building			Building is 22 ft x 15 ft, slab on grade, asphalt shingles, insulated, heated, 480 volt, 3 phase, 200 amp service with 120 volt sub panel. Building constructed in 1999. Building is located on 4.2 acres owned by the Authority.
4	Emergency generator	16079-1-04-98	LSG-875I-6005A	3 phase, 80 kW, propane fueled
5	Auto transfer switch	K990028472	LTD-3386680	Onan auto transfer switch with surge protection.
6	Micro Logic SCADA		Micro Logic 1400	Includes UPS backup
7	DPC Data Transceiver Radio		MDS 9810	
8	Sensus 4" turbo meter		1000S Class 2	
9	VFD	1444201018	ATV61HD30N4	Schneider Electric Altivar 61, 30 kW, 40 HP 380/480V
10	Deming Line shaft turbine well pump	T-89721	4770-3606030400	250 gpm, pump sets 160 ft below surface, manufacture date 3/1999
11	GE motor on well pump	RPP9173MS01A	5KAF286DTPS003	40 HP
12	Misc piping, valves, etc.			
13	2 HP air compressor for well level			

Original Cost Study Inventory Sheet
 Non-Mass Property
 East Donegal Township Municipal Authority

Location Name: Pump House No. 1 - Spring
 Address: 2651 Maytown Road, Marietta, PA 17547

No.	Item	Serial No.	Model	Description
1	820 ft of 6 ft high chain link fence with 3 strands of barbed wire at the top			Includes one double wide vehicle gate and one man gate
2	One story block building with siding			Building is 22 ft x 17 ft, below grade that houses piping and pump, asphalt shingles, 120/240 volt, 3 phase, 400 amp service. Building constructed in 1948 and upgraded in 1972. Building is located on 0.8 acres owned by the Authority.
3	Spring basin			52 ft x 22 ft x 7 ft deep concrete reinforced walls, stone ballast floor, wood framed cover with asphalt shingles. Spring placed into service in 1948 with wood framed cover constructed in 1982.
4	SCADA panel			Allen Bradley, RTU, Mier Logix 1400, MDS adaptive broadband model 9810
5	Peerless centrifugal pump	762811	C820A	250 gpm pump, 2009
6	WEG brand pump motor	21N0V081003573015	025360P3E256JM	3 phase 208/460V
7	Peerless centrifugal pump	EI-42532	F2820AP-BF	250 gpm pump, 2009
8	US brand pump motor	B095AW11W273R028F		3 phase 230/460V
9	Sensus 4" turbo meter		1000S Class 2	
10	Pressure relief valve	2 50-01	50-1-290	2-inch
11	Sump pump			1/3 HP, tied to SCADA
12	Misc piping, valves, etc.			piping updated in 2009
13				

Original Cost Study Inventory Sheet
 Non-Mass Property
 East Donegal Township Municipal Authority

Location Name: Nitrate Treatment Plant
 Address: 34 E. Jacob Street, Maytown, PA 17550

No.	Item	Serial No.	Model	Description
1	600 ft of 6 ft high chain link fence with 3 strands of barbed wire at the top			Includes a 25 foot motor operated gate and a 6 foot wide manual gate.
2	One story block building with brick exterior			Building has a 22 ft x 30 ft. (660 SF) treatment room and attached 16 ft x 10 ft. (160 SF) office; treatment room sits on 3.5 ft deep clearwell; asphalt shingles, 124/240v, 200 amp single phase electrical service. Building constructed in 1990 and roof replaced in 2015. Building has intrusion security system.
3	Apex UPS	4B1847P26651	BE600M1	Installed March 2019
4	Two (2) Refinte anion exchange filters			84 inches in diameter; installed in 1990
5	One (1) Refinte anion exchange filter			84 inches in diameter; installed in 2001
6	One small 3/4 HP portable air compressor			purchased in 2016
7	One small 3/4 HP portable air compressor			purchased in 2018
8	30 ton fiberglass salt storage tank			located outside next to treatment room; installed in 1990
9	25 ton fiberglass salt storage tank			located outside next to treatment room; installed in 2001
10	600 gallon indoor fiberglass salt brine tank			installed in 1990
11	LP gas generator	20GGDB3386682	A000043795	
12	500 gallon above ground LP tank			
13	Onan automatic transfer switch	A990849778	LT 200 12349J	
14	One (1) Kisco galvanized water softener		KS-390-1	30" x 60" tank
15	Brothers printer	U64969E9N663670	MFC-L2710DW	
16	Lenovo computer with dual monitors			PC purchased in 2019; monitors in 2017
17	DSP Data Transceiver (radio)			
18	Micro Logic SCADA	1766-L32BXBA	Micro Logic 1400	Includes UPS backup
19	Seametric regeneration meter			
20	Hays regeneration meter	12991255	FT 520	
21	Hays regeneration meter	12991254	FT520	
22	One (1) raw water meters	ACS-W-400-100G		Accent Control Systems; 4 inch
23	Two (2) raw water meters	ACS-W-400-R-100G		Accent Control Systems; 4 inch; one replaced in 2020
24	LMI Diaphragm chemical metering pump	19024559030-1	B131-362SI	Average age 5 years old
25	LMI Diaphragm chemical metering pump	991119815	B131-368SI	
26	LMI Diaphragm chemical metering pump	10042959096	B131-459SI	
27	LMI Diaphragm chemical metering pump	17064334436-1	B131-460SI	
28	LMI Diaphragm chemical metering pump	18054467992-1	B131-362SI	
29	HACH-60 CL-17 chlorine analyzer	1.005E+12	P/N 54400	Purchased 2001
30	Misc piping, valves, etc.			
31	7,000 gallon buried chlorine contact tank			Installed in 1981 at Well #1; moved to Nitrate Treatment plant in 1989
32	4,000 gallon buried chlorine contact tank			Installed in 1989
33	6,000 gallon buried chlorine contact tank			Installed in 1999
34				

Original Cost Study Inventory Sheet
Non-Mass Property
East Donegal Township Municipal Authority

Location Name: 0.5 MG Finished water storage tank
Address: 35 Coffee Goss Road, Maytown, PA 17550

No.	Item	Serial No.	Model	Description
1	425 ft of 6 ft high chain link fence with 3 strands of barbed wire at the top			Includes a double wide vehicle gate.
2	500,000 gallon elevated fluted column finished water storage tank. Built in 1999. 144 ft tall with 49.5 ft diameter bowl.			Tank located on 1.0 acres owned by the Authority.
3	T-Mobile rents space on the Tank			
4				

Original Cost Study Inventory Sheet
Non-Mass Property
East Donegal Township Municipal Authority

Location Name: 0.3 MG Finished water storage tank
Address: 34 E. Jacob Street, Maytown, PA 17550

No.	Item	Serial No.	Model	Description
1	300,000 gallon elevated multi-legged finished water storage tank. Built in 1982 and repainted in 2001. Approximately 86ft tall.			

Original Cost Study Inventory Sheet
Non-Mass Property
East Donegal Township Municipal Authority

Location Name: 0.3 MG Finished water storage tank
Address: 34 E. Jacob Street, Maytown, PA 17550

No.	Item	Serial No.	Model	Description
1	100,000 gallon elevated multi-legged finished water storage tank. Built in 1948 and repainted in 2001. Approximately 86 ft tall.			

Original Cost Study Inventory Sheet
Non-Mass Property
East Donegal Township Municipal Authority

Location Name: Chlorine Booster Station
Address: Rt. 441, Maytown, PA 17550

No.	Item	Serial No.	Model	Description
1	6 ft x 5ft fiberglass bldg for chlorine gas boosting			Installed in 1993 with the Rowenna water main project. Currently no functioning chlorination equipment in the building. Site is used for water sampling only. Building is located on 0.17 acres owned by the Authority.

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
Alexandria Court	DIP	8	809	2001
	DIP	8	889	2003
	FH		3	2001
	FH		1	2003
	GV	8	2	2001
	GV	8	3	2003
	GV	6	3	2001
	GV	6	1	2003
	Curb stop	3/4"	45	2001
	Curb stop	3/4"	49	2003
	Service line	3/4"	45	2001
	Service line	3/4"	49	2003
	Amanda Court	DIP	8	572
Amanda Court (To Village Square connector)	DIP	8	553	1995
	FH		1	1995
	FH		1	1997
	GV	8	2	1995
	GV	8	2	1997
	GV	6	1	1995
	GV	6	1	1997

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4"	13	1995
	Curb stop	3/4"	13	1997
	Service line	3/4"	13	1995
	Service line	3/4"	13	1997
Ashley Drive	DIP	8	1,426	1994
Ashley Drive	DIP	8	586	1998
Ashley Drive	DIP	8	479	1995
Ashley Drive	DIP	12	822	2001
Ashley Drive	PVC	12	369	2006
	FH		1	1994
	FH		2	1995
	FH		1	1997
	FH		1	1998
	FH		1	2001
	GV	6	1	1994
	GV	6	2	1995
	GV	6	1	1997
	GV	6	1	1998
	GV	6	1	2001
	GV	8	5	1994
	GV	8	5	1998
	GV	8	5	1995

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	12	4	2001
	GV	12	5	2006
	Curb stop	3/4"	22	1994
	Curb stop	3/4"	22	1995
	Curb stop	3/4"	22	1997
	Curb stop	3/4"	2	1998
	Curb stop	3/4"	2	2001
	Service line	3/4"	22	1994
	Service line	3/4"	22	1998
	Service line	3/4"	22	1995
	Service line	3/4"	2	2001
	Service line	3/4"	2	2006
	Blow off	2"	1	2006
Carriage Drive	DIP	6	1,087	2003
	FH		1	2003
	GV	6	5	2003
	Curb stop	3/4"	15	2003
	Service line	3/4"	15	2003

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Blow off	2"	1	2003
Center Square	DIP	4	28	2004
Center Square	DIP	6	75	2004
Center Square	DIP	12	168	2018
Center Square	DIP	12	155	2001
Center Square	AC	6	108	1949
	FH		1	2000
(fire services)	GV	4	2	1949
	GV	6	1	1949
	GV	6	2	2001
	GV	12	1	2018
	GV	12	1	2004
Chelmsford Drive	DIP	6	428	1998
Chelmsford Drive	DIP	8	1,695	1996
	FH		2	1996
	FH		2	1997
	FH		1	1998
	GV	6	2	1996
	GV	6	2	1997
	GV	6	2	1998

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	8	5	1996
	GV	8	2	1998
	Curb Stop	3/4"	64	1996
	Curb Stop	3/4"	17	1998
	Service line	3/4"	64	1996
	Service line	3/4"	17	1998

Coffee Goss Road (Elizabeth St to Tee)	DIP	12	1,694	2018
Coffee Goss Road (Extension to Gwen Circle)	DIP	12	885	1993
Coffee Goss Road (Tee to Tee)	DIP	12	1,289	1993
Coffee Goss Road (Extension to Surey Way)	DIP	12	556	1993
Coffee Goss Road, Southern Portion	DIP	8	189	2000
Coffee Goss Road, Southern Portion	DIP	10	806	2000
Coffee Goss Road, Southern Portion	DIP	12	1,547	1995
Coffee Goss Road, Southern Portion	PVC	12	350	1995
	FH		1	1993
	FH		3	1995
	FH		3	2000
	FH		1	2017
	FH		1	2018
	GV	4	1	2000
	GV	6	1	1993

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	6	3	1995
	GV	6	3	2000
	GV	6	2	2017
	GV	6	2	2018
	GV	12	5	1993
	GV	8	1	2000
	GV	10	2	2000
	GV	12	6	1995
	Curb Stop	3/4"	16	1995
	Curb Stop	3/4"	17	2000
	Service line	3/4"	16	1995
	Service line	3/4"	17	2000
	Blow off	2"	2	2000

Countryside Lane	DIP	8	1,105	2003
Countryside Lane	DIP	8	534	2001
Countryside Lane	DIP	8	1,039	1989
	FH		2	1989
	FH		1	2001
	FH		1	2003
	GV	6	2	1989

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	6	1	2001
	GV	6	2	2003
	GV	8	5	2003
	GV	8	4	2001
	GV	8	3	1989
	Curb stop	3/4"	16	2003
	Curb stop	3/4"	9	2001
	Curb stop	3/4"	15	1989
	Service line	3/4"	16	2003
	Service line	3/4"	9	2001
	Service line	3/4"	15	1989

E. Elizabeth Street	AC	6	311	1949
E. Elizabeth Street	DIP	6	255	1989
	FH		1	2016
	GV	6	1	1949
	GV	6	1	1989
	GV	6	2	2016
	Curb stop	3/4"	2	1949
	Curb stop	3/4"	2	1989

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4"	2	1949
	Service line	3/4"	2	1989

E. High Street	AC	6	955	1971
E. High Street	DIP	6	31	2018
E. High Street	DIP	12	504	2019
E. High Street	DIP	8	747	2019
	FH		1	1971
	FH		1	2015
	FH		1	2017
	FH		2	2019
	GV	6	2	1971
	GV	12	2	2019
	GV	8	2	2019
	GV	6	1	2015
	GV	6	2	2017
	GV	6	2	2019
	Curb stop	3/4"	19	1971
	Curb stop	3/4"	25	2019
	Curb stop	2"	1	2019
	Service line	3/4"	19	1971

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4"	25	2019
	Service line	2"	1	2019

E. Jacob Street	AC	6	568	1949
E. Jacob Street	DIP	6	6	2008
	FH		1	1949
	GV	6	3	1949
	GV	6	2	1982
	GV	6	1	1999
	Curb stop	3/4"	6	1949
	Curb stop	2"	1	1949
	Service line	3/4"	6	1949
	Service line	2"	1	1949

Eleanor Drive	AC	6	1,933	1972
Eleanor Drive	DIP	6	615	1989
	FH		1	1972
	FH		1	1973
	GV	6	3	1973

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	6	4	1972
	GV	6	3	1989
	Curb stop	3/4"	23	1972
	Curb stop	3/4"	9	1989
	Service line	3/4"	23	1972
	Service line	3/4"	9	1989

Endslow Road	AC	4	5	1955
Endslow Road	AC	6	822	1955
Endslow Road	DIP	6	565	1988
Endslow Road	DIP	8	604	1991
Endslow Road	DIP	8	543	1999
	FH		1	1973
	FH		1	1991
	FH		1	1995
	GV	4	1	1973
	GV	6	1	1973
	GV	6	1	1991
	GV	6	1	1995
	GV	8	1	1991
	GV	8	2	1999
	GV	6	2	1955
	GV	6	3	1988

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4"	7	1955
	Curb stop	3/4"	5	1988
	Curb stop	3/4"	5	1991
	Curb stop	3/4"	6	1999
	Curb stop	2"	1	1999
	Service line	3/4"	7	1955
	Service line	3/4"	5	1988
	Service line	3/4"	5	1991
	Service line	3/4"	6	1999
	Service line	2"	1	1999
Equine Drive	DIP	8	340	2003
Equine Drive	DIP	12	781	2003
	FH		2	2003
	GV	6	2	2003
	GV	8	2	2003
	GV	12	4	2003
	Curb stop	3/4'	12	2003
	Service line	3/4'	12	2003
	Blow off	2"	1	2003

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
Farmingdale Lane	DIP	6	2,010	1988
	FH		2	1988
	GV	6	8	1988
	Curb stops	3/4"	27	1988
	Service lines	3/4"	27	1988
	Blow off	2"	1	1988
Foal Court	DIP	6	182	2003
	FH		1	2003
	GV	6	2	2003
	Curb stop	3/4'	4	2003
	Service line	3/4'	4	2003
Fuhrman Road	DIP	8	883	2000

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	FH		1	2000
	GV	6	1	2000
	GV	8	6	2000
	Blow off	2"	1	2000
	Curb stop	3/4"	9	2000
	Service line	3/4"	9	2000
Garden Court	DIP	6	124	1989
	FH		1	1989
	GV	6	2	1989
	Curb stop	3/4"	4	1989
	Service line	3/4"	4	1989
Gwen Circle	AC	6	558	1977
	FH		1	1976

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	6	2	1976
	Curb stop	3/4"	14	1977
	Service line	3/4"	14	1977
Hampshire Court	DIP	8	292	1994
	FH		1	1994
	GV	6	1	1994
	GV	8	1	1994
	Curb stop	3/4"	15	1994
	Service line	3/4"	15	1994
Harter Street	AC	6	606	1960
Harter Street	DIP	6	659	1989
	FH		1	1960
	GV	6	1	1960
	GV	6	2	1989
	Curb stop	3/4"	7	1960

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4"	9	1989
	Service line	3/4"	7	1960
	Service line	3/4"	9	1989
Hemlock Drive	CI	6	425	1998
	FH		1	1998
	GV	6	2	1998
	Curb stop	3/4"	15	1998
	Service line	3/4"	15	1998
Hillcrest Road	DIP	6	1,923	2001
Hillcrest Road	DIP	8	417	2003
	FH		1	2001
	FH		2	2003
	GV	6	7	2001
	GV	6	3	2003
	GV	8	2	2003

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4"	24	2001
	Curb stop	3/4"	10	2003
	Service line	3/4"	24	2001
	Service line	3/4"	10	2003
Lorraine Avenue	AC	6	438	1977
Lorraine Avenue	DIP	12	21	1993
	FH		1	1977
	GV	6	3	1977
	Curb stop	3/4"	9	1977
	Service line	3/4"	9	1977
Main Street, Rowenna (Includes north extension)	DIP	6	1,691	1993
	FH		2	1993
	GV	6	6	1993
	Curb stop	3/4"	16	1993
	Service line	3/4"	16	1993

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
Maple Street	DIP	6	379	1993
	GV	6	2	1993
	Curb stop	3/4"	1	1993
	Service line	3/4"	1	1993
Maplewood Lane	AC	6	826	1977
	FH		1	1977
	GV	6	3	1977
	Curb stop	3/4"	51	1977
	Service line	3/4"	51	1977
Martha Drive	DIP	6	301	1989
	GV	6	1	1989
	Curb stop	3/4"	5	1989

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4"	5	1989
SR 743 (Spring to Town Square)	AC	6	4,241	1949
SR 743 (Town Square to valve north of PP&L)	AC	6	2,227	1949
SR 743 (Valve north of PP&L to valve south of PP&L)	AC	6	1,016	1951
SR 743 (Valve south of PP&L to Tollgate Rd)	AC	6	508	1953
SR 743 (Tollgate Rd to Texas Eastern)	DIP	8	473	1994
SR 743 (Texas Eastern to Coffee Goss Rd)	DIP	8	1,721	2003
SR 743 (Coffee Goss Road to SR 441)	AC	8	953	1957
SR 743 (Jacob St Intersection)	DIP	6	44	2008
	FH		1	1994
	FH		1	1999
	FH		2	2002
	FH		1	2008
	FH		1	2009
	FH		3	2018
	GV	6	11	1949
	GV	6	1	1951
	GV	6	1	1953
	GV	8	2	1994
	GV	8	7	2003
	GV	8	3	1957
	GV	6	4	2008
	Curb stop	3/4"	57	1949

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4"	9	1951
	Curb stop	3/4"	5	1953
	Curb stop	3/4"	4	1994
	Curb stop	3/4"	15	2003
	Curb stop	3/4"	8	1957
	Curb stop	3/4"	2	2008
	Curb stop	1"	1	1949
	Curb stop	1.5"	1	1957
	Curb stop	2"	1	1957
	Service line	3/4"	57	1949
	Service line	3/4"	9	1951
	Service line	3/4"	5	1953
	Service line	3/4"	4	1994
	Service line	3/4"	15	2003
	Service line	3/4"	8	1957
	Service line	3/4"	2	2008
	Service line	1"	1	1949
	Service line	1.5"	1	1957
	Service line	2"	1	1957
Morning Circle	DIP	6	1,307	1988
	FH		1	1988
	GV	6	3	1988

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4"	21	1988
	Service line	3/4"	21	1988

Nicole Street	DIP	8	797	2006
	FH		3	2006
	GV	8	1	2006
	GV	6	3	2006
	Curb stop	3/4"	60	2006
	Service line	3/4"	60	2006

N. Decatur Street	AC	8	337	1957
N. Decatur Street	DIP	8	275	2008
N. Decatur Street	DIP	10	49	2008
	FH		2	2006
	GV	8	2	2006
	GV	10	1	2006
	GV	6	2	2006

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	8	3	2008
N. King Street	AC	6	553	1949
N. King Street	DIP	6	1,276	1997
	FH		3	1997
	GV	6	2	1949
	GV	6	5	1997
	Curb stop	3/4"	4	1949
	Curb stop	3/4"	17	1997
	Service line	3/4"	4	1949
	Service line	3/4"	17	1997
N. Queen Street	AC	6	524	1949
N. Queen Street	DIP	6	15	2019
N. Queen Street	DIP	12	50	2019
	GV	6	1	2019
	GV	12	1	2019
	Curb stop	3/4"	8	1949

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4"	8	1949
Old River Road	DIP	6	717	1993
	FH		1	1993
	GV	6	5	1993
	Curb stop	3/4'	10	1993
	Service line	3/4'	10	1993
	Blow off	2"	1	1993
Pink Dogwood Lane	DIP	8	316	1996
	FH		1	1996
	GV	6	1	1996
	GV	8	2	1996
	Curb stop	3/4'	5	1996
	Service line	3/4'	5	1996

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
Plum Street / Grove Alley	DIP	6	547	1989
	GV	6	2	1989
	Curb stop	3/4'	2	1989
	Service line	3/4'	2	1989
Pommell Lane	DIP	8	505	2003
	FH		1	2003
	GV	6	1	2003
	GV	8	2	2003
	Curb stop	3/4'	9	2003
	Service line	3/4'	9	2003
Price Place	DIP	6	412	1997

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	FH		1	1997
	GV	6	2	1997
	Curb stop	3/4'	14	1997
	Service line	3/4'	14	1997
Quaking Aspen Lane	DIP	6	804	1994
	FH		2	1994
	GV	6	4	1994
	Curb stop	3/4'	44	1994
	Service line	3/4'	44	1994
Railroad Avenue	DIP	6	885	1993
	FH		1	1993
	GV	6	6	1993
	Curb stop	3/4'	8	1993

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4'	8	1993
Red Cedar Lane	DIP	6	915	1991
Red Cedar Lane	DIP	8	1,173	2008
	FH		1	1991
	FH		2	2008
	GV	4	4	2008
	GV	6	6	1991
	GV	8	6	2008
	GV	6	2	2008
	Curb stop	3/4'	30	1991
	Curb stop	3/4'	57	2008
	Service line	3/4'	30	1991
	Service line	3/4'	57	2008
	Blow off	4	2	2008
River Road, SR 441 (To Herr's Market)	AC	6	373	1970
River Road, SR 441 (To Rowenna)	DIP	8	3,456	1993
	FH		2	1994

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	6	4	1970
	GV	8	6	1993
	Curb stop	3/4'	2	1970
	Curb stop	3/4'	9	1993
	Curb stop	1"	1	1970
	Curb stop	1"	1	1993
	Curb stop	1.5"	1	1970
	Service line	3/4'	2	1970
	Service line	3/4'	9	1993
	Service line	1"	1	1970
	Service line	1"	1	1993
	Service line	1.5"	1	1970
	Air release pit	1"	1	1993
	Sample test pit	1"	1	1993
	Cl2 injection pit	1"	1	1993
Rosewood Lane	DIP	8	1,372	1988
	FH		3	1988
	GV	6	4	1988
	GV	8	5	1988

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4'	24	1988
	Service line	3/4'	24	1988
S. Arnold Street (Extends past the road to the south)	AC	6	911	1956
S. Arnold Street (Extends past the road to the south)	DIP	6	126	1989
	FH		1	1956
	GV	6	3	1989
	Blow off	2	2	1956
	Curb stop	3/4'	11	1956
	Curb stop	3/4'	4	1989
	Service line	3/4'	11	1956
	Service line	3/4'	4	1989
S. King Street	DIP	6	363	1989
S. King Street	AC	6	224	1949
	GV	6	2	1989
	Curb stop	3/4'	2	1989
	Curb stop	3/4'	2	1949

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4'	2	1989
	Service line	3/4'	2	1949
S. Queen Street	AC	6	476	1949
S. Queen Street	DIP	6	17	2019
S. Queen Street	DIP	12	60	2019
	FH		2	2019
	GV	6	1	1949
	GV	6	2	2019
	GV	12	1	2019
	Curb stop	3/4'	7	1949
	Service line	3/4'	7	1949
Saddleback Drive	DIP	6	1,072	1988
Saddleback Drive	DIP	8	163	1988
	FH		2	1988
	FH		1	1998
	FH		1	2001
	GV	6	9	1998

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	GV	8	1	1988
	Curb stop	3/4'	16	1988
	Service line	3/4'	16	1988
Sload Circle	DIP	6	372	1998
Sload Circle	DIP	6	295	1998
	FH		1	1998
	GV	6	5	1998
	Curb stop	3/4'	16	1998
	Service line	3/4'	16	1998
Stackstown Road	DIP	8	813	2002
	FH		2	2002
	GV	6	2	2002
	GV	8	3	2002
	Curb stop	3/4'	7	2002

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Service line	3/4'	7	2002
Stirrup Lane	DIP	8	1,325	2003
	GV	8	9	2003
	Blow off	2	2	2003
	Curb stop	3/4'	10	2003
	Service line	3/4'	10	2003
Surrey Way	DIP	12	401	2003
	GV	12	2	2003
	Curb stop	3/4'	5	2003
	Service line	3/4'	5	2003
Tanger Street	DIP	6	708	1998
	FH		1	1998
	GV	6	3	1998

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4'	16	1998
	Service line	3/4'	16	1998
Thornapple Drive	DIP	6	965	1988
Thornapple Drive	DIP	8	205	1988
	FH		2	1988
	GV	6	7	1988
	Curb stop	3/4'	33	1988
	Service line	3/4'	33	1988
Thornapple Drive (Extension to Senior Living Center)	DIP	6	243	1999
	GV	6	2	1999
	Curb stop	3"	1	1999
	Service line	3"	1	1999
Village Square Drive	DIP	8	1,568	2000

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
Village Square Drive	DIP	12	1,867	1988
	FH		3	2000
	FH		2	1988
	GV	8	2	2000
	GV	12	9	1988
	GV	6	4	2000
	GV	6	3	1988
	Curb stop	3/4'	30	2000
	Curb stop	3/4'	26	1988
	Service line	3/4'	30	2000
	Service line	3/4'	26	1988
	Vinegar Ferry Road (Eleanor Drive to ED Sewer Pump Sta)	AC	6	1,134
Vinegar Ferry Road (To Rowenna)	DIP	8	3,321	1993
	FH		3	1993
	GV	8	5	1993
	GV	6	5	1993
	Sample test pit	2	1	1993
	Air release valve	2	1	1993

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4'	10	1993
	Service line	3/4'	10	1993
Vista Drive	AC	6	2,181	1970
	FH		1	1969
	FH		1	1970
	FH		1	1973
	GV	6	6	1970
	GV	6	1	1973
	Curb stop	3/4'	31	1970
	Service line	3/4'	31	1970
W. Elizabeth Street (East of Harter St)	AC	6	1,078	1949
W. Elizabeth Street (West of Harter St)	AC	6	309	1970
W. Elizabeth Street (West of Harter St)	DIP	6	592	1989
	FH		1	1995
	GV	6	3	1949
	GV	6	2	1970
	GV	6	3	1989

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	Curb stop	3/4'	17	1949
	Curb stop	3/4'	3	1970
	Curb stop	3/4'	8	1989
	Service line	3/4'	17	1949
	Service line	3/4'	3	1970
	Service line	3/4'	8	1989

W. High Street (Town Square to Stackstown Rd)	DIP	12	1,126	2001
W. High Street (Stackstown Rd to Valve)	AC	6	358	1949
W. High Street (Valve to Eleanor Road)	AC	6	197	1964
	FH		4	2000
	GV	6	2	1964
	GV	6	4	2001
	GV	12	5	2001
	Curb stop	3/4'	34	2001
	Curb stop	3/4'	11	1949
	Curb stop	3/4'	7	1964
	Service line	3/4'	34	2001
	Service line	3/4'	11	1949
	Service line	3/4'	7	1964

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
<hr/>				
W. Jacob Street	DIP	6	555	1997
	GV	6	2	1997
	Curb stop	3/4'	4	1997
	Service line	3/4'	4	1997
Wild Cherry Lane	DIP	6	979	1990
Wild Cherry Lane	DIP	8	996	1996
	FH		1	1990
	GV	6	1	1990
	GV	6	2	1996
	GV	8	3	1996
	Curb stop	3/4'	40	1990
	Curb stop	3/4'	63	1996
	Service line	3/4'	40	1990
	Service line	3/4'	63	1996
Extension to 0.5 MG Elevated Water Storage Tank	DIP	12	1,099	1999

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	FH		1	1999
	GV	6	1	1999
	GV	12	2	1999
	Air Release & MH		1	1999
	Curb stop	3/4'	2	1999
	Service line	3/4'	2	1999
Village Square Extension (across PPL Easement)	DIP	12	956	1995
	GV	12	2	1995
Extension off Coffee Goss (to Daycare)	DIP	8	530	2001
	GV	8	2	2001
	2" Blow off	2"	1	2001
	Curb stop	1"	1	2001
	Service line	1"	1	2001

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
East Donegal Township Municipal Building Property	PVC	6	658	2015
East Donegal Township Municipal Building Property	DIP	6	167	1999
East Donegal Township Municipal Building Property	DIP	8	118	1988
	GV	6	3	2015
	GV	6	2	1999
	GV	6	2	1988
	2" Blow off	2"	1	1999
	Curb stop	3/4"	1	1999
	Curb stop	2"	1	1999
	Service line	3/4"	1	1999
	Service line	2"	1	1999

Raw water mains				
Spring House & Pump House to SR 743 (Maytown Rd)	DIP	8	1,788	2003
SR 743 (River Rd and Maytown Rd)	PVC	6	3,815	1982
SR 743 / E. Jacob Street	DIP	8	40	2010
SR 743 / E. Jacob Street	DIP	6	15	2010
E. Jacob Street	PVC	6	433	1989
E. Jacob Street to Nitrate Building	DIP	6	110	1999
Endslw Rd Intersection to Nitrate Plant (Including around Cl	DIP	8	992	1999
Pump House, Well 1 to Endslo Road Intersection	DIP	6	2,513	1990
Pump House, Well 2 to Pump House, Well 1	DIP	8	1,771	2000

East Donegal Township Municipal Authority
 Mass Property Inventory

Property Location	Type	Size (inches)	Quantity (feet)	Year Installed
	FH		2	
	GV	6	9	1990
	GV	8	6	2000
	GV	6	1	1990
	GV	6	1	2000
	Air release	1"	1	2000
	Blow off	4"	1	2000
Nitrate Treatment plant (on site buried valves)	GV	6	15	1989
	Swing Check valve	6	1	1989
	FH		2	1989
	Mixing valve	6	1	1989
	Curb stops	3/4"	3	1989

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-5. The Application’s Appendix 1, Schedule 4(p), Lead and Asbestos Disclosure listed three documents dated June 21, 2016, January 8, 2020, and February 6, 2020, respectively, as attached to the Application. However, copies of the Lead and Asbestos Disclosure (Disclosure) attachments were not included in the Application. Please provides copies of the Disclosure attachments.

RESPONSE: Attached are the copies of the Lead and Asbestos Disclosure attachments.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

Excerpt from Lead and Copper Sampling Site Plan
submitted 6/21/2016 to DEP

**MATERIALS SURVEY RESULTS BY NUMBER OF SERVICE CONNECTIONS
FOR EACH PLUMBING MATERIALS TYPE**

Type of Structure	Type of Plumbing Material				
	Building Interior Plumbing			Distribution System Piping	
	Lead Pipe	Copper Pipe with Lead Solder installed after 1982	Copper Pipe with Lead Solder installed before 1983	Lead Service Lines	
				Entire Line	Partial Line
	Number of Service Connections			Number of Service Connections	
Single Family Residences	N/A	1020	450	N/A	N/A
Multi Family Residences	N/A		5	N/A	N/A
Buildings	N/A	1		N/A	N/A
TOTAL		1021	455		

**SUGGESTED DIRECTIONS
TAP SAMPLE COLLECTION PROCEDURES**

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and the Pennsylvania Department of Environmental Protection, and is being accomplished through the cooperation of homeowners and residents.

A sample is to be collected after water has been sitting in the pipes for an extended period of time (i.e., no water use during this period). Due to this requirement, either early mornings or evenings upon returning home from work are the best times for collecting samples. The collection procedure is described in more detail below:

1. Prior arrangements will be made with the customer to coordinate the sample collection event. Dates will be set for sample kit delivery and pick-up by water

	From	To	Approx. Length (LF)	New Line and Location	Old Line and Location	Associated Project(s) Name
1	Spring House	SR 743 (Maytown Rd)	1660	8" DIP Raw Water Main, installed parallel	6" AC, abandoned parallel	Spring Water Transmission Main
2	Just north of SR 743 (Maytown Rd)/ N King St	Just north of Endslow Rd/ Maplewood Ln	980	N/A	6" AC, abandoned under Paramount Senior Living Center parking/driveway	N/A
3	SR 743 (Maytown Rd)/ Ashley Dr	SR 743 (Maytown Rd)/ Coffee Goss Rd	1980	8" DIP, installed along SR 743 just outside shoulder	6" AC, abandoned parallel under shoulder of SR 743	Maytown Extension, Maytown Rd & Coffee Goss Rd Intersection Improvements
4	GSK Driveway Access/ Decatur St	N GSK Meter Building	260	8" DIP, installed parallel to N Decatur St	8" AC, abandoned parallel along edge of N Decatur St	GSK Meter Building
5	Just north of Endslow Rd/ Thornapple Dr	Just west of Endslow Rd/ Hillcrest Rd	1000	New service connections to existing 6 DIP along Endslow Rd	4" AC, abandoned, located behind houses	Endslow Rd & Coffee Goss Rd Waterline Extension
6.A	Stackstown Rd/ W High St	SR 743 (N River St)/ W High St (north intersection of town square)	1180	12" DIP, installed under W High St	6" AC, abandoned parallel under W High St	West High Street Improvements
6.B	SR 743 (N River St)/ W High St (north intersection of town square)	SR 743 (N River St)/ E High St (east intersection of town square)	150	12" DIP, installed in town square	6" AC, abandoned parallel	East High Street Waterline Extension, Phase 1
6.C*	SR 743 (N River St)/ E High St (east intersection of town square)	East Donegal Fire House	1390	12" and 8" DIP, installed under E High St	6" AC, abandoned parallel	East High Street Waterline Extension, Phase 2

*This project, completed the end of 2019, provided a new main and service connections to residents along E High St. A 12" main was installed from the town square to the intersection of Queen St, and a 8" main from Queen St to the Fire House. This upgrade is not yet reflected on the current master map.

Street Name	Type	Size	Length
Center Square	AC	6	108.2
E. Elizabeth Street	AC	6	310.5
E. High Street	AC	6	2206.3
E. Jacob Street	AC	6	568.2
Eleanor Drive	AC	6	1933.5
Endslow Road	AC	4	4.6
Endslow Road	AC	6	822.0
Gwen Circle	AC	6	558.1
Harter Street	AC	6	606.3
Lorraine Avenue	AC	6	438.5
Maplewood Lane	AC	6	825.8
N. Decatur Street	AC	8	336.6
N. King Street	AC	6	553.4
N. Queen Street	AC	6	589.0
S. Arnold Street	AC	6	911.5
S. King Street	AC	6	224.1
S. Queen Street	AC	6	552.7
SR 441 (To Herr's Market)	AC	6	373.1
SR 743 (North of Engles Tollgate Road to Spring House)	AC	6	7992.7
SR 743 (South of Coffee Goss Road)	AC	8	953.3
Vinegar Ferry Road	AC	6	1133.6
Vista Drive	AC	6	2181.2
W. Elizabeth Street (East)	AC	6	1078.0
W. Elizabeth Street (West)	AC	6	308.7
W. High Street (To Eleanor Road)	AC	6	555.6
Total AC Pipe:			26125.5
Percent of Total System:			26.7%

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-6. The Application’s Appendix 10 contains a map depicting boundaries and written description of bearing angles and distances entitled “East Donegal Township Water Service Map”. Please confirm this map represents the requested additional service territory that Columbia Water is seeking Commission approval of the right begin to offer, render, furnish and supply water service to the public in these portions of East Donegal Township, Lancaster County Pennsylvania. If so, please provide the approximate total of the requested territory area, quantified in acres.

RESPONSE: The referenced map does depict the requested additional service territory that Columbia Water is seeking Commission approval of the right begin to offer, render, furnish and supply water service to the public in these portions of East Donegal Township, Lancaster County Pennsylvania.

The total requested territory area is 1,526 acres in size.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-7. Please provide an estimate of the number of customer connections, by customer class, anticipated to connect to the EDTMA water system within in the next five years.

RESPONSE: EDTMA’s water system is surrounded by preserved agricultural land. Expansion of the system is largely limited. Currently there is space for the addition of 116 residential dwellings and 2 commercial buildings within the existing service area. These locations could become customers within the next 5 years.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-8. Please provide the estimated average monthly water usage for customers connected to EDTMA’s water system, by customer class.

RESPONSE: The estimated average monthly water usage for customers connected to EDTMA’s water system, by customer class is as follows:

Residential – 6.28 million gallons per month

Commercial – 0.51 million gallons per month

Industrial – 3.32 million gallons per month

Public/agricultural – 0.75 million gallons per month

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-9. Please provide copies of EDTMA’s current water rates, rules, and regulations.

RESPONSE: Attached is a copy of EDTMA’s rates, rules and regulations.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

RATE SCHEDULE
EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
EFFECTIVE AS OF JULY 1, 2020

USE CLASSIFICATION	WATER USE RATES
CENTRAL RATE DISTRICT	
Residential Users:	
First 9,000 Gallons per Quarter	\$48.00 /Quarter
All over 9,000 Gallons per Quarter	\$2.10 /1000 gal.
Commercial Users:	
First 14,000 Gallons per Quarter	\$73.00 /Quarter
All over 14,000 Gallons per Quarter	\$2.10 /1000 gal.
Industrial Users:	
First 75,000 Gallons per Month	\$390.26 /Month
All over 75,000 Gallons per Month	\$3.00 /1000 gal.
Farm Users:	
First 35,000 Gallons per Quarter	\$182.58 /Quarter
All over 35,000 Gallons per Quarter	\$2.10 /1000 gal.
Late Payment Charge	\$8.00 /Quarter

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY

RULES AND REGULATIONS

EFFECTIVE AS OF MAY 1, 2014

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ATTACHMENT 1 – RATE SCHEDULE

SECTION 1 – DEFINITIONS

101. APPLICANT - the property owner or his agent applying for permission to connect to the Water System.
102. AUTHORITY - the EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY.
103. BACKFLOW PREVENTER - a device or other means which will prevent the backflow of water or liquids of questionable quality into the public water supply system.
104. BOARD - the appointed officials acting as the governing body of the Authority.
105. BOOSTER PUMP - a pump or pumping system designed to increase the water pressure in a section of the water distribution system or service location in accordance with the requirements of the Pennsylvania Department of Environment Protection.
106. BULK SALES - the metered sale of water to a customer for redistribution by the customer to users not connected directly to the Authority's water system or for other than potable water uses.
107. COMMERCIAL ESTABLISHMENT - any structure or portion thereof intended to be used wholly or in part for the purpose of carrying on a trade, profession or business.
In a structure where individual offices or units share sanitary facilities, those units sharing the same facilities shall be considered as one such establishment.
108. CONTRACTOR - a person, firm, or corporation engaged by a developer to perform the construction of any improvements to the Authority's water system.
109. CONSUMPTIVE USE - the loss of water transferred through a manmade conveyance system or any integral part thereof (including such water that is purveyed through a public water supply or wastewater system), due to transpiration by vegetation, incorporation into products during their manufacture, evaporation, injection of water or wastewater into a subsurface formation from which it would not reasonably be available for future use in the Susquehanna River Basin (basin), diversion from the basin, or any other process by which the water is not returned to the waters of the basin undiminished in quantity.

110. CUSTOMER - shall include a person, partnership, political subdivision, association or corporation, and shall mean anyone to whom a connection permit has been issued and to whom service is supplied by the Authority; or, anyone who, by virtue of the full payment of tapping fees, is required to pay monthly rental charges whether or not the property for which the tapping fee is paid is connected to the system.
111. DEVELOPER - an owner of a tract of land within the geographical area served by the Authority who desires to develop the land; or, a person, firm or corporation engaged in the business of developing land for the owners thereof.
112. DWELLING UNIT - any structure intended to be occupied as a whole by one family, or an apartment intended to be occupied by one family, or any other one-family living unit containing plumbing for kitchen and bathing facilities.
113. EQUIVALENT DWELLING UNIT (EDU) - a unit of measure used for the purpose of comparing water usage to the average daily usage of a single family dwelling. The assigned value of one EDU is 175 gallons per day. Each connection to the Authority's water system is at least one EDU. A property or structure may be assigned more than one EDU. The number of EDU's for a commercial/industrial property will be established through industry standard flow analysis for similar uses and estimation. Each living unit shall be considered as one EDU for the imposition of minimum quarterly rentals in apartment buildings, multiple dwellings and single dwelling conversion apartments having separate kitchen and bath.
114. FIRE SUPPRESSION SYSTEM - a device or system that sharply reduces the heat release rate of a fire and prevents the re-growth by means of direct and sufficient application of water through the fire plume to the burning fuel surface.
115. LANDLORD RATEPAYER - One or more individuals or an organization listed on the Authority's records as the party responsible for payment of the water service provided to one or more residential units of a residential building or mobile home park of which building or mobile home park such party is not the sole occupant.
116. MAIN EXTENSIONS - extensions of distribution pipelines beyond existing facilities.

- 117. MAINS - distribution pipelines which are located in streets, highways, public ways or private rights-of-way, and which are used to serve the general public.
- 118. OWNER - shall mean any person, firm, corporation or association in whose name the deed for any property is recorded in the Office of the Recorder of Deeds for Lancaster County.
- 119. PREMISES - the property or area, including the improvements thereon, to which water service is or will be provided.
- 120. PRESSURE REDUCING VALVE - a valve inserted into a water main or service line extension designed to lower the water pressure from an unacceptably high value (pressure in excess of 75 psi to an acceptable pressure (40psi to 75 psi).
- 121. PUBLIC FIRE PROTECTION SERVICE - the furnishing of fire protection through fire hydrants and/or fire lines. The Authority does not guarantee the availability of public fire protection.
- 122. Rate Payer - the owner of a property receiving water service from the Authority
- 123 . RATE SCHEDULE - the entire body of effective rates, rentals, charges and fees as promulgated by the Authority and as amended from time to time.
- 124. Residential Building - A building containing one or more dwelling units occupied by one or more tenants, including a mobile home park, but excluding nursing homes, hotels and motels.
- 125 . SERVICE - the furnishing of water to a customer or customer's premises.
- 126 . SERVICE LINE CONNECTION - the pipe, valves and other facilities by means of which the Authority conducts water from its distribution main to the curb stop for the premises, and specifically includes the corporation stop or other means of connection to the main, the pipe from the connection to the corporation stop and extending to the point of connection at the curb stop, the curb stop, and the curb box. The service line connection shall be owned by the Authority.
- 127 . SERVICE LINE EXTENSION - the pipe, valves and other facilities by means of which water is conducted from the curb stop to a point on the inlet side of the meter to be located inside the walls of

the building or meter pit if approved. The service line extension shall be owned by the property owner.

128 . SHALL

- mandatory.

129 . TEMPORARY SERVICE

- a service for circuses, bazaars, fairs, construction work, irrigation of vacant property, trailers or trailer camps and similar uses, but excluding pre-manufactured home parks, that because of their nature will not be used steadily or permanently.

130 . TENANT

- Any person or group of persons whose dwelling unit in a residential building or mobile home park is provided water, pursuant to a rental agreement for such dwelling unit, mobile home or plot of ground within a mobile home park, but who is not the ratepayer of the Authority.

SECTION 2 - CONDITIONS OF SERVICE

201. CONDITIONS OF SERVICE

The Authority will furnish water service in accordance with the then current and all subsequent revisions of rates, Rules and Regulations, all of which are hereby incorporated into and made a part of every application, contract, or agreement entered into between the property owner and the Authority. The Authority hereby reserves the right to alter or amend the rates and the Rules and Regulations at any time and from time to time so often as it may deem necessary, making all such amendments a part of every application, contract, or agreement for water service, whether then existing or to come into existence thereafter.

A. Applicability of other standards.

If this document is in conflict with the latest version adopted by East Donegal Township of the International Code Council's International Building Code, then the section imposing the most stringent requirement shall apply.

202. APPLICATION FOR SERVICE AND CONTRACTS

A. Application for Water Service Connection

A written application shall be submitted for the installation of a water service line connection to each premises or group of premises where an individual service line connection is permitted. The application shall be subject to such water service connection fees and charges then in effect. The application and the Rules and Regulations of the Authority then in effect, and as thereafter modified or amended, shall regulate the water service to such premises. All applications are subject to the approval of the Board of the Authority.

B. Fire Protection Service

Where a building code or other regulation requires that a property be provided with a fire suppression system, the property owner shall provide the necessary facilities to meet the code requirements. Such facilities may include a separate water supply main of an appropriate size as determined by a qualified fire protection service provider retained by the property owner; a booster pump or pumping system to provide the required water flow and pressure; and/or a separate water storage tank located upon the property to be served. A backflow preventer shall be installed on the fire service water main connected to the Authority's water system at a point prior to (upstream of) the first apparatus or fixture forming a part of the fire protection system. The property owner shall provide design drawings of the proposed fire protection system to the Authority for review and approval prior to its installation. Funds may be required to be placed in an escrow account, as determined by and to be held by the Authority, to cover the design review and construction inspection of the connection to the Authority's water system.

C. Fire Flow Testing

Any developer or property owner desiring to perform a water flow test upon the Authority's distribution system for the purpose of determining the available water flow and pressure to be used in designing a fire protection system shall submit a request in writing to the Authority to perform such testing. Such request shall include the name of the firm performing the test and the date the test will be performed. Any water flow testing performed upon the Authority's distribution system shall be approved by the Authority, shall be performed by a qualified agent of the property owner approved by the Authority and in the presence of an agent of the Authority. The property owner shall submit an escrow deposit in an amount to be determined by the Authority to cover Authority expenses prior to the performance of such testing. All testing results and design drawings related to the fire protection system shall be provided to the Authority for review and comment.

D. Conditions of Billing

All owners, or their agents, making an application for water service shall, in doing so, agree to be governed by the Rules and Regulations herein set forth or hereinafter to be enacted. The application for water service shall be a binding contract on both the customer and the Authority, after approval by the Authority. All charges for water service shall be billed to the owner. Under no circumstances shall the Authority bill any tenant for water service. Charges for water service shall accrue from the date of settlement.

E. Special Contracts or Agreements

Under the following conditions and prior to the approval of any service, the Authority may require special contracts or agreements (other than applications):

1. For all new subdivisions and land developments served by the water system, developer contributions and escrow agreements are required.
2. If the construction of main extensions and/or other water service facilities is determined to be necessary.
3. If the Authority determines that special contracts are necessary for the existence, betterment or future needs of the Authority to provide water service.
4. Fire protection service lines.

F. Contracts with Delinquents

No agreement will be entered into by the Authority with any applicant for water service until all arrears for water rent, bills for meter repairs or other charges due for water service on subject premises have been paid, or until satisfactory arrangements for payment of such unpaid bills shall have been made.

G. Governmental Regulations are a Part of Contract

All contracts for water service shall be subject to such changes or other modifications as may be directed by action of the Legislature of the Commonwealth of Pennsylvania or any other governmental, administrative or regulatory body having jurisdiction over the Authority or the water services provided.

H. New Application upon Change in Ownership or Conditions of Water Use A new application must be submitted and approved by the Authority upon any change in ownership of the premises or change in condition of the service as described in the application. The Authority shall have the right, upon five (5) days written notice, to discontinue the water supply until such new application has been made and approved.

I. Number of Units Served by a Single Service Line

Not more than a single building, one single-family dwelling or establishment shall be supplied by a single service line extension except as approved or ordered by the Authority. For townhouse developments, where two or more townhouse units are included in a single structure, each unit shall have a separate service line extension.

203. CHANGES TO RULES AND REGULATIONS

No agent or employee of the Authority shall have authority to bind it by any promise, agreement or representation not set forth in these Rules and Regulations without the written approval of the Board of the Authority. The Authority may make changes to these Rules and Regulations at any time and from time to time and as often as it may deem necessary.

204. CONNECTION PERMITS AND DEPOSITS

A. The Authority will authorize a service connection and water will be furnished upon written application of the property owner, or the properly authorized agent thereof, to such person as the Authority may from time to time designate, and only after the approval of such application and the issuance of a Connection Permit by said person. All developers, contractors and other individuals will be required to deposit the necessary funds before a permit for connection to an existing water main and curb stop is issued. (See Sect. 6)

B. No developer, building contractor, plumber or any other individual will make any connection to the water mains or curb stops without first obtaining the approval of the Authority and paying the prevailing connection fee. The Authority, or its designated agent, will not issue a connection permit for a service connection to a newly constructed water main extension until the newly constructed main(s) has been satisfactorily tested in accordance with the Authority's construction standards, until an acceptable test report on the water in the main(s) has been received from a certified laboratory indicating that the water is safe for human consumption as indicated in writing by the Authority's Engineer and until Record Drawings of the completed system extension are submitted and accepted by the Authority's Engineer.

205. SERVICE OF NOTICES

A. All notices and bills relating to the Authority or its business shall be deemed to have

been properly served if left upon the premises of the customer, if mailed to the customer, or served in person at his address or served upon an authorized agent of the customer as shown on the records of the Authority.

- B. All notices of general character affecting or likely to affect a large number of customers shall be deemed to have been properly given or served if advertised in a newspaper of general circulation within the county, through an electronic notification system such as "Swift Reach", or advertised in the East Donegal Township newsletter.

206. INTERFERENCE WITH AUTHORITY'S PROPERTY

- A. Only authorized personnel shall turn the water on or off at any corporation stop or curb stop, break the seals, disconnect or remove any water meter.
- B. All persons are forbidden to open or operate any public fire hydrant except members of the fire department for the purpose of fighting fires and for training purposes. No public fire hydrant shall be used for washing, sprinkling or cleaning streets and gutters except in case of an emergency and no public fire hydrant shall be used for the flushing of sewers or filling swimming pools or for any other purpose without written permission from the Authority in advance for the particular time and occasion.
- C. No person shall intentionally, maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment that is a part of the water system. Any person violating this provision shall be subject to immediate arrest under charge of disorderly conduct, and such other charges as may be appropriate under the Pennsylvania Crimes Code or the laws of the United States of America.

207. CONDITIONS OF PLUMBING SYSTEM

- A. The piping and fixtures on the premises of the customer shall be in satisfactory condition at the time service facilities are connected and water furnished. The Authority shall not be liable for any accidents, breaks or leakage that are due to the connection with the supply of water or failure to supply the same. The Authority is not responsible for the freezing of piping and fixtures of the customers or for any damage to the premises that may result from water supplied. The Authority shall not be responsible for maintenance of, or for damage done by water escaping from the service pipe or any other pipe or fixture on the outlet side of the curb stop or first shut off valve. The owner shall at all times comply with all State and municipal regulations in reference thereto and shall make all changes thereon required on account of change of any grade, relocation of mains, amendments and modifications of these Rules and Regulations, or otherwise as may reasonably be required by the Authority.
- B. **Booster Pumps.** Where water system pressure may be less than 40 pounds per square inch (psi) and a property owner wishes to increase the water pressure to his/her home or other structure, the property owner may submit a written request to the Authority to permit the installation of a booster pump within the property being served to accomplish the desired pressure for review and approval. Such booster pump shall have a pumping capacity of no more than five (5) gallons per minute (gpm). The property owner shall provide a plan with the request showing the proposed installation, the

location, size and capacity of the pump, and the location of an operational backflow preventer. The property owner shall provide sufficient funds to be held in escrow by the Authority to cover the plan review and inspection by an agent of the Authority as determined by the Authority's engineer. The Authority shall not be responsible for any damage to the plumbing of the facility being served or any portion of the Authority's water distribution system resulting from such booster pump installation. The property owner shall be responsible for the cost to repair any portion of the Authority's distribution system or service line connection damaged by such installation.

- C. No continuous flow of water as a precaution against freezing or for any other purpose will be allowed, unless authorized by the Authority.
- D. The property Owner shall promptly repair all leaks in service line extensions at his expense. If such repairs are not made within a reasonable time, the Authority may turn off the water and not turn it on again until all necessary repairs are made and all proper and necessary expense incurred in shutting off and turning on the water are paid in full.
- E. When a service line extension must be repaired or replaced, the property owner shall promptly notify the Authority. At that time an agent of the Authority shall advise the property owner of the type of material to be used, allowable backfill, depth required, installation of required additional hardware (such as a backflow prevention device) removal of unnecessary items (such as pits) and installation of remote reading meters and devices. All repairs or replacements shall be performed in accordance with the "Lead Free" requirements of the Pennsylvania Department of Environmental Protection (DEP). An inspection fee in accordance with the Authority's Rate Schedule shall be charged and an agent of the Authority shall inspect all work.

208 . INSPECTION

- A. Authorized agents or employees of the Authority, identified by the proper identification cards, shall have access to the customer's premises at all reasonable hours, for the purpose of turning the water on or off; inspection, repair, and/or replacement of service line connections; inspection, setting, reading, repairing and removal of meters; and for all such similar purposes.
- B. Any person as may be designated by the Authority shall be authorized to enter and to have free access at all reasonable hours to premises being supplied with water by the Authority, to ascertain the location and condition of the pipes and the number of fixtures attached to the same.
- C. Upon notification by an agent of the Authority of the need for an inspection, repair or replacement as described in Paragraph 209. A. 6, the property owner shall respond within thirty (30) business days to set a date and time for the inspection, repair or replacement. Failure of the property owner to respond within said time period shall result in the initiation of a shut-off in water service.

209. DISCONTINUANCE OF SERVICE/REFUSAL OF SERVICE

A. By Authority

Service under any application may be discontinued to any customer for any of the following reasons, acts or omissions by such customer:

1. For willful failure to supply meter readings or for willfully supplying false information with respect to meter readings.
2. For the use of water for the benefit of any other premises or purposes other than those described in the water service application.
3. For willful waste of water.
4. For failure to maintain the service line extension and fixtures in good working order.
5. For damaging or interfering with any service pipe, meter, meter box, curb stop, curb box, or other fixtures and appliances of the Authority.
6. For refusal of reasonable access to the premises for inspecting the piping, fixtures and other parts of the water system or for reading, repairing, or removing the water meter.
7. Where the customer has, in any way, terminated the contract.
8. For making or, upon notice, refusing to sever any cross-connection between the pipe or fixtures carrying water furnished by the Authority and a pipe or fixture carrying any liquid or gas from any other source.
9. For resale of water, except as permitted by the Authority.
10. To premises where the usage of water is greatly increased over past average or seasonal use and where such excessive usage may be detrimental to, injurious to, make inadequate or in any way impair water service to other customers.
11. For violation of these Rules and Regulations or other requirements governing the supply of water furnished by the Authority.
12. For failure to pay any rentals, fees, or other charges for services, equipment, supplies or other acts of the Authority as and when the same become due and payable.
13. For refusal to execute and deliver an application for water service to the Authority.
14. For refusal to install or permit the installation of a backflow prevention device within a reasonable time period after a directive by the Authority to do so; for failure to comply with the requirements for modification of the internal plumbing of the premises as necessary to accommodate the backflow prevention device or for failure to perform the necessary tests on the backflow prevention device as required by the Pennsylvania Department of Environmental Protection..
15. The failure of any entity to comply with the requirements of the construction specifications of the Authority or its consulting engineer.
16. The failure of the property owner to remove an inappropriate meter enclosure.

B. By Customer

Subject to the provisions of the Pennsylvania Tenant's Rights Act and all amendments thereto, which are hereby incorporated by reference, any customer may terminate his/her service contract with the Authority and have his/her water service discontinued

upon written notice to the Authority and payment of the turn-off charge. The customer shall remain liable for water furnished to the premises.

Discontinuance of service by the Authority for violation of these Rules and Regulations shall not constitute a waiver by the Authority of user charges.

210 . RENEWAL OF SERVICE

Water service will be renewed upon the filing of a proper application when the conditions under which such service was discontinued are corrected, and upon payment of all charges provided in the Rate Schedule or Rules and Regulations of the Authority.

211. REMOVAL OF METER

The customer shall not disconnect or remove the water meter or permit its disconnection or removal without the consent of the Authority or its duly authorized agent.

212. RESERVE SUPPLY

The Authority shall have the right to reserve a sufficient supply of water at all times in its storage facilities to provide for emergencies. The Authority may restrict or regulate the quantity of water released to the system for use by its customers during periods of water shortage or other emergencies as deemed necessary to protect the public welfare.

213. SUSPENSION OF SERVICE DUE TO EMERGENCY

- A. The Authority shall have the right to terminate the water supply to all or a part of the system temporarily in order to make necessary repairs, connections to the system or to do such other work on the system as may be necessary in case of a breakdown, emergency or any other unavoidable cause. Should such a shut-down occur, the Authority shall use all reasonable and practical measures to notify the customers affected by such discontinuance and to restore service as soon as possible. The notice to customers will provide an estimate of the time and duration of the shut-down.
- B. In cases where the water service is discontinued, the Authority shall not be liable for any damage or inconvenience suffered by any of its customers or for any claim against it any time for interruption of service, lessening of the supply, reduction or loss in water pressure, poor quality of water or any other causes beyond its control resulting from the discontinuance or reduction in water supply.
- C. Discontinuance or reduction in water supply shall not entitle customers of the Authority to any abatement or reduction in water service charges nor the refund of any portion of such service charges paid in advance during or for the time of the discontinuance.
- D. Nothing in these Rules and Regulations shall be construed as a guarantee, covenant or agreement on the part of the Authority to give notice of any discontinuance, shut-down or reduction in water service due to emergencies or otherwise.

214. TURN-OFF AND TURN-ON CHARGE (See Current Rate Schedule.)

215. WATER SHUT-OFF PROCEDURE

A. General: The Authority may shut a water service off because of a violation of Section 209 or Section 404 as well as for non-payment of any water bill when due and payable pursuant to the written water shut-off procedures adopted by the Authority and as hereinafter amended and from time to time in effect, all of which are hereby incorporated by reference. Water service shall not be restored after being turned off until there shall have been paid an additional fee for the restoration of such service as set forth in the Rate Schedule, and the inspections, repair or replacement required under Section 209, or duties imposed by Section 404 have been completed.

B. Owner occupied properties:

1. Days on which termination of service is prohibited:
 - a. Saturday or Sunday
 - b. On a bank holiday or on the day preceding the holiday
 - c. On a holiday or the day preceding the holiday observed by the Authority
 - d. December 1st through March 31st
2. Amount of Delinquency: Account should have been billed for at least two billing periods, and the overdue balance be equal to or greater than the amount stated in the Authority's Rate Schedule, or the owner shall have failed to comply with Section 209 or 404.
3. Issuing Notice:
 - a. Do not issue on disputed accounts
 - b. Mail or deliver 30-day "Termination Notice" with "Medical Emergency Notice"
 - c. Notify the Township office of pending Termination
 - d. 2 days prior to termination, personally contact by phone or in person the ratepayer or responsible adult occupant. If in person, again deliver copy of 30-day notice and the Emergency Medical Notice. This contact should not occur on a holiday or the day preceding the holiday
 - e. On scheduled day of termination – terminate service only if contact is made with a responsible adult at the affected premises immediately prior to termination.
 - (1) If responsible adult is Present – terminate service and leave post Termination Notice and Emergency Medical Notice.
 - (2) If responsible adult is not present – do not terminate service; leave a 48-hour deferred Termination Notice. Terminate service 48 hours later and leave (post) Termination Notice. Termination may not occur on a day preceding a holiday.

C. Tenant Occupied Dwellings

1. Days on which termination of service is prohibited are the same as in paragraph B.1. above
2. The amount of account delinquency shall be the same as B.2. above
3. Issuing Notice: The Authority must issue notices to the landlord and tenant(s) in

accordance with the requirements of the Utility Service Tenants Rights Act (Act) of 1978 as amended.

4. The landlord must provide the Authority with the names and addresses of every affected tenant or pay the amount due the Authority or make arrangements for such payment as required under section 4 of the Act.
5. Termination of Service: All requirements of the Act must be met prior to termination of service.

SECTION 3 – SERVICE CONNECTIONS

301. SERVICE LINE CONNECTION INSTALLATION

A. Installation of Service Connections

The Authority shall do all work necessary to make all connections to its mains, furnish, install and maintain all such lines from the mains to and including the curb stop and box. Only persons properly authorized by the Authority shall be permitted to make connections to any main, service line connection or service line extension. All service line connections shall be the property of the Authority and be accessible to and under its control. Service Connection pipelines 2-inches in diameter and smaller shall be installed such that from the main to the curb line in a street the pipeline shall be bedded in mortar sand. In addition, the following conditions shall be met:

- 1 Any damaged Service Connection shall be replaced in its entirety.
- 2 No joints will be permitted in the pipeline between the corporation stop and the curb stop.
- 3 Locate Service Connection as near to the center of a lot along its front property line as practicable, maintaining a minimum horizontal separation from the sanitary sewer service lateral of ten (10) feet, unless otherwise approved by the Authority.

B. Fire Service Connection

1. A fire service connection to a water main belonging to the Authority shall be made with a tapping sleeve and valve approved by the Authority.
2. The material for the fire service water main shall be approved by the Authority.
3. The fire service main from the Authority's water main to the structure requiring fire protection shall be installed at the expense of the property owner. Such expense shall include the cost of materials, installation, inspection fees and other Authority expenses.
4. The Owner shall provide a complete set of "Record (As-built) Drawings" to the Authority upon completion of the installation and prior to activation of the fire protection system.
5. Activation of the fire service line shall not occur until and unless all fees and expenses of the Authority are paid in full.
6. The fire service line must be a separate service line from the domestic water service line connection and service line extension. For residential services, the separate fire service line shall be metered.

C. Size of Service Connections and Extensions

The size of a service line necessary to adequately serve a customer and the location thereof shall be determined by the Authority. If any applicant requests a service line in a different location or of a capacity greater than that determined by the Authority to be adequate, the Authority may install the same but in that event the applicant shall be required to bear any and all additional expense incurred by the Authority in installation of such lines.

D. Location of Curb Stops and Shut-off's

All curb stops and boxes shall be installed within a street right-of-way or other right-of-way designated by the Authority, and shall be located where specified in the Authority's Standard Waterline Construction Details. No curb stop and box shall be located in any cartway, curb, sidewalk, or driveway. No Service Connection in violation of these requirements will be permitted, except as approved by the Authority. Any Service Connection installed in violation of these requirements shall be relocated. The following shall be required for relocating a Service Connection:

1. Disconnect the Service pipeline from the corporation stop at the water main.
2. Install a new Service Connection at the proper location.
3. Remove the improperly located corporation from the main and install a plug in the main to properly seal the tap on the main.
4. Backfill the trench and restore the street surface.

E. Service Connection Charges

A charge to the customer as fixed by the Authority shall be made for the initial installation. This charge maybe waived by the Authority in those cases where the cost of the installation of mains and service lines are paid by a developer. The Authority shall tap the street main and install a service pipe to a curb stop and curb box within the street right-of-way or other right-of-way designated by the Authority. A cost for this work will be fixed by the Authority and adjusted from time to time depending on the actual cost of the installation.

302. MAINTENANCE-SERVICE LINE CONNECTION

A. Cost of Maintenance

Each service line connection shall be maintained by and at the cost of the Authority, without expense to the customer for repairs, renewals or replacements.

B. Frozen Service Lines

In cases where services are frozen, the Authority will at its own expense thaw out the service connection to the curb stop. The thawing out of the water service line extension from the curb stop to the premises shall be done by the customer. To avoid a recurrence of freezing, the Authority will make an examination of customer's service line extension and if the same is not at a depth of at least four (4) feet as required, the Authority shall have the right to require it to be relocated before service is resumed.

C. Meter Pits (Meter Boxes)

When meter pits are required, they shall be located within a street right-of-way or other right-of-way designated by the Authority between the curb stop and the premises being served. The meter enclosure, riser pipes and connections therein will be installed by and at the expense of the customer and no customer or workman shall alter, change or in any way tamper with the meter pit, meter or piping connections therein without

authorization from Authority. The meter pit or meter box shall be owned and maintained by the property owner. Any repairs or replacements shall be approved and inspected by the Authority.

303. LENGTH OF SERVICE LINE EXTENSIONS

A Service Line Extension shall not exceed one hundred (100) feet in length and shall be installed without joints. In cases where the length of the Service Line Extension exceeds one hundred (100) feet the customer shall install, at the customer's expense, a watertight meter pit in accordance with Authority specifications. The meter pit shall be installed at the property, or curb line, and is to be used for the housing of the meter required for the service to the premises. A post shall be set adjacent to the meter pit for mounting the remote meter reader unless the remote reader setting is incorporated in the cover of the meter pit or box. The Authority may waive the requirement for a meter pit for service line extensions three (3) inches or larger when ductile iron pipe is used for the service line extension.

304. MAINTENANCE-SERVICE LINE EXTENSION

A. Installation by Owner

All Service Line Extensions shall be installed and maintained by the owner at his expense and shall be of pipe approved by the Authority, laid at least four (4) feet, but not more than six (6) feet below the surface of the ground and kept in good repair. Service lines extensions installed under or through a concrete floor or slab shall be placed in a sleeve placed under and through the concrete. It is further hereby stated that the water supply remains the property and under control of the Authority until it passes through the meter.

B. Protection of Authority Property

All valves, meters and appurtenances furnished and owned by the Authority and on the property of the customer shall be protected properly and cared for by the customer. When repairs, renewals or replacements or other necessary work is required on the aforesaid facilities of the customer, excluding the meter, the customer shall notify the Authority and employ, without delay, competent tradespeople to do the work. All said work shall be inspected by an agent of the Authority and shall be done at the expense of the customer including the inspection fee. All leaks in the service or any other pipe or fixture or in or upon the premises supplied must be repaired immediately by the owner or occupant of the premises under penalty of discontinuance of service by the Authority. When the meter is leaking or in need of repair, such work will be accomplished by an agent of the Authority.

C. Owner's Responsibility

All owners or other entities who are customers of the Authority shall keep their service pipes, valves and appurtenances in good repair, protect them from the frost and prevent all waste of water.

D. Limit of Authority's Responsibility

The Authority shall in no event be responsible for maintaining any portion of the service line extension and facilities owned by the customer, or for damage done by water escaping therefrom, or from lines or fixtures on customers' property. The customer shall, at all times, comply with Authority Rules and Regulations and make changes required on account of change of grade, relocation of mains, or otherwise.

305. ONE SERVICE CONNECTION FOR EACH CUSTOMER

- A. A service line will be used to supply a single customer only, and no premises shall have more than one (1) service connection, except where it is impossible or impracticable to furnish an adequate water supply service through one (1) service connection. In this event the Authority may agree to the installation and use of more than one (1) such connection. In cases where water is required to serve a fire suppression system, a second service line may be required.
- B. No owner, or tenant, of any premises supplied by water from the Authority will be allowed to furnish water to any other premises except by written permission being first obtained from the proper Authority official.

306. OTHER SERVICE LINE EXTENSION REQUIREMENTS

The Authority reserves the right to require any owner to install in conjunction with his service line, such valves, backflow prevention devices, check valves, relief valves, pressure regulator, or other apparatus of approved design, when and where, in its opinion, the conditions may require it for the safe-guarding and protection of the public, the Authority's property or the water supply as well as the following:

- A. No curb stop, water main, or other property of the Authority shall be uncovered, tapped, or tampered with in any manner until proper application has been made to the Authority and all applicable fees have been paid.
- B. No service line extension or repair between the curb stop and the water meter shall be covered until inspected and approved by an agent of the Authority.
- C. All water service line extensions between the curb stop and the water meter shall be $\frac{3}{4}$ " (or larger) tubing in accordance with Authority specifications and shall be run in one continuous length from the curb stop to the stop valve inside the wall of the building when the meter is located inside the building. Where a meter pit is used, the pipe shall be one continuous length from the curb stop to the meter pit and one continuous length from the meter pit to the stop valve inside the building wall where possible.
- D. No sweat joints or flared joints will be permitted underground. Sweat joints may be used inside the building walls.
- E. All water service line extensions shall be laid at a depth of not less than four (4) feet or no deeper than six (6) feet.

- F. No water service pipe shall be laid in the same trench with a gas service pipe, sewer lateral or any other facility of a public service company, or within three (3) feet of an open excavation or vault.
- G. A stop valve of the same size as the incoming service pipe shall be installed along the inside wall of the building on the inlet side of the meter or, in the case of an outside meter pit, at the point where the service line enters the building.
- H. A stop and waste valve of the same size as the incoming service pipe shall be installed on the outlet side of the meter and after the backflow prevention device. No take-off shall be made in the building plumbing ahead of this stop, no increase or decrease in building plumbing shall be made ahead of this stop. The stop and waste valve shall be easily accessible to the occupants for drainage in case of leaks and to prevent freezing.
- I. All valves, piping and fittings shall be capable of withstanding 150 pounds per square inch (psi) working pressure.
- J. The incoming service pipe and meter connection shall be placed at a location in the building such that the meter will be easily accessible to the property owner and Authority personnel. The meter shall be no less than one (1) foot or no greater than four (4) feet above the floor and no further than one (1) foot from the outside wall of the structure. The meter shall be located in an area having a minimum of five (5) feet working head room. Any meter location in deviation with the foregoing guidelines must receive prior approval from an agent of the Authority.
- K. No cross connection or interconnection shall be made between the public water supply of the Authority and any other water supply, drainage system, soil or waste pipe, which would permit or make possible the backflow of sewage or other water into the public water supply of the Authority. Air gap devices are required where siphoning could occur.
- L. A meter will be furnished and installed by an agent of the Authority. All meters shall be of the type to be used with an outside reading device or register. The wire from the meter to the outside register will be installed by the Authority's agent and access for the installation shall be given prior to closing walls, etc. The outside register will also be installed by the Authority's agent and the builder shall make provisions at a location designated by the agent so that this device can be firmly anchored to the outside wall of the building (such as a board placed behind aluminum or vinyl siding). The building contractor must inform the Authority five (5) days in advance of any proposed occupancy of a home and give access to Authority's agent to install the meter and outside register.
- M. At the completion of construction grading, the curb box, stem and valve assembly must be in working order and the curb box shall be flush with ground level. When the curb box is lost as a result of grading, planting of shrubbery or other conditions, the curb box will be located and adjusted or replaced by an agent of the Authority at the expense of the customer. The customer shall be responsible for maintaining the location and condition of the curb box.

- N. A dual check valve or other type of backflow preventer will be required and must be installed on the service side of the water meter. The type of backflow preventer required will depend on the type of hazard the service represents and shall be determined and approved by the Authority.
- O. The Authority may require the installation of a pressure reducing valve (PRV) in situations where the average pressure at a point of service exceeds 75 psi. The PRV must be installed upstream (system side) of the water meter and shall be installed and maintained at the customer's expense.
- P. The Authority reserves the right to place a freeze on applications and future connections of any builder who willfully fails to comply with the foregoing regulations covering installation until such time as any deviations are corrected to the satisfaction of the Authority.

SECTION 4 – METERS

401. GENERAL

All meters will be furnished by the Authority unless otherwise indicated, shall be subject to the Rate Schedule, will remain the property of the Authority and be accessible to and subject to its control. A meter and backflow prevention device shall be required for each service location except as otherwise provided herein.

402. METER INSTALLATION

All piping, yokes, fittings, valves, check valves, gauges, bolts, nuts, , remote reading devices, manholes or other accessories or materials and the labor for installing the same, used in connection with meter settings within the property line of the premises, and meter pits or boxes located in accessible rights-of-way shall be at the expense of the customer. Except where these devices are installed by Authority employees, the customer shall employ for this work the services of skilled tradespeople, who shall cooperate with the Authority and install all the piping and appurtenances in accordance with the dimensions and requirements for each specific case so that the meter or meters can be properly installed and connected. The customer shall furnish and install on the service line a stop valve, without waste, the same size as the service line on the street side and immediately before the meter, and a stop and waste valve on the outlet side immediately after the meter and backflow prevention device. All new and replacement meter installations will require the installation of a backflow prevention device and related equipment to protect internal plumbing and appliances.

403. LEAKS

Customers are urged to give careful attention to their plumbing and fixtures and make immediate correction of all leaks. No allowance will be made by the Authority for water used, lost, stolen or otherwise wasted through leaks, carelessness, and neglect or otherwise after the water has passed through the water meter.

404. METER LOCATION

- A. The location for the meter shall be subject to the approval of the Authority, shall be at a convenient and accessible point; shall permit control of the entire supply and shall allow proper protection of the meter from freezing or other harm. Refer to 306, paragraph J. The meter shall not be enclosed or otherwise built into the structure in a manner that makes it inaccessible. If an agent of the authority finds the meter located in an inappropriate enclosure, the Authority shall have the right to require the removal of an inappropriate enclosure. The cost of such removal shall be paid by the customer.
- B. In cases where it is not practical to place the meter within a building, the Authority may require the property owner to install and maintain an approved meter pit (meter box) in accordance with Section 302. Such installations shall be made in accordance with a plan furnished to and approved by the Authority.
- C. Upon Notification by an agent of the Authority to remove an inappropriate meter enclosure, the property owner shall complete such removal within thirty (30) business

days. Failure to comply with this request shall result in the initiation of the shut-off of water service. (See 209. A. 16)

405. METER TESTS

Should any customer of the Authority at any time doubt the accuracy or correctness of the meter delivering water to the customer's premises, the Authority will arrange to have the meter tested for accuracy upon written request of the customer.

A. Residential Customers

1. If the meter is found to be accurate to within 5% of the actual flow rate through the meter, as determined by the test equipment, a fee as determined from the Authority's Rate Schedule shall be paid to the Authority by the customer requesting the test. If the meter is determined to be inaccurate in excess of 5% of the actual flow rate through the meter as determined above, the cost of the meter test shall be borne by the Authority. When making such a request to have the meter tested, the customer shall agree to the basis of payment specified, or as currently in effect. A report of such test shall be made to the customer and a complete record of such test shall be kept by the Authority.
2. The Authority reserves the right to test any meter at any time it suspects a meter to be inaccurate or inoperative. Such test will be made at a time that is agreeable to the customer. The cost of such test shall be borne by the Authority.
3. In the event that a test of the meter shows that the meter is inaccurate or inoperable, the meter shall be repaired or replaced at the discretion of the Authority.

B. Non-residential Customers

1. Non-residential meters, except those that are used to determine the consumptive use of water as may be required by a regulatory agency, shall be tested in the same manner as residential meters. The cost of the testing, repair or replacement shall be paid by the customer.
2. The Authority will arrange for testing of non-residential meters that are used to determine consumptive use of water for accuracy as required by the regulatory agency having jurisdiction and requiring such testing at the request of the customer. As a minimum, the Authority shall test these meters once every five (5) years, unless more frequent testing is required by the regulatory agency and requested by the customer. If a meter test indicates that the meter is inaccurate by more than five percent (5%) of the actual flow rate through the meter, as determined by the testing equipment, the meter shall be repaired or replaced, if necessary, as determined by the customer. The cost of the testing, repair or replacement shall be paid by the customer.
3. Customers who are required to meter consumptive use of water may request their meter(s) to be tested at any time if they doubt the accuracy or correctness of the meter measuring water delivered to the premises. In this event, the testing, repair or replacement shall be paid by the customer.

4. The Authority reserves the right to test any meter at any time it suspects a meter to be inaccurate or inoperative. Such test will be made at a time that is agreeable to the customer. The cost of such test shall be paid by the customer.
5. If random testing by the Authority reveals that the meter(s) is inaccurate by more than 5%, the cost of the repair or replacement shall be paid by the customer.
6. A report of all meter tests shall be made and provided to the customer and a complete record of such tests shall be kept by the Authority.

406. MINIMUM CHARGE

Every meter is installed subject to a fixed minimum quarterly charge in accordance with the Rate Schedule. Where more than one premises or dwelling unit is furnished service through one meter, the same fixed minimum quarterly charge shall apply for each and every premises or dwelling unit. In those cases where a family residence and the same family business or profession is within the same structure, one unit of charge shall prevail. In all other cases multiple charges shall apply. When a business ownership or residence is changed, the units of charge shall be altered to conform to this article and the Authority shall have the right to require a change in the size of the service line and meter if the water usage rate is substantially increased.

407. MULTI-UNIT PROPERTIES

Where water service is furnished to an apartment building or trailer park or other multi-unit premises, the premises shall be furnished water through one meter. The owner of the premises shall be liable for payment of charges for water service. The owner will be charged the minimum charge specified in Section 406 for each dwelling unit located on the premises. In addition, the owner shall pay any overage determined to be due on the basis of water usage as measured by the water meter.

408. NOTIFICATION OF CONDITION OF METER

The owner shall notify the Authority of damage to, the leaking or non-working of the meter, or of the breaking of the seal or seal wire, as soon as such condition becomes known. The owner is liable for any damage to the water meter on his premises. This includes damage resulting from freezing. All repair or replacement charges shall be billed to the owner pursuant to the rate schedule and payment shall be collected in the same manner as water charges.

409. METER READING AND REGISTRATION

- A. Meters shall be read quarterly and the meter reading shall be accepted by both the customer and the Authority except when the meter has been found to be registering inaccurately or has ceased to register.
- B. The Authority reserves the right to periodically read and inspect its installation. This shall include the meter within the premise. Should the Authority be denied this requirement, it shall obtain proper admission to the premise by use of any and all legal means available to the Authority. Failure of any entity to provide access for such meter reading shall be a basis for termination of service. (See Section 209)

410. REMOTE READING METERS

Remote reading meters shall be required of all customers serviced by the Authority. All meters installed in new homes shall be remote register meters and the cost thereof shall be paid by the developer as part of his application. Replacement of any inside residential meter with a remote reading meter and outside register shall be done at the expense of the Authority. Replacement of non-residential meters with a remote reading meter shall be done by the customer at his own expense.

411. SEALS

No seal placed by the Authority for the protection of any meter, valve, and fitting or other water connection shall be tampered with or defaced. It shall not be broken except upon authorization by the Authority, or in the presence of any Authority agent. Where the seal is broken the Authority reserves the right to remove the meter for test at the expense of the customer, even though said meter registers accurately.

412. METER SIZE

The Authority reserves the right in all cases to stipulate the size and type of the meter to be installed on each service line and to require the installation of a larger sized meter in any case where the peak use of water places any meter under undue or unusual strain, and/or exceeds the recommended meter capacity.

413. DEDUCT METERS

Property owners may install, at their own expense, a deduct meter for outside water uses in which water furnished by the Authority is not discharged into any wastewater treatment system owned by the Authority or another system for which the water meter readings are used as a basis for wastewater service charges. The Authority may set charges for reading such deduct meters which shall be set forth in the Rate Schedule. The meter shall be the property of the customer.

SECTION 5 - WATER MAIN EXTENSIONS

501. GENERAL

Any entity desiring to extend water mains to supply buildings or tracts of land for domestic, commercial or industrial use, must comply with all provisions of the Authority's Rules and Regulations and with the provisions of the Zoning and Subdivision and Land Development Ordinances of the municipality in which the property is located.

502. REQUEST FOR CAPACITY AVAILABILITY

It is recognized that developers may need to determine the availability of water supply capacity to serve a proposed development as part of the municipality approval process. A developer as Applicant shall submit such request in writing to the Authority Chairman (Chairman) who shall present such request to the Authority Board at its next regular meeting. The Authority Board may authorize any of the following actions:

- A. Approval of the request and authorize the Authority's consulting engineer (Engineer) to issue a letter stating that capacity is available. However, capacity shall not be committed until appropriate fees are paid to reserve the requested capacity; or
- B. Deny the request if capacity is not available or is not planned to be available in time to meet the needs of the entity requesting capacity; or
- C. Refer the request to the Engineer to determine if the capacity is available and report the findings at the next meeting of the Authority Board so that an appropriate response can be made to the developer's request.

Any of the above actions taken by the Authority shall be communicated to the applicant in writing. The fee, if any, to respond to this request shall be borne by the applicant, and the Authority shall established the fee as part of its Rate Schedule.

503. PROVISIONS FOR MAIN EXTENSIONS

A. Application for Main Extensions

Any entity requiring an extension of a water main(s) shall submit, in writing, a request to the Chairman for such extension, accompanied by the detailed plans of the proposed development or property to be served. Such application shall be accompanied by a deposit for plan review in the amount stated in the Authority's Rate Schedule.

B. Disposition of Application

The Chairman may forward such plans to the Engineer and the construction representative for review and shall submit such request and plans to the Authority at the next regularly scheduled meeting of the Board. The Authority, after consideration thereof, shall:

- 1. Give conditional approval to said request; or
- 2. Direct such further investigation or conference with respect thereto as it may deem advisable; or
- 3. Deny water service if the system does not have adequate capacity at the time of receipt of the application for capacity reservation or the applicant is delinquent in payment of prior charges by the Authority, or has otherwise failed to comply with Authority Rules and Regulations.
- 4. If capacity is available, submit to the applicant an application for reservation of capacity and require the applicant to submit the fee to reserve capacity in the

- Authority's system for the number of EDU's required for the development.
5. Direct the Engineer to review the plan for main extension and report his/her findings to the applicant and to the Authority at the next regularly scheduled meeting of the Authority Board. The Engineer shall not review any Plan until the plan review deposit has been received from the applicant.
 6. Upon approval, require the applicant to enter into a written agreement (Developers Agreement) setting forth the terms under which the extension(s) are to be completed and issue a permit authorizing the applicant to proceed with the construction of the main extension(s) utilizing a contractor selected by the applicant provided the contractor is acceptable to the Authority.

C. Escrow and Security Estimates

1. At such time as the request for a main extension is received by the Authority, the Authority shall direct its Engineer to prepare an estimate (escrow estimate) of the engineering, legal and Authority costs involved to provide services during the construction of the extension, including the preparation of a Developers Agreement, a pre-construction meeting, review of shop drawings submitted by the applicant's contractor, periodic site inspections by the Authority's construction representative for on-site monitoring of the construction, preparation of necessary statements regarding release of improvement security and acceptance of completed construction, witnessing by the engineer of all required testing of the system improvements, final inspection by the engineer, review of record drawings (as-built drawings) of the completed construction by the engineer, preparation and/or review of easements for and Deeds of Dedication of the facilities to be dedicated to the Authority by the solicitor and other related expenses. The Engineer shall submit the estimate to the Authority with a copy sent to the applicant. The applicant shall submit payment to the Authority in the amount of the estimated cost in the form of a certified check or cash which payment shall be placed in an escrow account in the name of the Authority.
2. A construction cost estimate shall be prepared by the applicant and submitted to the Engineer for review. Upon approval of the cost estimate by the Authority, the applicant, except for individual property owners, shall provide improvement security in the form of a bond or irrevocable letter of credit, payable to the municipality in which the property is located, from a Commonwealth chartered surety company or lending institution acceptable to the Authority and the municipality in the amount of one hundred ten (110) per cent of the estimated construction cost.

D. Failure to Submit Escrow Deposit or Improvement Security

In the event the applicant fails to submit the required escrow deposit or improvement security, the Authority will not issue a construction permit and will not authorize its consulting engineer, construction representative or solicitor to perform any work related to the construction of the water main extension(s). Should the applicant proceed with the construction in the absence of a construction permit or in the absence of periodic on-site observation of the construction by the Authority's construction representative, the Authority may require that additional testing of the installation be performed including excavation of the water main to expose the pipeline in order to determine the quality of the work, and additional leakage and/or pressure tests prior to accepting the completed system. The Authority may also refuse to accept ownership of the main extension(s) and refuse to supply water to the system.

E. Rights-of-way

The applicant shall, prior to or in conjunction with the execution of the Developers Agreement execute all rights-of-way agreements in such form as may be satisfactory to the Authority, providing for right of ingress and egress, over, to, under, through and from the property upon which the improvements are located, except where said improvements are located in streets to be dedicated for public use, for their upkeep, inspection, maintenance and repair.

F. Release of Security

As construction progresses, the party posting the financial security may request the Authority and municipality to release or authorize the release, from time to time, of such portions of the financial security necessary for payment to the contractor or contractors performing the work. Release of security shall be in accordance with the provisions of the Pennsylvania Municipalities Planning Code. The Authority may, prior to the final release at the time of completion and certification by its Engineer, require retention of ten (10) percent of the estimated cost of the aforesaid improvements until the Authority has accepted a Deed of Dedication.

G. Deed of Dedication

Upon the completion of the construction to the satisfaction of the Engineer as signified by the written statement to the Authority and satisfaction of all outstanding items of work (punch list Items), the applicant shall submit a Deed of Dedication dedicating the water system improvements to the Authority. The Deed of Dedication shall include all water system improvements and rights-of-way other than streets to be dedicated to public use. As part of the dedication process, the Authority shall require the posting of financial security to secure the structural integrity of said improvements as well as the functioning of said improvements in accordance with the approved plans and Authority specifications for a term of eighteen (18) months from the date of acceptance of the Deed of Dedication. The financial security shall be of the same type as otherwise required in this Section with regard to installation of such improvements, and the amount of the financial security shall not exceed fifteen (15) percent of the actual cost of the water system improvements.

H. Final Engineering, Legal and Authority Costs

Any difference between the engineer's escrow estimate and the final actual engineering, legal and Authority costs will be paid by the applicant, or refunded to the applicant prior to and as a condition of acceptance of the Deed of Dedication.

I. Size and Construction Limits of Main Extensions

The Authority's Engineer will determine the pipe size of water main extensions. Main extensions required to provide service to a subdivision, land developments or single lot shall commence at the end of an existing main and extend to the center of the furthest lot to be served along any existing or proposed street or right-of-way. No property shall be served unless a water main exists or is installed to at least the mid point of the property along the street or right-of-way in which the main is located.

504. PROVISIONS OF DEVELOPER'S AGREEMENT

- A. Furnish to the Authority complete and accurate development plans and rights-of-way surveys and descriptions.
- B. Establishment of final rough grade on all roads, streets, easements and rights-of-way within which water mains are to be installed and to provide a complete stake out of curb lines and grades with reference points located at intervals no greater than 100 feet, at all changes of grade and horizontal alignment, and at intersections of streets and/or rights-of-way prior to the installation thereof.
- C. Payment of the cost related to permits and approvals from governing bodies; supervision of final stake out; preparation of Record Drawings; and legal, engineering and construction monitoring expenses of the Authority.
- D. Arrangement of a contractor, acceptable to the Authority, to perform the installation of the water system improvements and the payment of all cost related thereto.
- E. Establishment of a time period within which the construction work will be completed.
- F. Provision for insurance coverage acceptable to the Authority naming the Authority and its Engineer as additional insured.
- G. Provision that the Applicant and the Applicant's contractor(s), approved by the Authority, shall assume all liability with respect to the performance of said work and shall save harmless the Authority and the Engineer from any damage arising as a result of the performance of said work.
- H. Performance of all construction in accordance with the Authority's specifications. During the course of the construction of the water system improvements the Authority's construction representative will make periodic visits to the site to observe the work being performed by the applicant's contractor. The Authority's construction representative will determine the frequency of these visits as determined necessary to assure that the work is being performed in accordance with Authority standards.
- I. Preparation of Record Drawings at the completion of construction and prior to the issuance of any connection permits.
- J. Arrangement for the witnessing of the final system testing and the final inspection of the system improvements by the Engineer or the Authority's construction representative.
- K. Dedication of the water system improvements to the Authority.
- L. Provision that the Applicant shall be responsible for the correction of all defects in the water system improvements for a period of eighteen (18) months following completion of construction and acceptance of a Deed of Dedication by the Authority. Should the Applicant fail to make any necessary repairs during the eighteen (18) month correction period, the Authority may perform the required work and obtain reimbursement from the Applicant's maintenance security as required as part of the Deed of Dedication. The Authority may request a pressure and leakage test at the end of the eighteen (18) month correction period if it has reason to believe there may be deficiencies in the system improvements.

- M. Provision for the release of all liens and encumbrances prior to acceptance by the Authority of all system improvements.
- N. Agreement by Applicant to pay all Reservation of Capacity, Tapping and Connection fees.
- O. Other provisions as may be determined necessary by the Authority's solicitor.

505. SINGLE RESIDENT MAIN EXTENSIONS

- A. Any property owner requesting water service wherein it is necessary to extend a water main shall install a six-inch (6") diameter water main or larger if required by the Authority. (Refer to 503.I. for construction requirements)
- B. The property owner shall retain a contractor, acceptable to the Authority, to install the main extension, the service line connection and the service line extension to the building or other facility to be served. The Authority's construction representative shall inspect the entire installation before the lines are covered.
- C. All other regulations pertaining to water main extensions included in Section 5 except as otherwise indicated shall apply to this Section 505.
- D. All costs in connection with said water main extension shall be the responsibility of the property owner applying for service.

SECTION 6 – WATER RATES, FEES AND OTHER CHARGES

601. GENERAL PROVISIONS

The Authority shall establish rates for water service based on the amount of water used by each of its customers. These rates, also referred to as water rental, may be adjusted from time to time, as determined by the Board to provide the necessary revenue to operate and maintain the system and to provide for necessary repairs, replacements and improvements. The Authority shall prepare a schedule of all water rates, fees, and other charges, otherwise to be known as the Water Rate Schedule, which shall be published and shall become an attachment to these Rules and Regulations. The Water Rate Schedule shall include, but is not necessarily limited to: Water Rental Charge, Fire Hydrant Fee, Fire Service Fee, Tapping Fee, Reservation of Capacity Fee, Connection Fee, Customer facilities Fee, Inspection Fee and Shut-off and Turn-on Fees. All rates, fees and charges shall be established in accordance with the latest amendment of the Pennsylvania Municipality Authorities Act (ACT).

602. WATER RENTAL CHARGE

The Water Rental Charge shall be based on the amount of water used by each customer as determined by the customer's water meter reading as shown in the Water Rate Schedule approved by the Board. This charge shall be on a quarterly basis except, in the case of high volume water use customers, the Authority may elect to invoice on a monthly basis.

603. FIRE HYDRANT FEE

Fire hydrant fees shall be established based on the cost to install, maintain and replace fire hydrants in the Authority's water system and the cost to provide the additional capacity in the system necessary to provide fire protection service. The authority does not guarantee that adequate water supply and/or pressure will be available at all times. Fire hydrant fees shall be charged to the municipality within which service is provided on an annual basis, at the discretion of the Authority.

604. Fire Service Fee

In cases where a customer installs a separate fire service line to supply a fire suppression system on the premises, there shall be an annual Fire Service Fee. The amount of the fee shall be established by the Board in a similar manner as the Fire Hydrant Fee, at the discretion of the Authority.

605. TAPPING FEE

A. A Tapping Fee is a fee that shall not exceed an amount based upon some or all of the following components which shall be separately set forth in the appropriate resolution of the Authority establishing the fee as provided for in the Act. In lieu of the payment of the fee, the Authority may require the property owner to construct only such capacity, distribution or special purpose facilities as is required to supply service to the owner's property. The various parts of the Tapping Fee may include any or all of the following: a Capacity Part, Distribution Part, Special Purpose Part and/or Reimbursement Component all as defined in the Act. The Tapping Fee shall be established for each unit

of capacity equivalent to one EDU and shall be paid in full for each unit at the time a connection permit is issued for each unit or group of units.

B. Adjustment to The Capacity Part of the Tapping Fee

Where the capacity part of a Tapping Fee for a commercial or industrial property is based on the number of gallons per day of water usage, the Authority reserves the right to increase the Tapping Fee when there are subsequent modifications to the building, or improvements or expansion of the building, such that the water usage by the property use is increased beyond the amount upon which the original Tapping Fee was established. In this case, the owner of the property or entity holding the water service permit shall acquire the additional capacity by purchasing the additional EDU's of capacity at the then current rate.

606. RESERVATION FEE

The Authority may establish a fee for reserving water capacity in its system. This fee shall be paid by a person or entity applying for water service at the time of application for service and shall be paid for each unit of capacity being reserved. The Reservation Fee shall not be part of the total Tapping Fee as established by the Authority from time to time. The fee for reserving capacity (**Reservation Fee**) shall be equal to 60% of the Authority's annual minimum water charge multiplied by three. Each Reservation Fee paid to the Authority shall reserve capacity for a period of three (3) years. After three (3) years, if the unit(s) has not been connected to the system, the reservation may be extended for an additional three (3) years by paying the Tapping Fee for each unit reserved. Thereafter, the reservation shall expire unless the applicant pays the minimum Water Rental Charge for each unit reserved and the account for each unit remains current.

607. CONNECTION FEE

The Authority shall establish a Connection Fee to be charged to each applicant requesting water service. This fee shall be established based on the then current cost to install the physical connection to the Authority's distribution system. The cost shall include the cost of the material, labor and equipment required to tap into the distribution main, install a corporation stop in the main, furnish and install the service connection pipeline from the main to the curb stop, the curb stop and curb box, and any inspection costs. The work shall be performed by the Authority staff or a contractor retained by the Authority. The Authority may permit the applicant to retain a contractor to perform the work provided the contractor is approved by the Authority and the work is inspected by an agent of the Authority.

608. CUSTOMER FACILITIES FEE

The authority shall establish a fee for the purchase, installation and inspection of customer facilities. Customer facilities shall include the water meter, remote meter reader, and other hardware necessary for the safe delivery of water to the premises as determined by the Authority. The water meter shall be installed by an agent of the Authority. This fee shall also include the inspection of the water service extension pipeline from the curb stop to the structure, the installation of the backflow preventer, and the installation of a pressure reducing valve (PRV), if required.

609. SHUT-OFF/TURN-ON FEES

The Authority shall establish a fee for shutting off and turning on a customer's water service. A customer may request that the service to his/her premises be shut off to avoid paying the quarterly minimum water rental charge when the premises are to be vacated for an extended period of time. This fee shall be charged for both shutting the service off and turning it on again when the customer requests that service be restored. Service may also be terminated by the Authority for non-payment of the Water Rental Charge or other causes as stated in Section 209. This fee shall be charged for both shutting the service off and turning it on when the customer's account becomes current or the cause of the shut-off has been corrected. This fee will be in addition to the payment of arrearage, penalties and all costs related to collection of outstanding charges including attorney's fees. A shut-off and a turn-on fee will also be charged to the customer when the service must be shut off for maintenance of the service line extension or main stop valve.

610. Loss of Connection Permit and Water Capacity.

- A. Loss of Connection Permit. In the event that a property remains unoccupied and the minimum water rental is not paid for a period of five (5) years, the water connection permit will be revoked and the serve line will be disconnected from the water main.
- B. Loss of Capacity. In the event that a property remains unoccupied and the minimum water rental is not paid for a period of five (5) years, the water capacity allocated to the property will be terminated.
- C. Restoration of Service. After service is terminated and the property is disconnected from the system it will be necessary for the property owner to obtain water capacity in the system by paying the then current Tapping Fee and Acquire a connection permit in order for water service to be restored.

**RATE SCHEDULE
EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY**

EFFECTIVE AS OF APRIL 1, 2011

USE CLASSIFICATION	WATER USE RATES
Rowenna Rate District	
Residential Users:	
First 9,000 Gallons per Quarter	\$42.00/Quarter
All over 9,000 Gallons per Quarter	\$1.90/1000 gal.
Central Rate District	
Residential Users:	
First 9,000 Gallons per Quarter	\$42.00/Quarter
All over 9,000 Gallons per Quarter	\$1.90/1000 gal.
Commercial Users:	
First 14,000 Gallons per Quarter	\$64.00/Quarter
All over 14,000 Gallons per Quarter	\$1.90/1000 gal.
Industrial Users:	
First 75,000 Gallons per Quarter	\$342.00/Month
All over 75,000 Gallons per Month	\$2.70/1000 gal.
Institutional Users:	
First 35,000 Gallons per Quarter	\$160.00/Quarter
All over 35,000 Gallons per Quarter	\$1.90/1000 gal.
Late Payment Charge	\$7.00/Quarter

**RATE SCHEDULE
EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY**

EFFECTIVE AS OF APRIL 15, 2014

OTHER FEES AND CHARGES

Fire Hydrant Fee	NONE
Fire Service Fee	NONE
Tapping Fee	\$2,550 per EDU
Reservation of Capacity Fee (3-year reservation)	\$302.40 per EDU
Connection Fee	Current Actual Cost
Customer Facilities Fee	\$450.00 per connection
Shut-off/Turn-on Fees	\$125.00 Each
Inspection Fee	Current Actual Cost per Inspection
Fire Flow Testing Fee	\$TBD*
Meter Testing Fee	\$TBD*
Bad Check Charge	\$25 per check
Plan Review Fee	Varies with Plan Complexity-Escrow Deposit \$TBD

- Fee to be determined (TBD) at time of test

**STANDARD SPECIFICATIONS
FOR CONSTRUCTION OF
WATER MAIN EXTENSIONS
FOR
DEVELOPMENTS SERVED BY THE
EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
LANCASTER COUNTY, PENNSYLVANIA**

**REVISED JANUARY 2006
REVISED OCTOBER 2013**

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**STANDARD SPECIFICATIONS
WATER SYSTEM EXPANSION
FOR
SUBDIVISION DEVELOPMENTS
SERVED BY THE
EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
LANCASTER COUNTY, PENNSYLVANIA**

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Each Division is provided with a more detailed DIVISION INDEX, found immediately preceding the Division to which it pertains.

**DIVISION 1
GENERAL REQUIREMENTS**

DIVISION 1

GENERAL REQUIREMENTS

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GENERAL REQUIREMENTS**

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**SECTION 01010
SPECIAL CONDITIONS**

PART 1 - GENERAL

1.01 PROJECT DOCUMENTS

- A. All Special Conditions, Technical Specifications and applicable requirements of the Project Plans apply to the Work.

1.02 SCOPE

- A. Provide labor, materials, equipment, and services and perform all operations required for completion of Work as specified and/or indicated on the Project Drawings.

1.03 SUMMARY OF WORK

- A. The Work comprises the general installation and construction of:

Water main extensions within subdivision developments served by the East Donegal Township Municipal Authority (Authority) in Lancaster County, Pennsylvania, as indicated on drawings prepared by a Developer (Owner) and these specifications.

1.04 REFERENCE CODES AND SPECIFICATIONS

- A. Standards and other publications referenced in the Specifications shall be of the issues in effect at the time of bidding and form a part of this Project.
- B. References are made to the Pennsylvania Department of Transportation specifications. Unless otherwise noted, the specifications referred to are Form 408, Department of Transportation Specifications, latest edition, and related supplements.
- C. Reference in the State Specifications to "State", "Chief Engineer", or "Department" shall be interpreted as the Authority's Engineer. When particular articles or sections are referred to, all paragraphs other than those relating to payment shall apply.

1.05 PROJECT IDENTIFICATION SIGNS

- A. A Project Identification Sign will not be required.

1.06 FIELD OFFICES AND SHEDS

**SECTION 01010
SPECIAL CONDITIONS**

- A. Furnish, install and maintain storage and work sheds needed for construction.
- B. Office for the Engineer:
 - 1. A separate space for the sole use of Engineer will not be required.

1.07 CONTRACTOR'S USE OF PREMISES

- A. Confine construction equipment, the storage of materials and equipment, and operations of workmen to within the property limits of the Owner and at areas authorized by the Owner.
- B. Materials may be stored appropriately on site provided such stored materials do not unduly restrict public use or infringe on private property. Contractor's activities shall be in compliance with Section 01650 – Equipment Installation and Startups, and with detailed requirements contained in the technical specifications.
- C. The Contractor shall assume full responsibility for materials stored on site including materials for which the Owner has made payment. Purchase and maintain such additional amounts of insurance as is necessary to provide coverage against loss or damage to the materials.
- D. Transport materials remaining at the completion of the project for which the Owner has made payment to a storage area designated by the Owner.

1.08 CLEANING UP

- A. Throughout the duration of the project, Contractor shall continuously keep site, storage areas, streets, roads, highways and adjacent properties free from accumulations of waste materials, excess excavation, rubbish and windblown debris resulting from construction operations.
- B. At completion of project work or portions thereof, Contractor shall remove all excess accumulated materials as stated above, and shall remove all dirt, foreign materials, stains, fingerprints, etc. from all piping and equipment, and from the project work area in general.

1.09 PROTECTION OF EXISTING FACILITIES

- A. All existing facilities in the area of the Work shall be maintained in good condition and protected by the Contractor from any damages caused as part of this project work, other than modifications to existing facilities that are specifically required by

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**SECTION 01010
SPECIAL CONDITIONS**

the Project Documents.

- B. Any facilities that are damaged or destroyed as a result of work under this Contract shall be replaced or repaired to the satisfaction of the Authority, at no additional cost to the Authority.

1.10 CLASSIFICATION OF EXCAVATION

- A. All excavation performed under this contract is considered UNCLASSIFIED and includes excavation and removal of all soils, shale, rock, boulders, fill and all other materials encountered of whatever nature. This shall include excavation of all materials, including that meeting the description of both common and rock excavation, as defined under Section 02201 – Trench Excavation, Backfilling and Compacting.

PART 2 - SPECIFIC REQUIREMENTS

2.01 CONCRETE

- A. Where concrete is required for backing up hydrants and fittings, it shall have a minimum allowable 28-day compressive strength (f'c) of 3000 psi.

2.02 GRADES AND EXTRA DEPTH EXCAVATION

- A. It is the intent of these Plans and Specifications to follow the existing or proposed finished grades, and provide a minimum of four (4) feet of cover over the crown of the water main and service lines. Provide a minimum of eighteen (18) inches of vertical separation between the crown and the bottom of each pipe where storm drains and/or box culverts or other utilities cross the proposed water main or service line. Deeper installations of water mains may be acceptable so as to maintain the specified vertical separation upon approval of the Authority's representative at the site.
- B. Generally, for water lines, no bends or fittings will be permitted to accomplish this grade separation. The trench shall be excavated an additional depth on each side of the storm drain or other utility pipe a sufficient distance to permit deflection of the water main at the pipe joints to accomplish the required grade separation. Sewer lines shall be constructed to the line and grade indicated.
- C. In the event special conditions exist which will not permit the installation as indicated in paragraph B. above, the Contractor shall notify the Authority's Engineer of such conditions and the method which the Contractor proposes to obtain the required

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**SECTION 01010
SPECIAL CONDITIONS**

grade separation. Under no circumstances will the installation of additional fittings be permitted without the prior written approval of the Authority's Engineer.

2.03 WATER MAINS AND FITTINGS

- A. Provide Cement Lined Ductile-Iron water mains and fittings, either class 50 or 52 conforming to AWWA/ANSI C104/A21.4 and C151/A21.51.
- B. Provide push-on joints with rubber gaskets conforming to AWWA/ANSI C111/A21.11.
- C. Provide Ductile-Iron fittings conforming to AWWA/ANSI C110/A21.10 or C153/A21.53 with either push-on or mechanical joints.

2.04 FIRE HYDRANTS

- A. Provide Mueller Centurion hydrants for conformity with existing hydrants in the system. Furnish with a five and one-quarter (5-1/4) inch valve opening and National Standard threads. Provide traffic type with no excavation needed during repair.
- B. Provide hydrants that open counter-clockwise (left). Demonstrate that the new hydrants conform in all respects with the existing hydrants prior to installation.
- C. Paint hydrants upon completion of installation in accordance with Section 02641. Use Tenemec hydrant paint or approved equal, color to match existing hydrants.

2.05 VALVES

- A. Provide Mueller, American Darling or approved equal valves to conform with the existing valves in the system.
- B. Provide Resilient Seat type valve conforming to AWWA C-509 or C-515.
- C. Provide valves that open to the left only

2.06 CONNECTIONS TO EXISTING MAINS

- A. The Contractor's attention is called to the fact that proposed water mains may connect to the existing water distribution system as shown on the drawings. In some cases the existing mains are old asbestos-cement mains with outside diameters that vary from present standards. Provide appropriate adaptors for connecting the old mains

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**SECTION 01010
SPECIAL CONDITIONS**

to the new mains or fittings. **Mechanical** couplings, **Dresser Style 38, Rockwell 411 or equal**, may be used in lieu of direct connections where necessary.

2.07 SERVICE LINES

- A. Provide Type K, seamless copper tubing service lines conforming to ASTM B88 *or Polyethylene (PE) Pressure Tubing, 200psi rated, conforming to ASTM D-2737*.
- B. *Service line larger than 3” diameter shall be cement lined ductile Iron pipe.*
- C. Install service lines in a *PVC sleeve having the smallest inside diameter possible to receive the service line* where shown or indicated on the drawings. *Seal both ends of the sleeve with a neoprene reducing coupling or bushing.*

2.08 CORPORATION STOPS

- A. Provide Corporation Stop Assemblies conforming in all respects to the equipment listed in the following table for conformity with the existing *corporation* stops:

<u>Manufacturer</u>	<u>Inlet End AWWA Taper Outlet End Compression</u>
Mueller <i>Ford Meter Box</i>	B-25008N <i>F-1000</i>

- B. *Manufactured of no-lead (NL) brass conforming to the latest requirements of the Federal Safe Drinking Water Act.*

2.09 CURB STOPS

- A. Provide Curb Stop Assemblies conforming in all respects to the equipment listed in the following table for conformity with the existing *Curb* stops:

<u>Manufacturer</u>	<u>End Connection Type Compression</u>
Mueller <i>Ford meter Box</i>	B-25209N <i>B-44</i>

- B. *Manufactured of no-lead (NL) brass conforming to the latest requirements of the Federal Safe Drinking Water Act.*

**SECTION 01010
SPECIAL CONDITIONS**

2.10 CURB BOXES AND COVERS

- A. Provide curb boxes of Cast Iron, extension type with *stainless steel* stationary rod, Arch pattern base and lid marked as "Water".

- B. Provide Mueller model *H-10334* ~~H-10314~~ *cast iron* curb boxes with *cast iron* ~~one-piece, two-hole lid~~ *having a pentagon brass plug.* ~~except where the Authority's field representative approves placement of the curb box in concrete or paved areas. Provide a plug style lid with pentagon bolt for placement in concrete or paved areas.~~

END OF SECTION

**SECTION 01300
SUBMITTALS**

PART 1 - GENERAL

1.01 SCOPE

- A. Submittals as referenced in the detailed Technical Specifications shall be made by the Contractor as indicated therein and as more specifically described in this Section. The purpose of this Section is to more clearly define the nature and quantity of certain submittals but is not intended to be all inclusive. Submittals required elsewhere in the Specifications, but not referred to herein shall be made as required by the Section or Paragraph requiring them.

PART 2 - SPECIFIC REQUIREMENTS

2.01 PROGRESS SCHEDULE

- A. Contractor shall submit five (5) copies of his estimated progress schedule to Engineer within ten (10) days of the effective date of the Owner's notice to proceed. The progress schedule shall be complete and shall indicate that all phases of work will be completed within the time period indicated.
- B. If, during the course of the work, Contractor determines that any phase or stage of the work will not be performed or completed as indicated on the progress schedule, or that the time frame for starting and/or completing the phase or stage will be substantially different from the time frame indicated thereon, Contractor shall submit five (5) copies of a revised progress schedule showing when the phase or stage will be started and/or completed. This revised schedule shall show the relationship of this work to other stages or phases of work, and shall clearly show how all work items will be completed within the revised schedule.

2.02 SCHEDULE OF VALUES

(Reserved)

2.03 SHOP DRAWINGS

- A. Contractor shall submit five (5) copies of a schedule of shop drawings submissions to Engineer within ten (10) days after receipt of the Owner's notice to proceed. To the extent practicable, the submission of shop drawings to Engineer shall be made in a continuous and orderly manner and as early in the contract period as possible to avoid delays and lack of continuity in the review by Engineer.

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**SECTION 01300
SUBMITTALS**

B. Contractor shall submit the number of copies of shop drawings as indicated in the following schedule:

1. Structural Shop Drawings	7
2. Electrical & Instrumentation Shop Drawings	7
3. All Other Shop Drawings	6

C. The indicated schedule provides for three (3) copies to be returned to Contractor. In the event Contractor requires additional copies, the number of required additional copies shall be added to the minimum number indicated.

2.04 OPERATION AND MAINTENANCE MANUALS

A. Where Operation and Maintenance manuals are required for specific items of equipment by the Technical Specifications, the Contractor shall furnish three (3) copies of each.

B. No copies of the Operation and Maintenance manuals will be returned to the Contractor. In the event Contractor requires returned copies, the number of required additional copies shall be added to the minimum number indicated.

2.05 TEST REPORTS

A. When tests are specified, Contractor shall submit three (3) copies of all test reports unless a different number of reports is required in the Technical Specifications.

B. No copies of the Test Reports will be returned to the Contractor. In the event Contractor requires returned copies, the number of required additional copies shall be added to the minimum number indicated.

END OF SECTION

**SECTION 01650
EQUIPMENT INSTALLATION AND STARTUP**

PART 1 - GENERAL

1.01 SCOPE

- A. All systems and equipment furnished under this Project shall be installed in accordance with manufacturers' recommendations and in line with generally accepted construction standards and methods, as further qualified by the Technical Specifications. It is the intent to secure, for every part of the work, complete and functioning systems and equipment which serve all of the intended purposes of those systems and equipment, including any minor related equipment and appurtenances required for proper system operation but not specifically detailed in the Technical Specifications or drawings.

- B. All systems and equipment furnished shall be properly anchored, checked for alignment, and lubricated and all electrical circuitry shall be properly tested for voltage, amperage and direction of rotation of motors prior to starting. Where services of a factory representative are indicated or required during the installation, the Contractor shall obtain verification from the representative that the system or equipment is ready for operation prior to starting; however, such verification shall not relieve the Contractor of responsibility for proper installation or preparation of any system or equipment. Specific requirements for services of manufacturer's engineering and service departments, if any, are detailed in the Special Conditions Section - 01010.

- C. When work has progressed to the point where all components of a system or all elements of a portion thereof which are intended to operate as a complete unit have been installed and are ready to be tested or, where no test is required, are ready to be placed in operation whether for the benefit of the Authority, Owner or for the Contractor, Contractor shall notify Engineer in writing of his request for "startup" establishing the time therefor. At least 48 hours notice shall be given the Engineer prior to such an equipment startup, with startup to be at a convenient time for all parties involved.

- D. Prior to a request for "start-up", the Contractor may operate each component of the system or each piece of equipment to be started or tested and shall satisfy himself that the unit is ready to operate as designed.

- E. When the presence of the factory representative is indicated or required in the

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SECTION 01650
EQUIPMENT INSTALLATION AND STARTUP

Specifications, the representative shall be available to witness the "startup", check the system for proper operation and to instruct the Authority's operating personnel on the proper operation of the system or equipment.

- F. When testing of a system or item of equipment is required by the Specifications, Contractor shall arrange to have all instruments, gauges and other appurtenances necessary to perform the required tests available at the site and in proper working order. Tests shall be conducted in the presence of Engineer and for the duration specified or directed to prove that the system or equipment does, in fact, perform as specified. Tests shall be conducted by the Contractor or, when required, a trained factory representative.
- G. Upon completion of the testing, Contractor, or the trained factory representative as directed by Contractor, shall submit a report to Engineer. The report shall contain the raw data obtained during the test, results, calculations showing how results were obtained, conclusions arrived at from the test and recommendations as to how the system or equipment should be operated to obtain the most efficient performance and best operation.
- H. When the results of any tests or operation during "startup" fail to demonstrate that the system or equipment being started will operate in strict accordance with the Specifications, Contractor shall make all repairs, adjustments or replacements necessary to bring the unit into compliance and the testing will be performed again until it is demonstrated that the unit will perform as specified.

1.02 OPERATION BY CONTRACTOR

- A. Contractor may be permitted to place certain equipment, systems or portions thereof which are designed to operate as a separate unit in operation after "startup" if Contractor can demonstrate that such operation (1) is necessary for proper performance of the work; (2) is necessary to meet project staging requirements; (3) will result in cost savings to Authority in the form of energy costs or operational costs; (4) is necessary to maintain operation of an existing system; or (5) is for the Contractor's own convenience.
- B. Request for permission to operate shall be submitted in writing by Contractor to Engineer; however, no request to do so shall be submitted prior to "startup" and prior to demonstration of satisfactory performance.

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**SECTION 01650
EQUIPMENT INSTALLATION AND STARTUP**

- C. When the request for operation by Contractor is for any reason other than for the benefit of Authority, Contractor shall bear all costs related to such operation and assume all responsibility related thereto.
- D. When the request for operation by Contractor is for the benefit of Authority, permission to operate will be issued only after the “start-up” testing has been completed to the satisfaction of the Authority’s Engineer and written approval to do so has been issued by the Engineer.

PART 2 - SPECIFIC REQUIREMENTS

2.01 DELIVERY AND STORAGE

- A. All materials and equipment delivered to the construction site shall be packaged and handled with care at all times to protect from any possible damage. Until items of material or equipment are installed, they shall be stored using the same care expressed above, and shall be stored at a location which does not interfere with normal plant operations, damage the existing plant facilities, or cause a health or safety hazard.
- B. If additional requirements for delivery and storage are listed elsewhere in the specifications, the most stringent requirements shall apply in all cases, and shall be used in a complimentary manner with all other requirements.

2.02 REMOVAL OF EXISTING FACILITIES AND EQUIPMENT

- A. If the Project drawings call for removal of any facilities or equipment, the Contractor shall exercise care at all times in the handling of this equipment and shall place these items at an on-site location as directed by Authority’s representative and in a manner acceptable to Authority.

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SECTION 01650
EQUIPMENT INSTALLATION AND STARTUP

- B. All equipment, facilities, and other items which are removed by the Contractor from their place of origin during the progress of construction under this Contract, and which the Authority does not choose to retain on-site, shall be removed from the site by the Contractor and disposed of in an environmentally acceptable manner, at no cost to the Authority.

2.03 INSTALLATION AND STARTUP

- A. The Contractor shall conform to the intent of Part 1 of this Specification regarding installation and startup.
- B. Where a conflict exists between the intent of this Specification and details included in the Technical Specifications and Drawings, Contractor shall immediately notify Engineer of this conflict and request a determination for resolving said conflict.
- C. In conjunction with the startup requirements detailed under Part 1, the Contractor shall successfully demonstrate that all equipment, accessories, monitoring systems, and appurtenances perform as a functional system as shown and specified.
- D. Any additional startup and testing requirements for applicable facilities and equipment shall be performed as required under the Technical Specifications for those specific items.
- E. Any project equipment, materials, and systems which are damaged prior to final project completion and acceptance shall be removed and replaced by the Contractor to the Authority's satisfaction, at no cost to the Authority.

END OF SECTION

**DIVISION 2
SITEWORK**

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SITEWORK**

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02641

VALVES AND FIRE HYDRANTS

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**SECTION 02101
SITE PREPARATION**

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work of this Section includes, but is not limited to:

1. Clearing
2. Grubbing
3. Stripping and Stockpiling Topsoil
4. Debris Disposal
5. Bonds and Insurance
6. Permit Fees
7. Field Offices & Sheds
8. Soil Erosion Control Measures

B. Definitions:

1. Clearing is defined as the removal of trees, brush, down timber, rotten wood, rubbish, any other vegetation, and objectionable material at or above original ground elevation not designated to be saved. Clearing also includes removal of fences, walls, guard posts, guard rails, signs, and other obstructions interfering with the proposed work.
2. Grubbing is defined as the removal from below the surface of the natural ground of stumps, roots and stubs, brush, organic materials and debris.

1.02 JOB CONDITIONS

A. The Contractor may clear all obstructions within the limits of work shown on the drawings except those specifically designated to be saved or restored on the Project Drawings or Special Conditions. Obstructions specifically designated to be saved or restored will be marked by the Authority's representative.

1.03 SUBMITTALS

A. Burning Permits:

1. Submit two (2) copies of each on-site burning permit, if such permits are required by local jurisdictional authorities.

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SITE PREPARATION**

- B. Permits for Disposal of Debris:
1. Arrange for disposal of debris resulting from clearing and grubbing to locations outside the Authority's right-of-way and obtain written agreements with the owners of the property where the debris will be deposited.
 2. Submit two (2) copies of the agreement with each property owner releasing the Authority from responsibility in connection with the disposal of the debris.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Temporary Fencing:
1. Undamaged picket snow fence, 4' high, formed of wooden slats, tightly woven with wire cable.
 2. Soil-set fence posts, studded "T" type, 6' high.
- B. Tree Wound Dressing:
1. Antiseptic and waterproof, asphalt base.
- C. Soil Erosion and Sedimentation Control
1. Provide materials as shown on the drawings and as required by the Lancaster County Conservation District.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protect benchmarks, utilities, existing trees, shrubs and other landscape features designated for preservation with temporary fencing or barricades satisfactory to the Engineer. No material shall be stored or construction operation carried on within 4-feet of any tree to be saved or within the tree protection fence.

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- B. When a private enclosure fence encroaches on the work area notify the property owner at least 5 days in advance of the clearing/grubbing operations to permit the property owner to remove it, construct a supplemental fence, or make such other arrangements as may be necessary for security purposes.

Upon failure of the property owner to reasonably proceed with the work required to secure his property, carefully remove the fence, in whole or in part, and neatly pile the materials onto the owner's property.

3.02 UTILITY RELOCATIONS

- A. Inform all companies, individuals and others owning a controlling facilities or structures within the limits of the work which have to be relocated, adjusted or reconstructed in sufficient time for the utility to organize and perform such work in conjunction with or in advance of the Contractor's operations.
- B. Comply with the provisions of Act 287, as amended by Act 187.

3.03 CLEARING

- A. Confine clearing to within the limits of work shown on the drawings.
- B. Fell trees in a manner that will avoid damage to trees, shrubs, and other installation which are to be retained.
- C. Where stumps are not required to be grubbed, flushcut with ground elevation.

3.04 GRUBBING

- A. Grub areas within the construction limits to remove roots and other objectional material to a minimum depth of 8".
- B. Remove all stumps within the cleared areas unless otherwise authorized by the Engineer.

3.05 STRIPPING AND STOCKPILING TOPSOIL

- A. Strip topsoil to whatever depth it may occur from areas to be excavated, filled, or graded and stockpile at a location approved by the Lancaster County Conservation District for use in finish grading.

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SITE PREPARATION**

- B. The topsoil is the property of the Owner and shall not be used as backfill or removed from the site, unless authorized by the Owner.

3.06 DEBRIS DISPOSAL

- A. Trees, logs, branches, brush, stumps, and other debris resulting from clearing and grubbing operations shall become the property of the Contractor and shall be legally disposed of.
- B. Do not deposit or bury on the site debris resulting from the clearing and grubbing work.
- C. Debris may be burned on-site if local ordinances allow open-air burning, if required permits are obtained, and if burning operations are conducted in compliance with local ordinances and regulations.

3.07 SOIL EROSION AND SEDIMENTATION CONTROL

- A. Install soil erosion and sedimentation control measures in accordance with the plan approved by the Lancaster County Conservation District.
- B. Maintain the soil erosion and sedimentation control measures throughout the course of the project.
- C. Remove the soil erosion and sedimentation control measures at the completion of the project in accordance with the approved plan.

3.08 RESTORATION

- A. Repair all injuries to bark, trunk, limbs, and roots of remaining plants by properly dressing, cutting, tracing and painting, using approved arboricultural practices and materials.
- B. Replace trees, shrubs and plants designated to be saved which are permanently injured or die during the life of the Contract (including guaranty period) as a result of construction operations with like species acceptable to the project Owner.
- C. Remove protective fences, enclosures and guards upon the completion of the project.

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SITE PREPARATION**

- D. Restore guard posts, guard rail, signs and other interferences to the condition equal to that existing before construction operations.

END OF SECTION

SECTION 02201
TRENCH EXCAVATION, BACKFILLING AND COMPACTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work of this Section includes, but is not limited to:

1. Cutting paved surfaces
2. Blasting
3. Trench excavation, backfill and compaction
4. Support of excavation
5. Pipe protection requirements
6. Control of excavated material
7. Rough grading
8. Restoration of unpaved surfaces
9. Pavement restoration

B. Applicable Standard Details:

1. See trench details shown on Drawings.

1.02 QUALITY ASSURANCE

A. Testing Agency:

1. Compaction testing shall be performed by a Soils Testing Laboratory engaged and paid for by the Contractor and approved by the Engineer.

B. Reference Standards:

1. Pennsylvania Department of Transportation (PennDOT):

Form 408 Specifications, Latest Edition
Pennsylvania Test Method, PRM 106
Pennsylvania Test Method, PTM 402
Publication 203, "Work Zone Traffic Control"

2. American Society for Testing and Materials (ASTM):

ASTM C33, Standard Specification for Concrete Aggregates.
ASTM D698, Standard Test Methods for Laboratory Compaction

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Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).

ASTM D1556, Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.

ASTM D2216, Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.

ASTM D2922, Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

ASTM D3017, Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

C. Compaction Testing:

1. Conduct one test for each 1,000 linear feet of pipeline.
2. Conduct in-place compaction tests at locations as directed by the Engineer during backfilling operations.
3. Determine compaction in state highways and shoulders by the testing procedure contained in Pennsylvania Test Methods, PTM 106, Method B or PTM 402.
4. Determine compaction in areas other than state highways and shoulders by the testing procedure contained in ASTM D698, and in-place density and moisture tests.

1.03 SUBMITTALS

A. Certificates:

1. Submit certification attesting that the composition analysis of pipe protection and select material stone backfill materials meet Specification requirements.
2. Submit certified test results of compaction tests.

B. Compaction Equipment List:

1. Include all equipment to be utilized for compacting, including

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manufacturers' lift thickness limitations.

C. Soils Testing Laboratory:

1. Submit name of Soils Testing Laboratory to Engineer for approval.

1.04 JOB CONDITIONS

A. Classification of Excavation:

1. All excavation work performed under this contract is UNCLASSIFIED, and includes excavation and removal of all soil, shale, rock, boulders, fill, and all other materials encountered of whatever nature.

B. Compaction of Backfill:

1. The degree of compaction shall be at least 95% of the maximum dry density obtained by the ASTM D698 test, or that required by PennDOT, whichever is higher.

C. Control of Traffic:

1. Employ traffic control measures in accordance with Pennsylvania Department of Transportation, 67 PA Code Chapter 203, "Work Zone Traffic Control".

D. Protection of Existing Utilities and Structures:

1. Take all precautions and utilize all facilities required to protect existing utilities and structures. In compliance with Act 287 as amended by Act 187 of the General Assembly of Pennsylvania, advise each Utility Company at least 3 working days in advance of intent to excavate, do demolition work or use explosives and give the location of the job site. Request cooperative steps of the Utility Company and suggestions for procedures to avoid damage to its lines.
2. Advise each person in physical control of powered equipment or explosive used in excavation or demolition work of the type and location of utility lines at the job site, the Utility Company assistance to expect, and

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procedures to follow to prevent damage.

3. Immediately report to the Utility Company any break, leak or other damage to the lines or protective coatings made or discovered during the work and immediately alert the occupants of premises of any emergency created or discovered.
4. Allow free access to Utility Company personnel at all times for purposes of maintenance, repair and inspection.

PART 2 - PRODUCTS

2.01 PIPE PROTECTION MATERIAL

- A. Type II and Type III Pipe Protection Material:
 1. ASTM C33, Size 7, crushed stone or gravel aggregate or AASHTO Number 7, Section 703.2 of the PennDOT Specifications. 1/2" maximum size. Do not use slag or cinders.
- B. Type IV Pipe Protection Material:
 1. ASTM C33, Size 8, crushed stone or gravel aggregate or AASHTO Number 8, Section 703.2 of the PennDOT Specifications. 3/8" maximum size. Do not use slag or cinders.

2.02 BACKFILL MATERIAL

- A. Select Material Stone Backfill:
 1. Select Granular Material (PA No. 2RC) conforming to Section 703.3 of the PennDOT Specifications.
- B. Suitable Backfill Material (State highways and shoulders):
 1. From top of pipe protection material to subgrade elevation:
 - a. Material conforming to Section 703.3 of the PennDOT Specifications.
- C. Suitable Backfill Material (Other than state highways and shoulders):

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1. From top of pipe protection material to 24" over top of pipe:
 - a. Material excavated from the trench if free of stones larger than 2" in size and free of wet, frozen, or organic material.
 2. From 24" above pipe to subgrade elevation:
 - a. Material excavated from the trench if free of stones larger than 4" in size and free of wet, frozen, or organic materials.
- D. Suitable Foreign Backfill Material:
1. Material meeting the requirements of Paragraphs B and C above, which has to be re-handled or hauled further to the point of use than it would be to haul it to the dump site.

PART 3 - EXECUTION

3.01 MAINTENANCE AND PROTECTION OF TRAFFIC

- A. Coordinate the work to insure the least inconvenience to traffic and maintain traffic in one or more unobstructed lanes unless closing the street is authorized.
- B. Maintain access to all streets and private drives.
- C. Provide and maintain signs, flashing warning lights, barricades, markers, and other protective devices as required to conform with construction operations and to keep traffic flowing with minimum restrictions.
- D. Comply with state and local codes, permits and regulations.

3.02 CUTTING PAVED SURFACES

- A. Where installation of pipelines, miscellaneous structures, and appurtenances necessitate breaking a paved surface, make cuts in a neat uniform fashion forming straight lines parallel with the centerline of the trench. Cut offsets at right angles to the centerline of the trench.
- B. Protect edges of the cut pavement during excavation to prevent raveling or breaking; square edges prior to pavement replacement.

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- C. The requirement for neat line cuts, in other than state highways, may be waived if the final paving restoration indicates overlay beyond the trench width.

3.03 BLASTING

- A. Blasting will be permitted except in areas where the proximity of structures, underground facilities, or public safety preclude the use of explosives. Nothing in this section shall relieve the Contractor of his responsibilities for damages, nor shall it result in any responsibility to the Authority or the Authority's Engineer.
- B. Blasting work shall be supervised by licensed and experienced personnel and performed in conformance with applicable Federal, State and Local Codes.

3.04 TRENCH EXCAVATION

- A. Depth of Excavation:
 - 1. Gravity Pipelines:
 - a. Excavate trenches to the depth and grade shown on the drawings for the invert of the pipe plus that excavation necessary for placement of pipe protection material.
 - b. Excavation for laterals shall provide a straight uniform grade from the main pipeline or riser stack to the elevation at the right-of-way line, plus that excavation necessary for placement of pipe protection material.
 - 2. Pressure Pipelines:
 - a. Excavate trenches to the minimum depth necessary to place required pipe protection material and to provide 4' cover from the top of the pipe to the finish ground elevation, except where specific depths are otherwise shown on the drawings.
 - 3. Where unsuitable bearing material is encountered in the trench bottom, continue excavation until the unsuitable material is removed, solid bearing is obtained or can be established, or concrete cradle can be placed. If no cradle is to be installed, refill the trench to required pipeline grade with Type

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II pipe protection material.

4. Where Type I pipe protection is being utilized and rock is encountered in the trench bottom, remove the rock to a depth of 5" plus 0.1 O.D. of the pipe below design trench bottom and place Type II pipe protection material. See trench details on Drawings.
5. Where the Contractor, by error or intent, excavates beyond the minimum required depth, backfill the trench to the required pipeline grade with Type II pipe protection material.

B. Width of Excavation:

1. Excavate trenches, including laterals, to a width necessary for placement and jointing of the pipe. Minimum trench width shall be 24" or 12" plus pipe bell outside diameter, whichever is greater. See trench details on Drawings for trench width payment limits.
2. Shape trench walls completely vertical from trench bottom to at least 2 feet above the top of the pipe.

C. Length of Open Trench:

1. Do not advance trenching operations more than 400 feet ahead of completed pipeline.

3.05 SUPPORT OF EXCAVATION

- A. Support excavation with sheathing, shoring, bracing, or by use of a "trench box", as required to comply with Federal and State laws and codes.
- B. Install adequate excavation supports to prevent ground movement or settlement of adjacent structures, pipelines or utilities. Damage due to settlement because of failure to provide support or through negligence or fault of the Contractor in an other manner, shall be repaired at the Contractor's expense.
- C. Withdraw shoring, bracing, and sheathing as backfilling proceeds unless otherwise directed by the Engineer.

3.06 CONTROL OF EXCAVATED MATERIAL

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- A. Keep the ground surface, within a minimum of 2 feet of both sides of the excavation, free of excavated material.
- B. Provide temporary barricades to prevent excavated material from encroaching on private property, walks, gutters, and storm drains.
- C. Maintain accessibility to all fire hydrants, valve pit covers, valve boxes, curb boxes, fire and police call boxes, and other utility controls at all times. Keep gutters clear or provide other satisfactory facilities for street drainage. Do not obstruct natural water courses. Where necessary, provide temporary channels to allow the flow of water either along or across the site of the work. Erosion damage or sedimentation caused by water diversion shall be repaired, removed and corrected to the satisfaction of the property owner at the Contractor's expense.
- D. In areas where pipelines parallel or cross streams, ensure that no material slides, is washed, or dumped into the stream course. Remove cofferdams immediately upon completion of pipeline construction.

3.07 DEWATERING

- A. Keep excavations dry and free of water. Dispose of precipitation and subsurface water clear of the work.
- B. Maintain pipe trenches dry until pipe has been jointed, inspected, and backfilled, and concrete work has been completed. Preclude trench water from entering pipelines under construction.
- C. Intercept and divert surface drainage away from excavations. Design surface drainage systems so that they do not cause erosion on or off the site, or cause unwanted flow of water.
- D. Comply with Federal and State requirements for dewatering to any watercourse, prevention of stream degradation, and erosion and sediment control.

3.08 PIPE PROTECTION REQUIREMENTS

- A. Type I Pipe Protection:
 - 1. Prepared trench bottom as shown on the trench details.

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2. Use with DI and RC pressure pipe.
 3. Use with CMP, CI and DI, and RC gravity pipe ONLY when authorized by the Engineer.
- B. Type II Pipe Protection:
1. Depth of pipe protection material aggregate as shown on the trench details.
 2. Provide Type II protection as minimum for all pipe materials except plastic pipe, unless otherwise authorized by the Engineer, except where trench conditions are suitable for Type I protection when installing pressure pipe.
 3. When using AC, VCPX and RC pipe, Type II protection material is limited to the depths as indicated on the drawings.
- C. Type III Pipe Protection:
1. Depth of pipe protection material aggregate as shown on the trench details.
 2. When using AC, VCPX and RC pipe, Type III protection material is limited to the depths as indicated on the drawings.
- D. Type IV Pipe Protection:
1. Depth of pipe protection material aggregate as shown on the trench details.
 2. Provide Type IV protection when using ABS, PE, and PVC pipe.
 3. Modify the Type II and Type III pipe protection material portion to all Type IV protection material.
- E. Shape recesses for the joints or bell of the pipe by hand. Assure that the pipe is supported on the lower quadrant for the entire length of the barrel.

3.09 PIPE LAYING

- A. Provide required pipe protection material, placed in accordance with the trench details shown on the drawings.
- B. Lay pipe as specified in the appropriate section for pipe line construction.

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3.10 THRUST RESTRAINT

- A. Provide pressure pipe with concrete thrust blocks or use restrained joint fittings at all bends, tees, and changes in direction, in accordance with the Project Drawings.

3.11 BACKFILLING TRENCHES

- A. After pipe installation and inspection, backfill trenches in accordance with trench details, and these Specifications.
- B. Lift Thickness Limitations:
 - 1. Submit a list of the compaction equipment to be utilized on the project, the recommendations of the equipment manufacturer as to the maximum lift thickness which can be placed, and the method of compaction to be used with this equipment to achieve the required compaction. In no case shall maximum lift thickness placed exceed the maximum limits specified by the manufacturer's recommendations. However, if the equipment manufacturer's lift thickness recommendation is followed and the specified compaction is not obtained, the Contractor shall, at his own expense, remove, replace, and retest as many times as is required to obtain the specified compaction.
 - 2. Lift thickness limitations specified for state highways, shoulders, or embankments govern over the compaction equipment manufacturer's recommendations.
- C. Jetting:
 - 1. When approved by the Engineer in writing, jetting methods may be used to consolidate backfill into a firm compact mass.
- D. Uncompacted Backfill:
 - 1. Where uncompacted backfill is indicated on the Project Drawings, backfill the trench from one foot above the pipe to the top of the trench with material excavated from the trench, crowned over the trench to a sufficient height to allow for settlement to grade after consolidation.

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TRENCH EXCAVATION, BACKFILLING AND COMPACTING

E. Unsuitable Backfill Material:

1. Where the Engineer deems backfill material to be unsuitable and rejects all or part thereof due to conditions prevailing at the time of construction, remove the unsuitable material and replace with suitable backfill material or select material stone backfill.

3.12 DISPOSAL OF EXCAVATED MATERIAL

- A. Excavated material remaining after completion of backfilling shall remain the property of the Contractor, and shall be removed from the construction area and legally disposed of, unless the Owner authorizes the Contractor's placement of this material elsewhere on-site.

3.13 ROUGH GRADING

- A. Rough grade areas disturbed by construction to a uniform finish. Form the bases for terraces, banks, lawns and paved areas.
- B. Grade areas to be paved to depths required for placing subbase and paving materials.
- C. Rough grade areas to be seeded 3" below indicated finish contours.

3.14 RESTORATION OF UNPAVED SURFACES

- A. Restore unpaved surfaces disturbed by construction to equal the surface condition prior to construction.
- B. Restore grassed areas in accordance with Section 02901, Finish Grading, Seeding and Sodding.

END OF SECTION

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SECTION 02301
BORING, JACKING AND TUNNELING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work of this section includes, but is not limited to:
 - 1. Approach trench excavation
 - 2. Installation of casing pipe or liner
 - 3. Installation of carrier pipe

- B. Related Work:
 - 1. Work under this item shall be coordinated with that specified under Section 02201 - Trench Excavation, Backfilling and Compacting.

1.02 QUALITY ASSURANCE

- A. Contractor Qualifications:
 - 1. Construction operations shall be undertaken only by a contractor well experienced in operations of similar magnitude and condition under transportation arteries and surface areas which cannot be disturbed.

- B. Design Criteria:
 - 1. Pipe and joints of leakproof construction, designed for the earth and/or other pressures present, plus highway H20 loading or railway E80 loading with the associated recommended impact loading.
 - 2. Design bracing, backstops, and use of jacks of sufficient rating so that the jacking can proceed without stoppage, except for adding pipe sections and as conditions permit, to minimize the tendency of the ground material to "freeze" around the casing pipe.

- C. Allowable Tolerances:
 - 1. Do not overcut excavation by more than 1" greater than the outside diameter of the casing pipe.
 - 2. Install casing pipe with the determined vertical and horizontal alignment prior to installation of the carrier pipe.

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SECTION 02301
BORING, JACKING AND TUNNELING

- D. Reference Codes and Specifications:
1. Comply with applicable federal, state and local ordinances, codes, statutes, rules and regulation, and affected jurisdictional bodies.
 2. Pennsylvania Department of Transportation (PennDOT): Form 408 Specifications, latest edition.

1.03 SUBMITTALS

- A. Submit history of previous work completed of equivalent nature and scope. Include qualification and experience of key personnel.
- B. Submit description of proposed construction methods, including methods to establish and maintain vertical and horizontal alignment.
- C. Submit tunnel liner design calculations and manufacturer's data on tunnel liner plate showing sizes, shapes, methods of attachment and connection details, and details of grout holes.
1. Highway Crossings: Design tunnel for earth and/or other pressure loads present, plus AASHTO H20 live loading.
 2. Railroad Crossings: Design tunnel for earth and/or other pressure loads present, plus Cooper's Railroad E80 live loading with 50-percent added for impact.

1.04 JOB CONDITIONS

- A. Conduct operations so as not to interfere with, interrupt, damage, destroy, or endanger the integrity of surface or subsurface structures or utilities, and landscape in the immediate or adjacent areas.
- B. When boring, jacking or tunneling under state highways and railroads, comply with applicable right-of-way occupancy permits.
- C. If boring is obstructed, relocate or jack or tunnel crossing as approved by the Engineer.

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SECTION 02301
BORING, JACKING AND TUNNELING

PART 2 - PRODUCTS

2.01 STEEL CASING PIPE

- A. Steel casing pipe shall have 35,000 psi minimum yield strength, be asphalt coated and conform to "Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless," ASTM A 53.
- B. Full circumference welded joint.
- C. Diameter and wall thickness as shown on the drawings.

2.02 REINFORCED CONCRETE CASING PIPE

- A. Reinforced concrete casing pipe shall conform to "Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe," ASTM C 76.
- B. Determine pipe class from "Concrete Pipe Design Manual" prepared by the American Concrete Pipe Association.
- C. Tongue and groove joints. To avoid concentrated loads at the joints insert strips of plywood, asphalt roofing paper or similar resilient materials around the circumference in the joints.

2.03 TUNNELING LINER PLATE

- A. Tunnel liner plate steel shall be galvanized, have minimum yield strength 28,000 psi and conform to "Standard Specification for Commercial Steel (CS), Sheet and Strip, Carbon (0.16 Maximum to 0.25 Maximum Percent), Hot-Rolled," ASTM A659.
- B. Bolts and nuts shall be galvanized and in conformance with "Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength," ASTM A 307.

2.04 CARRIER PIPE

- A. Ductile iron carrier pipe shall be in conformance with ANSI/AWWA C 151/A21.51 and Class as shown on the drawings.

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**SECTION 02301
BORING, JACKING AND TUNNELING**

- B. Prestressed concrete carrier pipe shall be steel cylinder type in conformance with pressure rating as shown on the drawings.

2.05 TIMBER SKIDS

- A. Pressure treated, cut to a cross-sectional size to allow placement of the carrier pipe in the casing and to support the barrel of the carrier pipe.
 - 1. Provided with notches to accommodate fastening. Treat notches at time of pipe installation.
- B. Creosoting shall be in conformance with "Standard Specification for Preservatives and Pressure Treatment Process for Timber," AASHTO M 133.

2.06 STEEL STRAPPING

- A. Steel strapping shall be in conformance with "Standard Specification for Carbon Structural Steel," ASTM A 36.

2.07 SAND (Fine Aggregate)

- A. Fine aggregate shall be Type A per Section 703.1 of the Form 408 Specifications.

2.08 GROUT

- A. One part portland cement (conforming to "Standard Specification for Portland Cement," ASTM C 150) and 6 parts mortar sand mixed with water to a consistency applicable for pressure grouting.

PART 3 - EXECUTION

3.01 APPROACH TRENCH

- A. Excavate approach trench using methods as site conditions require.
- B. Ensure pipe entrance face as near perpendicular to alignment as conditions permit.
- C. Establish a vertical entrance face at least 1 foot above top of casing or tunnel lining.
- D. Install adequate excavation supports as specified in Section 02201 - Trench

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SECTION 02301
BORING, JACKING AND TUNNELING

Excavation, Backfilling and Compacting.

3.02 CASING PIPE INSTALLATION METHODS

A. Boring:

1. Push the pipe into the ground with a boring auger rotating within the pipe to remove the spoil. Do not advance the cutting head ahead of the casing pipe except for that distance necessary to permit the cutting teeth to cut clearance for the pipe. The machine bore and cutting head arrangement shall be removable from within the pipe. Arrange the face of the cutting head to provide a barrier to the free flow of soft material.
2. If unstable soil is encountered during boring, retract the cutting head into the casing to permit a balance between the pushing pressure and the ratio of pipe advancement to quantity of soil.
3. If voids should develop greater than the outside diameter of the pipe by approximately one inch, grout to fill voids. Grouting to fill voids will be at the expense of the Contractor.

B. Jacking:

1. Construct adequate thrust wall normal to the proposed line of thrust.
2. Impart thrust load to the pipe through a suitable thrust ring that is sufficiently rigid to ensure distribution of the thrust load on the pipe.

C. Drilling and Jacking:

1. Use an oil field type rock roller bit or plate bit made up of individual roller cutter units solidly welded to the pipe which is turned and pushed for its entire length by the drilling machine to give the bit the necessary cutting action.
2. Inject a high density slurry (oil field drilling mud) to the head as a cutter lubricant. Inject slurry at the rear of the cutter units to prevent jetting action ahead of the pipe.

D. Mining and Jacking:

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1. Utilize manual hand-mining excavation from within the casing pipe as it is advanced with jacks, allowing minimum ground standup time ahead of the casing pipe.

3.03 TUNNELING

- A. Advance excavation for the tunnel liner in increments sufficient for the erection of one ring of liners and install liner plates immediately after each increment of excavation. Carry on excavation in such a manner that voids behind the liner plates are held to a minimum. Completely fill such voids with grout followed immediately by grout placed under pressure.
- B. Excavate to the lines, grades, dimensions and tolerances as specified and shown, to accommodate the initial support and permanent lining.
- C. Installation of Tunnel Linings:
 1. Install the tunnel lining in a manner that will not damage the lining or coating.
 2. Ensure that the edges are clean and free from material that could interfere with proper bearing.
 3. Install bolts for liner plates in accordance with liner plate manufacturer's recommendations and retension or replace, if necessary, any bolt which does not meet the requirements.
- D. Place concrete invert as shown on the drawings.

3.04 DEWATERING

- A. Intercept and divert surface drainage precipitation and groundwater away from excavation through the use of dikes, curb walls, ditches, pipes, sumps or other means.
- B. Develop a substantially dry subgrade for the prosecution of subsequent operations.

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SECTION 02301
BORING, JACKING AND TUNNELING

- C. Comply with Federal and State requirements for dewatering to any watercourse, prevention of stream degradation, and erosion and sedimentation control.

3.05 PRESSURE GROUTING

- A. Pressure grout the annular space between the casing pipe and surrounding earth.

3.06 CARRIER PIPE INSTALLATION

- A. All provisions regarding cleaning, inspection and handling specified under pipe material sections apply to this work.
- B. Place the carrier as shown on the drawings. Exercise care to prevent damage to pipe joints when carrier pipe is placed in casing.
- C. Support pipeline within casing so that no external loads are transmitted to carrier pipe. Attach wooden skids to barrel of carrier pipe; do not rest carrier pipe on bells.
- D. Fill the annular space between the carrier and casing pipe with sand or provide other positive means to prevent flotation.
- E. Close/seal ends of casing.

END OF SECTION

**SECTION 02501
PAVING AND RESTORATION**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work of this section includes, but is not limited to:
 - 1. Temporary paving
 - 2. Permanent paving
 - 3. Shoulder restoration
 - 4. Curb and sidewalk restoration

- B. See the Special Conditions and/or the drawings for specific paving and resurfacing requirements for this project.

1.02 QUALITY ASSURANCE

- A. Referenced standards:
 - 1. Pennsylvania Department of Transportation
 - a. Chapter 459 (67 PA Code), Occupancy of Highways by Utilities
 - b. Form 408 Specifications, Latest Edition
 - c. Publication 27, Specification for Bituminous Mixtures (Bulletin 27)
 - d. Publication 37, Specification for Bituminous Materials (Bulletin 25)
 - e. Publication 203, Work Zone Traffic Control

1.03 SUBMITTALS

- A. Certificates:
 - 1. Submit certification from bituminous and aggregate suppliers attesting that materials conform to the State specifications.

1.04 JOB CONDITIONS

- A. Control of Traffic:
 - 1. Take measures to control traffic during paving operations. Do not allow traffic on newly paved areas until authorized by the Engineer.
 - 2. Employ traffic control measures in accordance with Pennsylvania

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PAVING AND RESTORATION**

Department of Transportation Publication No. 203, "Work Zone Traffic Control."

- B. Restore existing paving outside the limits of the work that is damaged by the Contractor's operations to its original condition at the expense of the Contractor.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. See Section 03310 - Cast-In-Place Concrete

2.02 BITUMINOUS PAVING MATERIALS AND AGGREGATES

- A. Refer to State Specifications, Form 408. All bituminous materials and aggregates used in paving and resurfacing shall conform to the applicable portions of the State Specifications.

PART 3 - EXECUTION

3.01 TEMPORARY PAVING OVER TRENCHES

- A. Place temporary paving immediately upon completion of trench backfilling. Unpaved trenches shall not remain unpaved longer than ten working days after backfilling.
- B. Shape and compact subgrade, then place and compact subbase and/or base course material to the required thickness.
- C. Place temporary paving material. Compact to required minimum thickness with trench roller having minimum 300 pounds per inch-width of compaction roll.
- D. Continuously maintain temporary paving to the satisfaction of the Engineer and the State and local road departments. Temporary paving on state roads must remain in place for a minimum of 90 days.

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PAVING AND RESTORATION**

3.02 PERMANENT PAVING

- A. For restoration of existing pavement, trim existing paving to remove damaged areas. Cut straight joint lines and right angle offsets. Remove temporary paving material. Construct permanent base and surface courses to the required compacted thicknesses shown on the drawings and/or as identified in the Special Conditions, and in accordance with Form 408 Specifications.
- B. For new pavement, shape and compact subgrade, then place and compact base and surface courses and base drainage facilities as shown on the drawings and/or as identified in the Special Conditions, and in accordance with Form 408 Specifications.
- C. Maintain permanent paving to the satisfaction of the Engineer and the local and State road departments throughout the contract maintenance period.

3.03 BITUMINOUS OVERLAY

- A. Where indicated on the drawings, in the Special Conditions, or where directed by the Engineer, place a bituminous overlay.
- B. Construct in accordance with Section 401.3 Form 408 Specifications.

3.04 SHOULDER RESTORATION

- A. Restore shoulders in accordance with drawings, Special Conditions, and Form 408 Specifications.

3.05 DRIVEWAY RESTORATION

- A. Trim concrete and bituminous driveway surfaces to remove damaged areas. Saw cut straight joint lines parallel to the centerline of the trench. Cut offsets at right angles to the trench centerline.
- B. Restore existing concrete driveways trenched through with a 6" layer of concrete reinforced with 6 x 6 x 10/10 wire mesh.
- C. Restore existing blacktop driveways trenched through in-kind, or with minimum 1-1/2" layer wearing course over 6" layer of 2 RC aggregate.
- D. Restore earth driveways with a 6" layer of 2 RC stone backfill.
- E. Restore stone or gravel driveways in-kind.
- F. Restore brick driveways with like bricks placed on a 4" thick wet sand bed. Place

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PAVING AND RESTORATION**

bricks in like pattern and spacing.

3.06 CONCRETE CURB AND SIDEWALK REPAIRS

- A. Replace curbs and sidewalks damaged by construction to match existing.
- B. Reconstruct curbs and sidewalks to the first expansion joint on either side of the damaged portion. Install expansion joint material.
- C. Reconstruct sidewalks to 4" thickness of concrete placed on a 4" base of compacted 2 RC crushed aggregate.

END OF SECTION

SECTION 02603
VALVE VAULTS AND METER BOXES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes labor, materials, equipment and related services necessary for furnishing and installing valve vaults and meter boxes as shown on the plans or as specified.

1.02 RELATED WORK

- A. Work under this item shall be coordinated with that specified under the following sections:
1. Section 02201 - Trench Excavation, Backfilling and Compacting
 2. Section 02615 - Water Distribution Pipe
 3. Section 02641 - Valves, Hydrants and Meters
 4. Section 02645 - Water Service Connections
 5. Section 03310 - Cast-In-Place Concrete

1.03 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of the drawings, applicable codes, these specifications and standards referenced within these specifications. In case of conflicts between requirements, the more stringent requirements shall govern.

1.04 SUBMITTALS

- A. Manufacturer's Literature
1. Submit manufacturer's latest published literature for valve vaults, meter boxes, and frames and covers.
- B. Shop Drawings
1. Submit detailed Shop Drawings for each product specified herein for prior approval of the Engineer.

1.05 PRODUCT DELIVERY, HANDLING AND STORAGE

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SECTION 02603
VALVE VAULTS AND METER BOXES

- A. Exercise care in handling to avoid chipping, cracking and breakage.
- B. Remove defective products from the site immediately.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Crushed Stone Subbase
 - 1. Crushed stone subbase shall be size 2A and Type C in conformance with Section 703 of the PennDOT Form 408 Specifications.
- B. Masonry Mortar
 - 1. Masonry mortar shall be Type S in conformance with "Specification for Mortar for Unit Masonry," ASTM C 270, latest edition.
- C. Concrete Block
 - 1. Concrete block shall be in conformance with "Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes," ASTM C 139, latest edition.
- D. Joint Sealant Compound
 - 1. Joint sealant compound shall be FS SS-S-00210, preformed, flexible, self-adhering and cold-applied.
- E. Cast Iron
 - 1. Cast iron shall be manufactured in accordance with "Specification for Gray Iron Castings," ASTM A 48, latest edition, Class 30 or better and be free of bubbles, sand and air holes and other imperfections.

2.02 MANUFACTURED PRODUCTS

- A. Precast Reinforced Concrete Vaults
 - 1. Precast vaults shall conform to Section 713.2(e) of the PennDOT Form 408

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Specifications.

2. Vaults shall meet the loading conditions of AASHTO HS-20.
3. Vaults shall include manhole steps and pipe openings as indicated on the drawings.

B. Precast Concrete Manholes

1. Precast concrete manholes shall conform to the drawings and to "Specification for Precast Reinforced Concrete Manhole Sections," ASTM C 478, latest edition.

C. Precast Concrete Water Meter Boxes

1. Precast concrete water meter boxes shall have minimum 4000 psi concrete and minimum 2" wall thickness.
2. Reinforcement shall be 6 x 6 10/10 wire mesh.
3. Water meter boxes shall be suitable for use in sidewalks, lawns, or other areas not subject to vehicular traffic.

D. Cast Iron Meter Boxes

1. Domestic cast iron meter boxes shall be three-piece, comprised of a base, an upper body and a separate lid, or a two-piece, comprised of an integral body casting and a separate lid.
2. Integrally cast anchor lugs and inlet and outlet connections.
3. All hardware shall be included.
4. Meter Box Covers:
 - a. Meter box covers shall be single or double lid with minimum 11" lid opening.
 - b. Words "Water Meter" shall be cast into the lid.

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- c. Bronze worm lock shall have standard waterworks pentagon bolt head.
 - d. Lid with a recess shall engage a lug on the key, permitting the key to become a handle for lifting the lid.
- E. Cast Iron Manhole and Vault Frames and Covers
- 1. Contact surfaces shall be domestic cast iron, machined and matched.
 - 2. The pipeline service shall be cast on the cover as shown on the drawings.
- F. Fabricated Steel Hatch or Vault Cover
- 1. Fabricated steel hatch or vault covers shall be commercially manufactured to meet the loading requirements of AASHTO HS-20 or as specified otherwise.
 - 2. Frames shall be formed steel channel frames with anchor flange and drainage coupling of sizes as designated on drawings.
 - 3. Doors shall have steel diamond pattern plate, reinforced with structural steel framing.
 - 4. Hinges shall be forged brass hinges with stainless steel pins.
 - 5. Lifting mechanisms shall be stainless steel, compression spring type, balancing door leaf through entire arch and acting as a check in retarding downward movement.
 - 6. Hold-open device shall be automatic, 90-degree, hold-open arm with vinyl-covered release handle.
 - 7. Locking device shall be snap lock with handle on the underside and removable key handle on the top side. Include removable plug for concealing key hole.
 - 8. Cadmium plate or galvanize all hardware.
 - 9. Factory prime cost of red oxide and finish coat of color and kind designated shall be applied to all steel surfaces.

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SECTION 02603
VALVE VAULTS AND METER BOXES

G. Keys and Wrenches

1. Supply keys and wrenches of the type and number specified.

PART 3 - EXECUTION

3.01 GENERAL

- A. Refer to drawings for location, grade and depth of vaults and boxes.

3.02 EXCAVATION

- A. Excavate to the line and grade shown on the drawings and as specified in Section 02201.
- B. Location and depth of structures as shown on the drawings.

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3.03 FOUNDATION

- A. Provide 6" compacted crushed stone subbase foundation for precast structures and all meter boxes.
- B. Place cast-in-place concrete foundation on undisturbed earth.

3.04 CONSTRUCTION

- A. Vaults
 - 1. Construct valve vaults of precast sections, masonry, and cast-in-place concrete as shown on the drawings.
 - 2. Seal vault joints watertight with preformed plastic joint sealant compound.
 - 3. Seal annular space between pipe and vault with mechanical seal consisting of interlocking synthetic rubber links shaped to fill the space and assembled with bolts and a pressure plate under each bolt head and nut.
 - 4. Do not erect masonry when ambient temperature is below 45 Degrees F., unless it is rising and at no time when the temperature is below 40 Degrees F., except by written permission of the Engineer.
 - 5. Install vault frames and covers and adjust to finished grade elevation.
- B. Meter Boxes
 - 1. Install meter boxes as shown on the drawings.
 - 2. Adjust meter box covers to finished grade elevation.

3.05 BACKFILLING

- A. Backfill only after inspection of the vault or meter box.
- B. Backfill as specified in Section 02201.

**SECTION 02615
WATER MAINS**

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This Section includes all labor, materials, equipment and related services for furnishing and installing water transmission and distribution lines and fittings, as shown on the drawings or as specified.

1.02 RELATED WORK

- A. Work under this section shall be coordinated with that specified under the following sections, whenever applicable:
 - 1. Section 02201 - Trench Excavation, Backfilling and Compacting
 - 2. Section 02301 - Boring, Jacking and Tunneling
 - 3. Section 02603 - Valve Vaults and Meter Boxes
 - 4. Section 02641 - Valves and Fire Hydrants
 - 5. Section 02645 - Water Service Connections
 - 6. Section 02655 - Testing and Disinfecting Water Mains
 - 7. Section 03310 - Cast-In-Place Concrete

1.03 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of the drawings, applicable codes, these specifications and standards referenced within these specifications. In case of conflicts between requirements, the more stringent requirements shall govern.
- B. The latest edition of the following standards are referenced within the specification:
 - 1. American National Standards Institute (ANSI)/American Water Works Association (AWWA):
 - a. ANSI/AWWA
 - C104/A21.4 Cement Mortar Lining for Ductile-Iron Pipe and Fittings for Water
 - C105/A21.5 Polyethylene Encasement for Ductile-Iron Pipe Systems

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WATER MAINS**

- C110/A21.10 Ductile-Iron and Gray-Iron Fittings, 3-In. Through 48-In., for Water.
- C111/A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- C115/A21.15 Flanged Ductile-Iron Pipe with Ductile Iron or Gray-Iron Threaded Flanges
- C150/A21.50 Thickness Design of Ductile Iron Pipe
- C151/A21.51 Ductile-Iron Pipe, Centrifugally Cast, for Water
- C153/A21.53 Ductile-Iron Compact Fittings 3-Inch through 24-Inch, and 54-Inch through 64-Inch for Water Service

b. AWWA

- C200 Steel Water Pipe 6 Inches and Larger
- C203 Coal Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape - Hot Applied
- C205 Cement Mortar Protective Lining and Coating for Steel Water Pipe 4-Inch and Larger - Shop Applied
- C206 Field Welding of Steel Water Pipe
- C207 Steel Pipe Flanges for Waterworks Service – Sizes 4 in. Through 144 in.
- C600 Installation of Ductile Iron Water Mains and Their Appurtenances
- C900 Polyvinyl Chloride (PVC) Pressure Pipe, 4-Inches Through 12-Inches, for Water Distribution

2. American Society for Testing and Materials (ASTM):

- D1785 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, 120
- D2241 Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series)
- D2466 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
- D2855 Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings

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WATER MAINS

D3139 Standard Specification for Joints for Plastic Pressure
Pipes Using Flexible Elastomeric Seals

- C. Reject materials contaminated with gasoline, lubricating oil, liquid or gaseous fuel, aromatic compounds, paint solvent, paint thinner, or acid solder.

1.04 SUBMITTALS

- A. Submit manufacturer's catalog information for each type of pipe, fittings, couplings, adapters, gaskets and assembly of joints for approval of the Engineer. Include manufacturers' recommendations for deflection in pipe joints.
- B. Certificates:
 - 1. Submit certifications for each type of pipe, fittings, gaskets, lubricants or other joint materials from the manufacturers attesting that each of these meets or exceeds specifications requirements.
- C. Samples or Shop Drawings:
 - 1. Submit shop drawings for joint assemblies and one sample each type of jointing materials.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery and Handling:
 - 1. Do not place materials on private property without written permission from the property owner.
 - 2. During loading, transporting and unloading, exercise care to prevent damage to materials.
 - 3. Do not drop pipe or fittings. Avoid shock or damage at all times.
 - 4. Use padded slings, hooks and tongs to prevent damage to the exterior surface or internal lining of the pipe.
- B. Storage:
 - 1. Pipe may be strung along alignment where approved by the Engineer.

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WATER MAINS**

2. Do not stack higher than Maximum Stacking Heights shown in AWWA C600 or as recommended by the pipe manufacturer.
3. Keep interior of pipe and fittings free from dirt or other foreign matter.
4. Store gaskets for mechanical and push-on joints in cool location out of direct sunlight and not in contact with petroleum products.

PART 2 - PRODUCTS

2.01 PIPE, FITTINGS AND JOINTS

A. Ductile Iron (DI)

1. Ductile Iron Pipe: ANSI/AWWA C150/A21.50 and C151/A21.51
 - a. Cement Mortar Lined in accordance with ANSI/AWWA C104/A21.4
 - b. Class as shown
2. Ductile Iron and Cast Iron Fittings: ANSI/AWWA C110/A21.10 or C153/A21.53
 - a. Cement Mortar Lined in accordance with ANSI/AWWA C104/A21.4
 - b. Pressure Rating: As shown
3. Joints:
 - a. Mechanical or Push-on Joints conforming with ANSI/AWWA C111/A21.11 for underground installations
 - b. Flanged Joints conforming with ANSI/AWWA C153-A21.53 and ANSI/AWWA C115/A21.15 for interior installations

B. Polyvinyl Chloride (PVC) Plastic Pipe

1. Pipe:
 - a. Schedule Rated: ASTM D1785, Schedule 40
 - b. Pressure Rated: ASTM D2241, Pressure Class as shown

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WATER MAINS

- c. Outside Diameter Dimension Pipe: AWWA C900, Pressure Class and Dimension Ratio as shown
 - 2. Manufactured from Polyvinyl Chloride 1120 or 1220
 - 3. National Sanitation Foundation Seal of Approval for use with potable water required
 - 4. Joints:
 - a. Push-on: ASTM D3139
 - b. Solvent Cement: ASTM D2855
 - 5. Fittings:
 - a. Push-on: Class suitable for use with pipe specified
 - b. Solvent Welded: ASTM D2466
 - c. Cast or Ductile Iron Fittings for PVC Pressure Pipe: ANSI/AWWA C110/A21.10
- C. Steel
- 1. Pipe: AWWA C200
 - a. Cement Mortar Lined in accordance with AWWA C205
 - b. Coal Tar Coated in accordance with AWWA C203
 - c. Internal pressure and minimum wall thickness as shown.
 - d. Design stress at specified pressure: 50-percent of yield point.
 - 2. Fittings: AWWA C200
 - 3. Joints:
 - a. Welded: AWWA C206
 - b. Flanged: AWWA C207

**SECTION 02615
WATER MAINS**

- c. Mechanically Coupled: Dresser Style 38, Rockwell 411, or equal.

PART 3 - EXECUTION

3.01 EXECUTION

- A. Excavate trenches as specified in Section 02201.
- B. Provide at least 4 ft. of cover from the top of the pipe to the finished grade elevation.

3.02 PIPE PROTECTION

- A. Provide Type I pipe protection for ductile iron pipelines as shown on detail on drawings. Type II pipe protection may be provided as an alternate to digging out for bells.
 - 1. Shape recesses for the joints or bell of the pipe by hand. Assure that the pipe is supported on the lower quadrant for the entire length of the barrel.
- B. Provide Type II pipe protection for steel pipelines as shown on detail on drawings.
- C. Provide Type IV pipe protection for PVC pipelines as shown on detail on drawings.

3.03 PIPE LAYING

- A. Clean and inspect each length of pipe or fitting before lowering into the trench. Do not lower pipe into the trench except that which is to be immediately installed.
- B. Lay pipe to a uniform line with the barrel of the pipe resting solidly in pipe protection material throughout its length. Excavate recesses in pipe protection material to accommodate joints, fittings, and appurtenances. Do not subject pipe to a blow or shock to achieve solid bearing or grade.
- C. Lay each section of pipe in such a manner as to form a close concentric joint with adjoining section and to avoid offsets.
- D. Lubricate pipe and gaskets as recommended by the manufacturer. Assemble to provide tight, flexible joints that permit movement caused by expansion, contraction, and ground movement.
- E. Check each pipe installed as to line and grade in place. Correct deviations immediately. Deflection of pipe joints in excess of maximum recommended by manufacturer will be cause for rejections.

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- F. Install fittings and valves as pipe laying progresses. Do not support weight of fittings and valves from pipe.
- G. When the work is not in progress, and at the end of each work day, securely plug the ends of pipe and fittings to prevent trench water, earth, or other substances from entering the pipes or fittings.
- H. Backfill concurrently with pipelaying to hold installed pipe in place. When pipe laying is terminated for any reason, provide at least 2 feet of backfill over all pipe except the last piece laid.
- I. Joint Assembly
 - 1. Push-on Joints:
 - a. Clean the inside of the bell and the outside of the spigot. Insert rubber gasket into the bell recess.
 - b. Apply a thin film of gasket lubricant to either the inside of the gasket or the spigot end of the pipe, or both.
 - c. Insert the spigot end of the pipe into the socket using care to keep the joint from contacting the ground. Complete the joint by forcing the plain end to the bottom of the socket. Mark pipe that is not furnished with a depth mark before assembly to assure that the spigot is fully inserted.
 - 2. Mechanical Joints:
 - a. Wash the socket and plain end. Apply a thin film of lubricant. Slip the gland and gasket over the plain end of the pipe. Apply lubricant to gasket.
 - b. Insert the plain end of the pipe into the socket and seat the gasket evenly in the socket.
 - c. Slide the gland into position, insert bolts, and finger-tighten nuts.
 - d. Bring bolts to uniform tightness. Tighten bolts 180-degrees apart alternately in conformance with Appendix A of ANSI/AWWA C111/A21.11.
 - e. Coat all bolts and nuts with bitumastic paint after installation.

SECTION 02615 WATER MAINS

3. Solvent Cemented Joints:
 - a. Chamfer and deburr pipe. Clean socket and plain end. Measure and mark the socket depth on the outside of the pipe.
 - b. Apply primer to inside socket surface using a scrubbing motion to ensure penetration. Repeated applications may be necessary. Soften surface of male end of pipe to depth of fitting socket by applying a liberal brush coat of primer. Do not pour primer on. Assure entire surface is well softened.
 - c. Repeat application of primer to inside socket surface then apply cement to pipe while surfaces are still wet with primer. Apply cement uniformly taking care to keep excess cement out of socket.
 - d. Immediately after applying the last coat of cement to the pipe and while both the inside socket surface and outside pipe surface are soft and wet, forcefully seat the pipe in the socket. Turn the pipe 1/4 turn during assembly to distribute cement evenly. Assembly should be completed within 20-seconds after the last application of cement. Insert pipe with a steady, even motion. Do not use hammer blows.
 - e. Hold joint in place until the cement has set. Wipe excess cement from the pipe.
4. Coupled Joints: In accordance with manufacturer's recommendations.
- J. Install service connections as specified in Section 02645.

3.04 CUTTING

- A. Cut pipe without damaging pipe or lining.
- B. Grind cut ends and rough edges smooth. Bevel end for push-on joints.

3.05 DEFLECTION

- A. When it is necessary to deflect water mains from a straight alignment horizontally or vertically, do not exceed limits as follows:
 1. Ductile Iron Pipe: AWWA C600

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2. PVC Pipe: Per manufacturers' recommendations.

3.06 THRUST RESTRAINT

- A. Provide all valves, tees, bends, caps, and plugs with concrete thrust blocks as indicated on the drawings. Pour concrete thrust blocks against undisturbed earth. Locate thrust blocks to contain the resultant force and so pipe and fitting joints will be accessible for repair.
- B. Furnish and install tie rods, clamps, set screw, retainer glands or restrained joints as indicated on the drawings. Protect metal restrained joint components against corrosion by applying a bituminous coating or encasing the entire assembly with an 8-mil thick polyethylene wrap in accordance with ANSI/AWWA C105/A21.5.
- C. If restrained joints are proposed for use, contact Authority's Engineer for approval of method and minimum restrained lengths.

3.07 BLOWOFFS

- A. Install a blow-off on the dead ends of all water mains where shown on the drawings.
- B. Construct blow-offs as shown on detail on drawings.

3.08 AIR RELEASE VALVES

- A. Install air release valves at the high points of water mains where shown on the drawings.
- B. Construct air release valves including valve vault as shown on detail on drawings.

3.09 SPECIAL CONDITIONS

- A. Connections
 1. Wherever an existing water main is to be cut and closed, or extended or connected to the proposed new lines, construct connections as shown on the drawings.
 2. For connecting pipe of different materials, use transition fittings as recommended by the manufacturer and approved by the Engineer.
- B. Stream Crossings
 1. Install water mains crossing streams as shown on detail on drawings.

**SECTION 02615
WATER MAINS**

2. Provide valves, valve vaults, and sampling tap on each side of the stream as shown on the drawings.
- C. Highway and Railroad Crossings
1. Install water mains crossing highways and railroads as shown on drawings. Comply with Railroad Company, State Department of Transportation, and municipal permits provided by Owner.
 2. When casing pipe is indicated, install it as specified in Section-2301 - Boring, Jacking and Tunneling.
- D. Bridge or Aerial Crossings
1. For above the ground water mains attached to a bridge or other structural supports, furnish and install all supports, hangars and fastenings as shown on the drawings.
 2. Provide insulation and jacket as shown.
- E. Wall Sleeves
1. Provide pipes passing through concrete or masonry construction with sleeve or wall pipe fittings of type and size indicated.
 2. Provide sleeves two pipe sizes larger than the water mains, unless otherwise specified or shown.

3.10 COMPLETION

- A. Test and disinfect water mains as specified in Section 02655.

END OF SECTION

**SECTION 02641
VALVES AND FIRE HYDRANTS**

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This Section includes all labor, materials, equipment, and related services necessary for furnishing and installing valves, valve boxes and fire hydrants, as shown on the plans or as specified.

1.02 RELATED WORK

- A. Work under this item shall be coordinated with that specified under the following sections, when included in these Specifications:
1. Section 02201-Trench Excavation, Backfilling and Compacting
 2. Section 02603-Valve Vaults and Meter Boxes
 3. Section 02615-Water Mains
 4. Section 02645-Water Service Connections
 5. Section 03310-Cast-in-Place Concrete

1.03 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of the Drawings, these Specifications, referenced standards of the American Water Works Association (AWWA), and applicable codes. In case of conflicts between requirements, the more stringent requirements shall govern.

1.04 SUBMITTALS

- A. Certificates:
1. Submit manufacturer's certification attesting that valves, hydrants, and accessories meet or exceed AWWA Standards and Specification requirements.
- B. Product Data:
1. Submit manufacturer's latest published literature including illustrations, installation instructions, maintenance instructions and parts lists.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

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SECTION 02641
VALVES AND FIRE HYDRANTS

- A. Prepare valves, hydrants and accessories for shipment according to AWWA Standards and:
 - 1. Seal valve, hydrants and meter ends to prevent entry of foreign matter into product body.
 - 2. Box, crate, completely enclose, and protect products from accumulations of foreign matter.
- B. Store products in areas protected from weather, moisture, or possible damage.
- C. Do not store products directly on ground.
- D. Handle products to prevent damage to interior or exterior surfaces.

PART 2 - PRODUCTS

2.01 GATE VALVES

- A. Valve body shall be iron with bronze trim conforming to "Standard for Gate Valves, 3 Through 48 In. NPS, for Water and Sewer Systems," AWWA C509 or C515, latest edition.
 - 1. Valves shall be resilient-seated gate valves, 250 psi pressure rated.
 - 2. Valves shall have non-rising stems with O-ring stem seals.
 - 3. The operating nut shall be 2" square and open counterclockwise unless otherwise indicated.
 - 4. Valve ends shall be flanged, mechanical joint or bell end. Use flanged valves for above ground service only.
 - 5. Provide valves 16" and larger with bypass valves and gear operators.

2.02 BUTTERFLY VALVES

- A. Butterfly valves shall be Class 150B and in accordance with "Standard for Rubber-Sealed Butterfly Valves," AWWA C504, latest edition.
- B. Valve body shall be iron with stainless steel shaft and nylon bearings.

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VALVES AND FIRE HYDRANTS

1. Sizes 2" thru 20" shall be 200 psi rated.
 2. Sizes 24" thru 48" shall be 150 psi rated.
- C. Valve ends shall be flanged, wafer, or mechanical joint.
- D. Valves shall have worm gear manual actuators, sealed and permanently lubricated with position indicator.
1. Vertical, right angle, or buried type valves shall have hand-wheel, crank handle, or square nut as indicated.
 2. Buried valves shall have stem extension and valve box.
 3. Valve operators shall open counterclockwise unless otherwise indicated.

2.03 VALVE BOXES

- A. Valve boxes shall be domestic cast iron screw type with "WATER" cast on lid.
1. Valves 12" and smaller shall have two-piece box.
 2. Valves larger than 12" shall have three-piece box with round base.
 3. Provide lids as indicated in the Special Conditions, Section 01010.

2.04 AIR RELEASE VALVES

- A. Valve body and cover shall be cast iron with stainless steel float, orifice seat, linkage mechanism, mountings and trim, in accordance with AWWA C512, latest edition.
- B. Orifice valve shall be Buna-N.
1. Valve orifice shall be designated for maximum venting capacity under normal main pressure.
 2. Valve shall have 150 psi minimum rated working pressure and be hydrostatically tested to 2 times rated working pressure.

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**SECTION 02641
VALVES AND FIRE HYDRANTS**

2.05 PRESSURE REDUCING VALVES

- A. Valve body and cover shall be cast iron with stainless steel trim, external pilot operated, with free floating piston, single seat with seat bore equal to size of valve.
- B. The pilot valve shall be easily accessible, so arranged to allow for its removal from the main valve while the main valve is under pressure, and easily adjustable without removal of springs, weights, or use of special tools.
 - 1. Valve shall maintain a pre-adjusted downstream pressure for varying rates of flow through the positioning of the piston by the pilot without causing water hammer or waste of water.
 - 2. Valve shall have 200 psi minimum rated working pressure and be hydrostatically tested to 2 times rated working pressure.

2.06 FIRE HYDRANTS

- A. Fire hydrants shall be dry-barrel break-away type conforming to "Standard for Dry-Barrel Fire Hydrants," AWWA C502, latest edition.
 - 1. Bury depth shall be 5'-0", or as indicated on the Drawings.
 - 2. Inlet Connection shall be 6".
 - 3. Valve openings shall be 5-1/4".
 - 4. Valve ends shall be mechanical joint or bell end.
 - 5. Bolts and nuts shall be corrosion resistant.
 - 6. Hydrants shall have one pumper and two 2-1/2" nozzles, with nozzle caps attached by separate chains.
 - 7. Refer to Special Conditions, Section 01010 for additional requirements.

PART 3 - EXECUTION

3.01 GENERAL

- A. Determine the exact location and size of valves and hydrants from the drawings.

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**SECTION 02641
VALVES AND FIRE HYDRANTS**

The Standard Details represent typical details only. Obtain all necessary clarification and directions from the Authority's representative prior to the execution of work.

- B. Perform trench excavation, backfilling and compaction in accordance with Section 02201.
- C. Install pipe and tubing in accordance with Sections 02615 and 02645 and the applicable details.

3.02 GATE AND BUTTERFLY VALVES

- A. Install valves in conjunction with pipe laying. Set valves plumb.
- B. Provide buried valves with valve boxes installed flush with finished grade.
- C. Furnish one tee wrench to the Authority.

3.03 AIR RELEASE VALVES

- A. Install air release valves in valve vault.
- B. Provide clamp where needed.
- C. Set air release valves plumb.

3.04 PRESSURE REDUCING VALVES

- A. Install pressure reducing valves in valve vault.
- B. Provide thrust restraint, supports, and clamps where needed.

3.05 FIRE HYDRANTS

- A. Install fire hydrants as shown on the Standard Detail Sheet. Provide support blocking and drainage gravel as shown.
 - 1. Set hydrants plumb with pumper nozzle facing the curb or street.
 - 2. Set hydrants with nozzles at least 18 inches above the ground and the safety flange not more than 6 inches nor less than 2 inches above grade.

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SECTION 02641
VALVES AND FIRE HYDRANTS

3. Do not block the drain hole.

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**SECTION 02641
VALVES AND FIRE HYDRANTS**

4. Paint hydrants in accordance with local color scheme.
 5. One spanner wrench shall be provided for each ten (10) fire hydrants furnished, or a minimum of one (1) wrench per project unless otherwise directed by the Authority's representative.
- B. After hydrostatic testing flush hydrants and check for proper drainage.
- C. Upon completion of installation, hydrants shall be painted.
1. Thoroughly clean entire hydrant above ground surface and wire brush any areas where factory coating has been damaged.
 2. Apply one (1) spot coat and one (1) full coat of primer at 1-1/2 - 2 mils each.
 3. Apply two (2) full coats of the finish coating at 1-1/2 - 2 mils each.
 4. Completed coatings shall have a minimum dry-mil thickness of 6 mils.
 5. Coatings shall be the following as manufactured by M.A.B./Pennsbury Coatings Corporation or approved equal:

Primer - Reinforced Alkyd, "Flash-Dry"
Primer, 1 - G-16 (Gray)
Finish - Phenolic Modified Urethane,
"Hydrant-Hide", 9032 (color to match existing hydrants)
 6. Apply coatings by brush only.

END OF SECTION

**SECTION 02645
WATER SERVICE CONNECTIONS**

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This section includes, but is not limited to, all labor, materials, equipment and related services for furnishing and installing corporation stops, service pipe, curb stops, meter boxes and meter setting equipment, as shown on the drawings or as specified.

1.02 RELATED WORK

- A. Work under this section shall be coordinated with that specified under the following sections, whenever applicable:
 - 1. Section 02201 - Trench Excavation, Backfilling and Compacting
 - 2. Section 02603 - Valve Vaults and Meter Boxes
 - 3. Section 02615 - Water Mains

1.03 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of the East Donegal Township Municipal Authority. Include tapping of water mains and backflow prevention.
 - 2. Comply with standards of authorities having jurisdiction for potable-water-service-piping, including materials, installation, testing, and disinfection.
 - 3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.
- B. Materials and work shall conform to the requirements of the drawings, applicable codes, these specifications and standards referenced within these specifications. In case of conflicts between requirements, the more stringent requirements shall govern.
- C. The latest edition of the following standards are referenced within the specification:
 - 1. American National Standards Institute (ANSI):

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WATER SERVICE CONNECTIONS

B16.1 Cast Iron Pipe Flanges and Flanged Fittings, Class
25, 125, 250 and 800

B16.3 Malleable-Iron Screwed Fittings, 150 and 300 lb.

2. American Society for Testing and Materials (ASTM):

A240 Standard Specification for Chromium and
chromium-Nickel Stainless steel Plate, Sheet, and Strip for
Pressure Vessels and for General Applications

A351 Standard Specification for Castings, Austenitic, for
Pressure-Containing Parts

B62 Standard Specification for Composition Bronze or
Ounce Metal Castings

B88 Standard Specification for
Seamless Copper Water Tube

**D2237 Standard Specification for
Polyethylene (PE) Plastic Tubing (only covers tubing with
Outside Controlled Diameters).**

3. American Water Works Association (AWWA):

C500 Metal-Seated Gate Valves for Water Supply Service
**C509 Resilient-Seated Gate Valves for Water Supply
Service**

C700 Cold-Water Meters -
Displacement Type, Bronze Main Case

C701 Cold-Water Meters - Turbine
Type for Customer Service

C703 Cold-Water Meters - Fire
Service Type

**C710 Cold Water Meters -
Displacement Type, Plastic Main Case**

C800 Underground Service Line
Valves and Fittings

C901 Polyethylene (PE) Pressure
Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm) for
Water Service

4. ANSI/AWWA:

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C104/A21.4	Cement-Mortar Lining for Cast-Iron and Ductile-Iron Pipe and Fittings for Water
	C110/A21.10 Gray-Iron and Ductile-Iron Fittings, 3-inch through 48-inch for Water
	C111/A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
C115/A21.15	Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges
C151/A21.51	Ductile-Iron Pipe, Centrifugally Cast for Water

- D. Comply with FMG's "Approval guide" or UL's Fire Protection Equipment Directory" for fire-service-main products.
- E. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.
- F. NSF compliance:
 - 1. Comply with ANSI/NSF 14 for plastic potable-water-service piping, including marking "pw" on piping.
 - 2. Comply with NSF 61 for materials for water-service piping and specialties for domestic water.

1.03 SUBMITTALS

- A. Manufacturer's Literature
 - 1. Submit 6 copies each of pages of manufacturer's catalog for each size and type of Corporation Stop, Curb Stop, Curb Box, Meter Setting and pipe, fitting or coupling.
- B. Shop Drawings or Samples: Submit for the Engineer's approval 6 copies of shop drawings or samples, if so directed, of all products to be assembled by the Contractor at site. Include the following:

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WATER SERVICE CONNECTIONS

1. Wiring Diagrams: Power, signal, and control wiring for alarms, if any.

C. Certificates

1. Submit 6 copies each of certificate for pipe, pipe fittings, joints, joint gaskets and lubricants and base materials from each manufacturer attesting that each of these meets or exceeds specifications requirements.

D. Coordination Drawings: for piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty location, and elevations.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Product Delivery:

1. During loading, transporting and unloading of all materials and products, exercise care to prevent any damage.
2. Ensure that valves are dry and internally protected against rust and corrosion.
3. Set valves in best position for handling. Set valves closed to prevent rattling.

B. Storage: Use precautions for valves, including fire hydrants, according to the following:

1. Do not remove end protectors unless necessary; then reinstall for storage.
2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off ground or pavement in watertight enclosure when outdoor storage is necessary.

1.05 PROJECT CONDITIONS

A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:

1. Notify the East Donegal Township Municipal Authority's Construction Representative no fewer than two (2) days in advance of proposed interruption of service.
2. Do not proceed with interruption of water-distribution service without the

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East Donegal Township Municipal Authority Construction
Representative's written permission.

1.06 COORDINATION

- A. Coordinate connection to water main with the East Donegal Township Municipal Authority's Construction Representative.

PART 2 - PRODUCTS

2.01 PIPE OR TUBING AND FITTINGS

- A. Copper Water Tubing
 - 1. ASTM B-88, Type K, Seamless
 - 2. Matching Fittings of Compression Type
- B. Ductile - Iron Pipe
 - 1. Pipe:
 - a. ANSI/AWWA C115/A21.15 or C151/A21.51
 - b. Thickness Class as indicated on the drawings
 - c. Cement-mortar lining: ANSI/AWWA C104/21.4
 - 2. Joints:
 - a. Mechanical or Push-on: ANSI/AWWA C111/A21.11
 - b. Flanged: ANSI/AWWA C115/A21.15
 - 3. Fittings: ANSI/AWWA C110/A21.10
- C. Polyethylene (PE) Plastic Pipe and Fittings
 - 1. Pipe:
 - a. PE, ASTM Pipe: ASTM D 2237, SDR No. 9 with PE compound number required to give pressure rating not less than 200 psig (1380 kPa)
 - b. PE, AWWA Pipe: AWWA C901, DR No. 9 with PE compound number

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required to give pressure ration not less than 200 psig (1380 kPa).

2. Joints:
 - a. Make joints with insert stiffeners conforming to the AWWA Standard 901 for PE Pipe and Tubing.
 - b. Provide solid 304 tubular stainless steel (ASTM A240) insert stiffeners, dimpled and flanged to retain placement within the service line.
 - c. Key lock construction with a minimum of two (2) key locks to maintain solid structural integrity.
 - d. Manufactured in the United States of America.

3. Fittings:
 - a. Provide *no-lead (NL) brass or* stainless steel fittings ASTM A351 for all *threaded* elbows and tees. *Provide brass corporation* stops and curb stops.
 - b. Provide CTS compression fittings *for all other fittings*
 - c. Refer to Section 01010 for corporation and curb stop specifications.

2.02 CONNECTIONS

A. General

1. Provide pipe joints and coupling materials suitable in size, design and material of pipe and service fittings with which it is used.

B. Screwed Joints

1. *Use sharp cut threads of standard gauge and length. After threading, ream all pipe ends to the size of bore and clean out all chips. Use a sufficient quantity of select pipe dope of graphite and oil for lubrication of assembly.*

2.03 TAPPING ACCESSORIES

A. Tapping Sleeves

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1. Mechanical Joint, or as indicated on the drawings.
2. 200 psi working pressure.
3. Outlet Flange: ANSI B16.1, Class 125

B. Tapping Valves

1. AWWA C500 *or* AWWA C509
2. Inlet Flange, Class 125

2.04 CORPORATION STOP ASSEMBLY

A. Corporation Stops

1. ***Brass AWWA C800 (UNS C89833) no-lead***
2. Inlet end threaded for tapping according to AWWA C800
3. Outlet end suitable for service pipe specified.
4. Ball Type Valve. (See Section 01010, Special Conditions)

B. Service Clamps

1. ***Stainless Steel or Ductile Iron*** body.
2. Neoprene, O-ring gasket.
3. ***Minimum body length 61/2" for PE and Asbestos Cement water***

mains.

2.05 CURB STOP ASSEMBLY

A. Curb Stops

1. Brass body conforming to ***AWWA C800 (UNS C89833) no-lead.***
2. Ball Type Valve.
3. Positive Pressure Sealing.
4. See Section 01010, Special Conditions.

B. Curb Boxes and Covers

1. Cast Iron body, Extension Type with ***Stainless Steel*** Stationary Rod.
2. Minneapolis or Arch Pattern Base.
 3. ***Cast Iron lid*** with inscription "Water", with ***pentagon brass plug.***

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4. See Section 01010, Special Conditions.

2.06 METER SETTING EQUIPMENT

A. Outside Meter Setting

1. *Provide Coil Pitsetter with flat cast iron cover, locking bracket, insulation disc, angle ball valve on inlet and dual check valve outlet.*
2. *Provide pit with 18” diameter, or larger, compatible with meter size, and 48” min. depth.*
3. *Provide 1” HDPE coil tubing per ASTM D 2737, SDR 9 CTS sized. Assure the following requirements are met:*
 - a. *Coil complies with AWWA C-901*
 - b. *Coil is NSF Standard 61 approved*
 - c. *Coil is rated at 200 PSIG working pressure*
 - d. *Coil allows meter to be raised for meter access and lowered below the frost line to prevent meter and service line freeze-up*
 - e. *Inlet and outlet valves are secured to a slotted, adjustable mounting plate*
 - f. *Upper and lower mounting brackets secure the position of the mounting plate*
4. *Provide pit manufactured by The Ford Meter Box Company, Inc. or approved equal.*
5. *Provide lightweight body made from 18” PVC tile, per ASTM D 2241.*
6. *Provide Angle ball valves rated at 150 PSI working pressure*
7. *Flat cast Iron traffic-rated locking cover (catalog No. A82H-T), per ASTM A48, Class 25. Provide traffic-rated cover when meter pit is located in sidewalk or traffic area.*
8. *Provide closed-cell polyethylene foam disc for freezing protection.*

B. Inside Meter Setting

1. Meter Yokes, Copper or Iron.
2. *Provide products with “NL” (no lead) cast into body for proper identification. Inlet and Outlet horizontal setting with matching couplings, fittings.*
3. *Provide ball valve on inlet and approved dual check valve followed by a 150 psi rated ball valve on outlet.*

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4. *Provide Brass components that do not come in contact with potable water conforming to AWWA Standard C-800 (ASTM B-62 and ASTM B584, UNS C83600-85-5-5-5)*

2.07 METERS

- A. Displacement Type: AWWA C700 **or C710**
- B. Turbine Type: AWWA C701
- C. Compound Type: AWWA C702
- D. Fire Service Type: AWWA C703

PART 3 - EXECUTION

3.01 PREPARATION

- A. Establish location of curb stops and *boxes, and meter or meter pit* for each service connection.
- B. Excavate trench to the line and grade shown on the drawings and as specified. Jack or bore service lines underneath paved highways where approved by the Engineer.
- C. When requested by Engineer, prepare sample service mock-up for the inspection and approval of the Engineer.

3.02 TAPPING WATER MAINS

- A. Each connection for different kind of water mains shall be tapped using suitable materials, equipment and methods approved by the Engineer.
- B. Provide service clamps *or saddle* for PVC, *PE and asbestos-cement* water mains.
- C. Screw Corporation Stops directly into a tapped and threaded *ductile* iron main at 10 and 2 o'clock positions on the main's circumference. Locate corporation stops at least 12" apart longitudinally and staggered.

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WATER SERVICE CONNECTIONS

- D. In case of plastic pipe water mains, provide full support for the service clamp all around the circumference of the pipe, with minimum **6-1/2"** width of bearing area. Exercise care against crushing or any other damage to the water mains at the time of tapping or installing the service clamp or Corporation Stop.
- E. Use proper seals or other devices to ensure that no leaks are left in the water mains at the points of tapping. Do not backfill and cover the service connection until approved by the East Donegal Township Municipal Authority's Construction Representative.

3.03 SERVICE LINE AND FITTINGS

- A. Copper Service Lines
 - 1. Bend tubing to connect the service pipe or tubing to the tapping fitting or corporation stops to provide flexibility to counteract the effects of settlement or expansion/contraction in the line.
 - 2. Lay service line in a continuous section with no joints from ***the main to the curb stop and from*** the curb stop to the shutoff valve inside the building being served. If the distance from the curb stop to the building exceeds the length of a single roll of tubing (***100 feet***), install a meter pit at the right-of-way line of the water main to which the service line is being connected.
 - 3. When more than one section of tubing is necessary ***after the meter pit***, lay each section of the service line in a manner to form a tight joint with the adjoining section. Avoid offsets, kinks or awkward bends to ensure a smooth flow line.
 - 4. Clean and inspect each pipe and part of the fitting before installing and assemble to provide a flexible joint. Use joints or lubricants recommended by the manufacturers and as specified by the Engineer.
 - 5. Install service fittings and appurtenances on suitable brick or concrete supports as shown on the drawings and Standard Details. Do not use earth, rocks, wood or other organic materials as supports.
 - 6. Flared connections will not be permitted.
 - 7. Bed and cover copper service line with masonry sand. Do not use limestone material for bedding or cover. In cases where the service line crosses other underground utilities (gas, electric, telephone, etc.) install the service line in a PVC sleeve ***having an inside diameter as small as possible to accommodate the service line*** of sufficient length to extend at least five (5') feet beyond the utility trench(s) being crossed. ***Seal both ends of the sleeve with a neoprene reducing coupling or bushing.***

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B. Polyethylene (PE) Plastic Service Lines

1. Install PE water service line in accordance with the manufacturer's recommendations. Provide suitable bedding and cover material ***consisting of masonry sand 6" below the pipe and 18" above the pipe*** as shown on the drawing and standard details.
3. Store pipe on firm and flat surfaces.
2. Keep pipe and fittings away from sharp objects, heat, and toxic and aggressive materials.
3. Take care not to cut, kink, abrade, or otherwise damage the pipe during handling. Take care when handling pipe under wet or frosty conditions, as pipe may become slippery.
4. Keep protective packaging intact until pipe and fittings are required for use.
5. Release coils carefully, keeping in mind they may be coiled under tension. Uncoil pipe and allow it to warm in the sun before burial for ease of installation.
6. Temporarily cap cut pipe ends to prevent dirt or other material from entering the pipe.
7. Lay pipe in as straight a line as possible. If pipe must be deflected, do not exceed the minimum bending radius recommended by the manufacturer. To minimize bending stresses at the point the pipe enters the connection; allow a minimum of ten (10) pipe diameters from fittings or valves for bends.
8. Lay pipe with moderate slack or snaking to accommodate any contraction resulting from cooling prior to backfilling. Allow pipe to cool in the trench before backfilling.
9. Trim pipe to required length and connect to rigidly held fittings such as ***corporation stops, curb stops or shut-off valves in building*** and meter ***pits*** after it has cooled substantially close to the trench temperature to minimize the development of pull-out stresses at the connection.
10. Assure that the service pipe is properly supported at the connection to corporation stop or other rigid structure to prevent localized shear, bending and pull-out resulting from differential soil settlement.
11. ***Place a length of #12 AWG cable adjacent to the service line for the entire length to serve as a means for locating the underground pipe. Terminate cable inside of basement wall (or other interior location if meter is not located in a basement) and extend cable to surface at the curb box. An additional curb box may be required to accomplish this.. Cable must be installed with no splices and the end at the main must be grounded.***

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SECTION 02645
WATER SERVICE CONNECTIONS

12. Perform pressure testing prior to final backfilling.

C. General Requirements

1. *The total length of a service line may not exceed 100 feet unless a meter pit is installed at the curb line or property line nearest the water main.*
2. Prevent displacement of pipes and fittings at the time of placing concrete for thrust blocks or for any structures until initial setting of concrete is assured.
3. Operate each corporation and curb stop before and after installation.
4. When the work is not in progress and at the end of each day, securely plug the ends of pipe and fittings to prevent any dirt or foreign substances from entering the lines.
5. Provide concrete thrust blocking at all bends, tees and changes in direction. *In lieu of concrete thrust blocks, the contractor may elect to install threaded rods, “Meg-a-Lug” flanges or locking gaskets as a restraint provided they are installed in accordance with the manufacturer’s recommendations as it relates to “Meg-a-Lug” flanges and locking gaskets.*
6. Provide all pipes passing through concrete or masonry construction with Wall Sleeves of the type and size indicated.
7. Test and disinfect mains and service lines as specified in Section 02655.

END OF SECTION

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SECTION 02655
TESTING AND DISINFECTING WATER MAINS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This Section includes all labor, materials, equipment and related services necessary for testing and disinfecting water mains, as shown on the plans or as specified.

1.02 RELATED WORK

- A. Work under this section shall be coordinated with that specified under the following sections:
 - 1. Section 02615 - Water Mains
 - 2. Section 02641 - Valves and Fire Hydrants
 - 3. Section 02645 - Water Service Connections

1.03 QUALITY ASSURANCE

- A. Testing Agency
 - 1. Bacteriological testing shall be performed by a testing laboratory engaged and paid for by the Contractor and approved by the Engineer.
- B. Assure that testing and chemicals conform to the following standards of the American Water Works Association (AWWA), latest edition:
 - B300 Standard for Hypochlorites
 - B301 Standard for Liquid Chlorine
 - C600 Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances
 - C651 Standard for Disinfecting Water Mains
- C. Test Acceptance
 - 1. No test will be accepted until the results are below the specified maximum limits.
 - 2. The Contractor shall, at his own expense, determine and correct the sources of leakage and retest until successful test results are achieved.

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SECTION 02655
TESTING AND DISINFECTING WATER MAINS

1.04 SUBMITTALS

A. Test Procedures

1. List of test equipment
2. Testing Sequence Schedule

B. Certificates

1. Submit, prior to starting testing, certification attesting that the pressure gauges to be used have been calibrated and are accurate to the degree specified in Part 2, Products.
2. Submit certification attesting that the chlorine form composition is as specified.

C. Test Reports

1. Submit two copies of laboratory test reports of each bacteriological test.

PART 2 - PRODUCTS

2.01 HYDROSTATIC TEST EQUIPMENT

- A. Hydro Pump
- B. Pressure Hose
- C. Test Connections
- D. Water Meter
- E. Pressure Gauge, calibrated to 0.1 lbs./sq.in.
- F. Pressure Relief Valve

2.02 DISINFECTING CHEMICALS

- A. Liquid chlorine, calcium hypochlorite, or sodium hypochlorite conforming to AWWA Standards B300 and B301.

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PART 3 - EXECUTION

3.01 PREPARATION

- A. Backfill trenches in accordance with Section 02201.
- B. Provide the water line under test with reaction thrust blocking. Hydrostatic testing shall not begin until the concrete thrust blocking has set. Allow 2,000 psi 28-day strength concrete to set (cure) for a minimum of 7 days prior to testing. If (H.E.S.)3,000 psi 3-day strength concrete is used, hydrostatic testing may not begin until the concrete has set a minimum of 2 days.
- C. Provide pumps, piping, tanks, connections, polyurethane plugs, and appurtenances at no additional expense to the Owner. The Authority will provide the necessary water.

3.02 TESTING WATER LINES

A. Hydrostatic Testing

- 1. Test each newly installed section of water line by hydrostatic test procedure in accordance with the recommended practice established by AWWA, Standard C600, Section 4. Provide taps as necessary to perform the test.
- 2. Conduct pressure tests for a period of not less than 30 minutes at a pressure of 200 psig or 1.5 times the average working pressure, whichever is greater. This pressure shall be attained at the elevation of the lowest point in line under test corrected to the elevation of the test gauge. Obtain pressure from the Engineer.
- 3. Slowly fill the section to be tested with water, expelling air from the pipeline at the high points. Install corporation cocks at high points if necessary. After all air is expelled, close air vents and corporation cocks and raise the pressure to the specified test pressure.
- 4. Observe joints, fittings and valves under test. Remove and replace cracked pipe, joints, fittings, and valves showing visible leakage. Retest.

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B. Leakage Tests

1. After completion of successful pressure testing, conduct the leakage test for a 2-hour period at a test pressure of 150 psig.
2. Expel air from the line under test, close the air vents, curb stops and/or corporation stops and raise pressure to the specified test pressure. The leakage in the section under test is defined as the quantity of water supplied to maintain pressure within 5 psig of the specified test pressure during the entire testing period.

Water pipe installation is deemed to have failed the leakage test if the leakage obtained is greater than that determined by the formula:

$$L = \frac{N \times D \times P^{1/2}}{7400}$$

Where:

L is allowable leakage in gallons/hour

N is number of joints in the section tested

D is nominal diameter of pipe in inches

P is average test pressure in pounds per square inch gauge

If the line under test contains sections of various diameters, the allowable leakage shall be the sum of the computed leakage for each size.

3. If test results indicate that the pipe laid has leakage greater than specified, locate and repair the defective joints, fittings, pipe or valves and retest until leakage is within allowable limits. Repair visible leaks regardless of the amount of leakage.

3.03 DISINFECTION

A. General

1. After completion of satisfactory pressure and leakage testing, disinfect the water lines in accordance with the recommended practice established in AWWA Standard C601. Conduct water line disinfection in the following steps:

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- a. Preliminary flushing
- b. Chlorine application
- c. Final flushing
- d. Bacteriologic tests

B. Preliminary Flushing

- 1. Prior to disinfection, except when the tablet method is used, flush the line at a rate of flow of at least 2.5 feet per second for a period of 15 minutes.
- 2. Dispose of flushing water.

C. Chlorine Form

- 1. The chlorine form to be applied to the system shall be either chlorine gas solution, calcium hypochlorite or sodium hypochlorite. The Engineer's written approval of the chlorine form to be used is required.

D. Chlorine Application

- 1. Continuous Feed Method:
 - a. Feed water and chlorine to the line at a constant rate so that the chlorine concentration is a minimum of 50 mg/1 available chlorine.
 - b. During chlorine application, take precautionary measures to prevent the concentrated treatment solution from flowing back into the existing distribution system and/or supply source.
 - c. Continue chlorine applications until the entire main is filled with chlorine solution.
- 2. Tablet Method:
 - a. **CAUTION:** Since the preliminary flushing step must be eliminated, this method may be used only when scrupulous cleanliness has been exercised and with approval of the Engineer. It shall not be used if trench water or foreign material has entered the main, or if the water temperature is below 41 degrees F.

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- b. Place sufficient number of tablets in each section of pipe, in hydrants, hydrant branches, and other appurtenances to obtain a minimum of 50 mg/1 available chlorine. Attach tablets to the crown of pipe sections with adhesive. Apply adhesive only to the broad side of the tablet next to the pipe surface. Place crushed tablets in the inside annular space of joints, or rub like chalk on the butt ends of pipe.
 - c. When pipeline installation is completed, fill the main with water at a maximum velocity of one foot per second. Manipulate valves so that the chlorine solution does not flow back into the line supplying the water.
 3. During the 24-hour treatment, operate all valves, curb stops, and hydrants in the section treated.
 4. At the completion of the 24-hour treatment, the water shall contain a minimum of 25 mg/1 chlorine throughout the pipeline.
 5. Repeat the disinfection process until the minimum available chlorine is present at the end of the treatment sequence. The tablet method cannot be used in these subsequent disinfections. No additional compensation will be provided the Contractor for repeat treatment or testing.
- E. Final Flushing
 1. Flush the heavily chlorinated water from the system under treatment until the chlorine concentration in the water leaving the system is less than 1 mg/1.
 2. Comply with Federal, State and local laws when discharging the flushed chlorine solution.
- F. Bacteriological Testing
 1. After final flushing is completed and before the water main is placed in service, test the line for bacteriologic quality. Perform two tests 24-hours apart.
 2. Collect a minimum of two samples at the end of each line for each test, and

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one sample of the incoming water from the existing water system for comparison. Collect the first sample upon completion of flushing. Collect the second sample 24 hours after the first sample is collected.

3. Collect samples in sterile bottles treated with sodium thiosulfate.
4. Sampling tap shall consist of corporation stop installed in the main with copper tube gooseneck assembly. Do not sample from hose or fire hydrant.
5. Provide bacteriological test reports to the Owner and the Authority's Engineer. Failure to meet State health standard requirements will be cause for the Contractor to rechlorinate and retest the system, at no additional cost to the Authority.

END OF SECTION

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**SECTION 02901
FINISH GRADING, SEEDING AND SODDING**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Work of this Section includes, but is not limited to:
 - 1. Placing topsoil
 - 2. Soil conditioning
 - 3. Finish grading
 - 4. Seeding
 - 5. Sodding
 - 6. Maintenance
- B. Restore unpaved surfaces to a condition similar to that prior to excavation as specified and indicated on the Drawings.
- C. Construct unpaved finished surfaces to the lines and grades indicated on the Drawings.
- D. The "Seeding Tables" at the end of this section list specific seeding requirements. Refer to Drawings for seeding requirements at each specific location of Work.

1.02 QUALITY ASSURANCE

- A. Testing Agency:
 - 1. The Contractor has the option to use soil testing to justify decreasing lime and fertilizer rates. When soil testing is selected by the Contractor, the soil and soil supplement testing shall be performed by a Soils Testing Laboratory engaged and paid for by the Contractor and approved by the Engineer.
 - a. Collect soil samples under the direction of the Engineer.
- B. Reference Standards:
 - 1. Pennsylvania Department of Transportation Specification, Form 408, Latest Edition.
 - 2. Pennsylvania Seed Act of 1965, Act 187, as amended.

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3. Pennsylvania Fertilizer Law of 1956, P.L. 1795, as amended.
4. Pennsylvania Agricultural Lime Act of 1961, P.L. 435, as amended.
5. Rules for Testing Seeds of the Association of Official Seed Analysts.
6. American Association of State Highway and Transportation Officials (AASHTO). AASHTO T194 - Determination of Organic Matter in Soils by Wet Combustion.

1.03 SUBMITTALS

A. Samples -SOD:

1. When directed, furnish three strips of sod, 4-1/2 feet long by 12" wide, laid on 3" of topsoil and tamped in place. The samples shall be representative of the sod and workmanship to be provided.
2. Advise the Engineer of the location of the field, and area within the field, from which the sod is to be taken for approval.

B. Certificates:

1. Prior to use or placement of material, submit certifications of material composition of the following for approval:
 - a. Topsoil analysis
 - b. Fertilizer
 - c. Lime
 - d. Seed mixture (s)
2. If soil tests are performed to justify decreased liming and fertilizer rates, submit certified soil sample analyses, including laboratory's recommended soil supplement formulation.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Seed:

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1. Deliver seed fully tagged and in separate packages according to species or seed mix. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be accepted.
- B. Sod:
1. Mow sod in the field to a height of not more than 2-1/2" within 5 days prior to lifting.
 2. Cut sod to a depth equal to the growth of the fibrous roots, but in no case less than 1-1/2", exclusive of grass and thatch. Do not cut sod when the ground temperature is below 32 degrees Fahrenheit.
 3. Deliver sod to the project site within 24 hours after being cut and place sod within 36 hours after being cut. Do not deliver small, irregular, or broken pieces of sod.
 4. During wet weather, allow sod to dry sufficiently to prevent tearing during handling and placing. During dry weather, moisten sod to ensure its vitality and to prevent dropping of the soil during handling. Sod that dries out will be rejected.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. Provide topsoil having a pH of between 6.0 and 7.0; containing not less than 2% nor more than 10% organic matter as determined by AASHTO T194.
- B. Fertile friable loam, sandy loam, or clay loam which will hold a ball when squeezed with the hand, but which will crumble shortly after being released.
- C. Free of clods, grass, roots, or other debris harmful to plant growth.
- D. Free of pests, pest larvae, and matter toxic to plants.

2.03 FERTILIZER

- A. Basic Dry Formulation Fertilizer:

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1. Analysis 0-20-20 and as defined by the Pennsylvania Fertilizer Law.

B. Starter Fertilizer:

1. Analysis 10-5-5 or 12-6-6 and as defined by the Pennsylvania Fertilizer Law.

2.03 LIME

A. Raw ground limestone conforming to Section 804.2 (a) of the PennDOT Specifications.

2.04 SEED

A. Fresh, clean, dated material from the last available crop and within the date period specified, with a date of test not more than 9 months prior to the date of sowing. Percentage of pure seed present shall represent freedom from inert matter and from other seeds distinguishable by their appearance. All seeds will be subject to analysis and testing.

TABLE 1 - GRASS AND AGRICULTURAL SEEDS

Species	Minimum Guaranteed Purity (Percent)	Maximum Weed Seed (Percent)	Minimum Guaranteed Germination (Percent)
Kentucky Bluegrass (<i>Poa pratensis</i>) Domestic origin; min. 21 lb. per bushel	90	0.20	80
Perennial Ryegrass (<i>Lolium perenne</i> , var. Pennfine)	95	0.15	90
Kentucky 31 Fescue (<i>Festuca elatior</i> <i>arundinacea</i>)	98	0.25	85
Pennlawn Red Fescue (<i>Festuca rubra</i> , var. Penn-lawn)	98	0.25	90
Annual Rye Grass (<i>Lolium multi-florum</i>)	95	0.15	90

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Crownvetch (<i>Coronilla varia</i> , var. Penngift)	99	0.10	70
Timothy (<i>Phleum pretense</i>)	98	0.25	95

2.05 SEED MIXTURES

A. See "Seeding Table" at end of this Section.

2.06 INOCULANT

- A. Inoculate leguminous seed before seeding with nitrogen fixing bacteria culture prepared specifically for the species.
- B. Do not use inoculant later than the date indicated by the manufacturer.
- C. Protect inoculated seed from prolonged exposure to sunlight prior to sowing.
- D. Reinoculate seed not sown within 24 hours following initial inoculation.

2.07 MULCHING MATERIALS

- A. Mulches for seeded areas shall be one, or a combination of, the following:
 - 1. Hay:
 - a. Cured to less than 20% moisture content by weight.
 - b. Contain no stems of tobacco, soybeans, or other coarse or woody material.
 - c. Timothy hay or mixed clover and timothy hay.
 - 2. Straw:
 - a. Cured to less than 20% moisture content by weight.
 - b. Contain no stems of tobacco, soybeans, or other coarse or woody material.

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c. Wheat or oat straw.

3. Wood Cellulose:

- a. No growth or germination inhibiting substances.
- b. Green, air dried. Packages not exceeding 100 pounds.
- c. Requirements:

Moisture Content: 12% ± 3%
Organic Matter: 98% ± 0.2% on the oven dry basis.
Ash Content: 1.4% ± 0.2%
Minimum Water-Holding Capacity: 1,000%

4. Mushroom Manure:

- a. Organic origin, free of foreign material larger than 2" and substances toxic to plant growth.
- b. Organic Matter: 20 % minimum
- c. Water Holding Capacity: 120% minimum
- d. pH: 6.0

2.08 SOD

- A. At least three year old, well-rooted Kentucky Bluegrass (*Poa pratensis*) sod containing a growth of not more than 10% of other grasses and clovers.
- B. Free from noxious weeds such as bermuda grass, wild mustard, crab grass, and kindred grasses.

PART 3 - EXECUTION

3.01 TIME OF OPERATIONS

- A. Spring Seeding:
 - 1. Preliminary operations for seed bed preparation may commence as soon after February 15 as ground conditions permit.

3.02 PREPARATION OF SUBGRADE

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- A. "Hard pan" or heavy shale:
 - 1. Plow to a minimum depth of 6".
 - 2. Loosen and grade by harrowing, discing, or dragging.
 - 3. Handrake subgrade. Remove stones over 2" in diameter and other debris.
- B. Loose loam, sandy loam, or light clay:
 - 1. Loosen and grade by harrowing, discing, or dragging.
 - 2. Handrake subgrade. Remove rocks over 2" in diameter and other debris.

3.03 PLACING TOPSOIL

- A. Place topsoil and spread over the prepared subgrade to obtain the required depth and grade elevation. Final compacted thickness of topsoil not less than 3-1/2".
- B. Handrake topsoil and remove all materials unsuitable or harmful to plant growth.
- C. Do not place topsoil when the subgrade is frozen, excessively wet, or extremely dry.
- D. Do not handle topsoil when frozen or muddy.

3.04 TILLAGE

- A. After seed bed areas have been brought to proper compacted elevation, thoroughly loosen to a minimum depth 5" by discing, harrowing, or other approved methods. Do not work topsoiled areas when frozen or excessively wet.
- B. Liming:
 - 1. Distribute limestone uniformly at a rate of 100 pounds per 1,000 square feet.
 - 2. Thoroughly incorporate into the topsoil to a minimum depth of 4".
 - 3. Incorporate as a part of the tillage operation.

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- C. Basic Fertilizer:
 - 1. Distribute basic fertilizer uniformly at a rate of 50 pounds per 1,000 square feet.
 - 2. Incorporate into soil to depth of 4" by approved methods.
 - 3. Incorporate as part of tillage operation.
- D. Liming and Fertilizer rates may be decreased if lesser rates are indicated by soil tests provided by the Contractor.

3.05 FINISH GRADING

- A. Remove unsuitable material larger than 2" in any dimension.
- B. Uniformly grade surface to the required contours without the formation of water pockets.
- C. Rework areas which puddle by the addition of topsoil and fertilizer. Rerake.
- D. Distribute starter fertilizer at the following rates:
 - 10-5-5:50 pounds per 1,000 square feet.
 - 12-6-6:53 pounds per 1,000 square feet.
- E. Incorporate starter fertilizer into the upper 1" of soil.

3.06 SEEDING

- A. Uniformly sow specified seed mix by use of approved hydraulic seeder, power-drawn drill, power-operated seeder, or hand-operated seeder or by hand. Do not seed when winds are over 15 mph.
- B. Upon completion of sowing, cover seed to an average depth of 1/4" by hand raking or approved mechanical methods.
- C. Upon completion of seed covering, roll the area with a roller, exerting a maximum force of 65 pounds per foot width of roller.

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3.07 MULCHING

- A. Mulch within 48 hours of seeding.
- B. Place hay and straw mulch in a continuous blanket at a minimum rate of 1,200 pounds per 1,000 square yards.
 - 1. Anchor hay or straw mulch by use of twine, stakes, wire staples, paper, or plastic nets.
 - 2. Emulsified asphalt may be used for anchorage provided it is applied uniformly at a rate not less than 31 gallons per 1,000 square yards.
 - 3. Apply approved chemical mulch binders at the manufacturer's recommended rate.
- C. Chemical mulch binders or a light covering of topsoil may be used for anchorage when the size of the area precludes the use of mechanical equipment.
- D. Apply wood cellulose fiber hydraulically at a rate of 320 pounds per 1,000 square yards.
 - 1. Incorporate as an integral part of the slurry after seed and soil supplements have been thoroughly mixed.
- E. Spread mushroom manure uniformly to a minimum depth of 1/2" or to the depth indicated on the Drawings.
- F. When mulch is applied to grass areas by blowing equipment, the use of cutters in the equipment will be permitted to the extent that a minimum of 95% of the mulch is 6" or more in length. For cut mulches applied by the blowing method, achieve a loose depth in place of not less than 2".
- G. When mulching by the asphalt mix method, apply the mulch by blowing. Spray the asphalt binder material into the mulch as it leaves the blower. Apply the binder to the mulch in the proportion of 1.5 to 2.0 gallons per 45 pounds of mulch.
 - 1. Protect structures, pavements, curbs, and walls to prevent asphalt staining.

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2. Erect warning signs and barricades at intervals of 50 feet or less along the perimeter of the mulched area.
3. Do not spray asphalt and chemical mulch binders onto any area within 100 feet of a stream or other body of water.

3.08 SODDING

- A. Prior to sod placement, complete soil preparation or topsoiling.
- B. Apply lime and fertilizer as specified. Work into the soil a minimum of 2".
- C. Do not place sod when the temperature is lower than 32 degrees Fahrenheit.
- D. Place sod by hand with tight joints and no overlap. Transverse joints shall be broken or staggered.
- E. Place sod so that the top of the sod is flush with the surrounding grade.
- F. Use of tools which damage the sod or dumping of sod from vehicles will not be permitted.
- G. Water sod to the saturation point immediately after placement.
- H. After watering, tamp with an approved tamper to close all joints and insure close contact between sod and sod bed. After tamping, the sod shall present a smooth, even surface, free from bumps and depressions. If so directed, use a light roller, weighing not more than 65 pounds per foot of roller width to complete firming and smoothing the sod.
- I. When placing sod in ditches, place the strip with the long dimension at right angles to the flow of water. At any point where water will start flowing over a sodded area, the upper edge of the sod strips shall be turned into the soil below the adjacent area and a layer of compacted earth placed thereto, unless otherwise specified.
- J. In ditches and on slope areas, stake each strip of sod securely with at least 1 wood stake for each 2 square feet of sod. Stakes shall be 1/2" by 1" with a length of 8" to 12". Drive stakes flush with the top of the sod, with the long face parallel to the slope contour.

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3.09 MAINTENANCE

- A. Maintenance includes watering, weeding, mowing, cleanup, edging, and repair of washouts or gullies.
- B. Keep seeded areas wet, close to the saturation point, to a depth of 3" for a period of 10 days following seeding or sodding.
- C. Those areas which do not show a prompt catch or grass within 10 days following seeding or sodding shall be reseeded or resodded until complete grass catch occurs.
- D. When the grass reaches an average height of 2-1/2", cut to a height of 1-1/2". Irregularities or depressions which show up at this time shall be leveled and reseeded.

SEE SEEDING TABLE ON FOLLOWING PAGES

SEEDING TABLE

CONDITION	TOPSOIL	LIME*	BASIC FERTILIZER	STARTER FERTILIZER	SEED MIX & SOWING RATE (% BY WEIGHT)
Temporary Cover (**)	N/A	N/A	N/A	N/A	100% Annual Ryegrass Sow 9# per 1,000 Sq. Yds. Mar thru May/ Aug. thru Sept.
Roadside; Non-Mowed	Yes	100# per 1,000 SF	No	10-5-5 @ 50# per 1,000 SF Or 12-6-6 @ 33# per 1,000 SF	50% Kentucky Bluegrass, 30% Pennlawn Red Fescue, 20% Perennial Ryegrass. Sow 21# per 1,000 Sq. Yds. Mar thru May/ Aug. thru Sept.
Roadside; Mowed	Yes	100# per 1,000	No	10-5-5 @ 50# per 1,000 SF Or	80% Kentucky 31 Fescue, 20% Pennlawn Red

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		SF		12-6-6 @ 33# per 1,000 SF	Fescue. Sow 21# per 1,000 Sq. Yds. Mar thru May/ Aug. thru Sept.
Bank Areas	Yes	100# per 1,000 SF	No	10-5-5 @ 50# per 1,000 SF Or 12-6-6 @ 33# per 1,000 SF	45% Crownvetch, 55% Annual Ryegrass. Sow 9# per 1,000 Sq. Yds. Anytime except Sept. and Oct.
Lawns	Yes	100# per 1,000 SF	0-20-20 @ 50# per 1,000 SF	10-5-5 @ 50# per 1,000 SF or 12-6-6 @ 33# per 1,000 SF	50% Kentucky Bluegrass 30% Pennlawn Red Fescue 20% Perennial Ryegrass Sow 21# per 1,000 Sq. Yds. Mar. thru May/ Aug thru Sept.
Open Fields; Non- Cultivated, Pasture	No	No	No	10-5-5 @ 50# per 1,000 SF or 12-6-6 @ 33# per 1,000 SF	100% Timothy. Sow 9# per 1,000 Sq. Yds. Mar thru May/ Aug. thru Sept.
Open Fields; Cultivated	No	No	No	10-5-5 @ 50# per 1,000 SF or 12-6-6 @ 33# per 1,000 SF	100% Annual Ryegrass. Sow 9# per 1,000 Sq. Yds. Mar thru May/ Aug. thru Sept.
Woods, Sparse	No	No	No	10-5-5 @ 50# per 1,000 SF or 12-6-6 @ 33# per 1,000 SF	100% Red Fescue Sow 36# per 1,000 Sq. Yds. Mar. thru May/ Aug thru Sept.
Woods, Dense	No	No	No	No	Stabilize soil with biodegradable netting and paper fabric material

* Unless lesser rate indicated by soils tests.

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** Unless otherwise specified in the E&S section

Note: Refer to Drawings and for seeding requirements at each specific location of Work.

END OF SECTION

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SECTION 02910
EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Work under this section includes, but is not limited to, the placing and maintenance of any soil erosion and sedimentation measures necessary to control water pollution and soil erosion as indicated on the Drawings, specified herein, or directed by the Engineer.

1.02 RELATED WORK

- A. Work under this item shall be coordinated with that specified under Section 02901 - Finish Grading, Seeding and Sodding.

1.03 QUALITY ASSURANCE

- A. Reference Standards:
1. Pennsylvania Department of Environmental Resources, Title 25-Rules and Regulations, Part I, Subpart C, Article II, Chapter 102.
 2. Pennsylvania Department of Environmental Resources, Soil Erosion and Sedimentation Control Manual, latest edition.
 3. Pennsylvania Department of Transportation Specification, Form 408, latest edition.

PART 2 - PRODUCTS

2.01 MATERIAL

- A. Seed - Temporary Cover Formula, Section 02901.
- B. Mulch - Section 02901; hay, straw, or wood cellulose.
- C. Jute Matting. Undyed jute yarn, woven into a uniform open plain weave mesh with approximately 1-inch square openings, weighing not less than 90 pounds per 100 square yards.
- D. Wood Excelsior Blanket. A machine-produced mat of curled and barbed wood excelsior, meeting the following requirements:

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1. A minimum of 80% of the fibers 8 inches or more in length.
 2. Consistent thickness, with the fiber evenly distributed over the entire area.
 3. Top side covered with a 2-inch x 1-inch, extruded plastic mesh, entwined with the excelsior mat for maximum strength and ease of handling.
 4. Average weight, 0.975 pounds per square yard, $\pm 10\%$.
 5. Smolder resistant.
 6. Nontoxic to vegetation and not inhibiting seed germination or growth.
 7. Not injurious to personnel placing the blanket.
 8. Subjected to leaching resistant tests made in accordance with Federal Specifications CCC-T 19 lb., Method 5830, except the continuous flow of water to the container bottom is required to be at a rate of about five changes in 24 hours.
- E. Erosion Control Netting. A uniformly extruded rectangular plastic mesh, meeting the following requirements:
1. Color - Black
 2. Weight - 2.6 pound/1,000 Square foot
 3. Mesh Opening - 1/2 inch x 1/2 inch
- F. Nylon Erosion Control Mat.
1. Mat. A bulky structure of entangled nylon monofilaments, bonded by melting at their intersections, forming a stable mat of suitable weight and configuration. Also, a mat that is resilient, permeable; highly resistant to environmental deteriorations and ultra-violet degradation, and meeting the following requirements:
 - a. Color - Black
 - b. Material Type - Nylon 6, plus a minimum content of 0.5% by weight of carbon black.

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- c. Filament diameter - 0.0157 inch, minimum
 - d. Weight - 3/4 pound per square yard
 - e. Thickness of mat - 0.7 inch, minimum
- 2. Mat Filler Material. PennDOT Form 408, Section 703.4, Anti-Skid Material, Type 2.
 - 3. Emulsified Asphalt. PennDOT Form 408, Section 805.2(b)1.
 - 4. Geotextiles, PennDOT Form 408, Section 735.
- G. Silt Barrier Fence. 18-inch height (above ground, installed), unless otherwise specified or indicated, meeting the following requirements:
- 1. Geotextiles. PennDOT Form 408, Section 735.
 - 2. Wire Mesh Support. Either galvanized or aluminized 14.5 gage wire mesh, arranged in a maximum grid of 6 inches x 6 inches. An alternate, acceptable, equivalent plastic mesh may be used.
 - 3. Posts. Of sufficient length for 18-inch embedment in the ground. Either wood, minimum 2.0 inches square; or steel, 1.25 inch x 1.00 inch T-section or equivalent; or acceptable plastic with an equivalent section.
 - 4. Fasteners. No. 9 staples, 1.5 inches long, or tie wires, 17 gage steel, of appropriate length, acceptably galvanized or aluminized.
- H. Staples. No. 8-gage steel wire staples for anchoring, bent U-shaped with a throat width of 1 or 2 inches, with an effective driving depth of not less than 6 inches.

PART 3 - EXECUTION

3.01 EXECUTION

- A. Provide erosion and sedimentation control measures as indicated on the Drawings.
- B. Provide additional measures to abate unforeseen conditions when necessary or as directed by the Engineer.
- C. After installation, satisfactorily maintain measures during construction. When

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directed, remove and replace measures not functioning, due to clogging, damage, or deterioration.

- D. Upon completion of the Work, when measures are no longer needed, remove and restore the area.

3.02 CONSTRUCTION ON STEEP SLOPES

- A. Where construction is progressing in areas with steep slopes, comply with the following:
1. Reduce by the greatest extent practicable the area and duration of exposure of readily erodible soils.
 2. Protect soils by use of temporary vegetation, or seeding and mulching, or by accelerating the establishment of permanent vegetation and completing protected segments of work as rapidly as is consistent with construction schedules.
 3. Retard the rate of runoff from the construction site and control disposal thereof.
 4. Trap sediment from construction sites in temporary or permanent silt basins to include pump discharges from dewatering operation.
 5. Sprinkle or apply dust suppressors to keep dust within tolerable limits on haul roads and at the construction site.
 6. Utilize temporary measures to control erosion on construction operations suspended for an appreciable length of time.

3.03 STREAM CROSSING CONSTRUCTION

- A. During construction at stream crossings, the Contractor shall be required to comply with the following, in addition to the above requirements:
1. All construction debris, excavated material, brush, rocks, and refuse incidental to this work shall be removed entirely from the stream channel and placed either on shore above the influence of flood waters, or at such dumping ground as may be approved by the Department of Environmental

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Resources.

2. Stream bed shall not be used as roadway for moving machinery from one site to another. Temporary stream crossings must be provided for equipment that must cross stream during construction. Structures are to be removed and stream bed returned to its original condition when project is completed.
3. Siltation control shall be provided for during construction, and bank stabilization shall be undertaken by planting of grasses, shrubbery, or trees immediately after completion of each phase of project.
4. Conduct operations in such manner to minimize turbidity at and below the construction site so as to meet the turbidity requirements established by the Bureau of Water Quality Management, PaDEP.
5. There shall be no unreasonable interference with the free discharge of a river or stream.

3.04 INSTALLATION OF PROTECTIVE MEASURES

- A. Install erosion and sedimentation control measures in accordance with the following:
 1. Jute Matting.
 - a. After the area has been graded and shaped and after seeding and soil supplements and mulching have been applied, unroll jute matting parallel to the flow direction and anchor, without stretching.
 - b. Spread the matting evenly and smoothly, in contact with the mulch at all points. Bury the up-channel end of each matt length in a vertical 6-inch slot, then backfill and tamp. Overlap subsequent upchannel sections 12 inches.
 - c. Where two or more widths are placed side by side, overlap the edges by not less than 4-inches, then staple along the overlap at 3-foot intervals. Staple the unlapped edge and center flowline at 6-foot intervals.
 2. Wood Excelsior Blanket. Construct, as required for jute matting, except do

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not mulch. Tightly butt adjoining sections at the ends and sides without overlapping, then staple at not less than 3-foot intervals.

3. Erosion Control Netting. Construct the same as jute matting, except anchor each square yard with two staples.
4. Nylon Erosion Control Mat. Grade, shape, and finish surfaces to be protected, so the surfaces are stable, firm, and free of rocks or obstructions which would prevent the mat from lying in direct contact with the soil surface. Prepare surfaces to receive permanent seeding and install mat in accordance with manufacturer's directions. After the mat has been placed, apply seeding and soil supplements, as specified in Section 02901. Mulch with wood cellulose fiber.
5. Silt Barrier Fence. Install posts and excavate the trench. Fasten the fabric securely, in accordance with the manufacturer's recommendations, to the posts, making sure that sag is kept to a minimum. Extend the fabric 8 to 12 inches into the excavated trench, backfill, and compact the trench with the excavated soil.

3.05 MAINTENANCE

- A. Check sedimentation barriers after each rainfall and daily during prolonged rainfall. Should the barrier become ineffective, replace immediately. Remove sediment deposits when they reach one-half the height of the barrier.
- B. Check all seeded area regularly to see that a good stand is maintained. Fertilize and reseed areas not showing adequate growth as necessary.
- C. Clean and/or replace the surface of rock construction entrance as necessary.

END OF SECTION

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**SECTION 03310
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This section consists of furnishing and placing Portland Cement Concrete of the strength and to the dimensions shown on the plans, or as specified. This includes materials, mixing, proportioning, sampling, testing, placing, finishing, and curing of all plain and reinforced cast-in-place, normal-weight concrete.
- B. It is the intent of this Specification to secure, for every part of the work, concrete of homogenous composition which, when cured, will exhibit the required strength, durability, and resistance to weathering. Laboratory testing is required in order to determine compliance with specified strengths.
- C. Elements of the work are shown on the Drawings.

1.02 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of the latest edition of all standards, codes and recommended practices listed below. In conflicts between standards, or required standards and this Specification, the more stringent requirements shall govern.
 - 1. "Specifications for Structural Concrete" ACI 301.
 - 2. "Metric Building Code Requirements for Structural Concrete & Commentary" ACI 318M.
 - 3. "Standard Specification for Ready-Mixed Concrete" ASTM C 94.
 - 4. "Standard Specification for Portland Cement" ASTM C 150.
 - 5. Field Reference Manual, ACI Publication SP-15.

The Contractor shall have available in the field office a copy of this manual containing "Specifications for Structural Concrete" (ACI 301) with Selected ACI and ASTM references.

1.03 SUBMITTALS

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- A. Submit samples of materials being used when requested by the Engineer including names, source and descriptions as required.
- B. Submit two copies of laboratory trial mix designs proposed in accordance with ACI 301, Chapter 3, or one copy each of 30 consecutive test results and the mix design used from a record of past performance in accordance with ACI 301, Chapter 3.
- C. Submit a sample ready-mixed concrete delivery ticket in accordance with the requirements of ASTM C 94.
- D. Reinforcing steel shop drawings showing type, grade, all fabrication dimensions and locations of placing reinforcing steel and accessories shall be submitted for review.
- E. Strength test results as called for in Paragraph 2.04, "Testing and Inspection" shall be submitted to the Engineer.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Portland Cement, conforming to ASTM C 150. Cement used in the work shall correspond to that on which the selection of concrete proportions was based. Only one brand and manufacturer of approved cement shall be used for exposed concrete. The type of cement shall be as shown on the Drawings.
- B. Aggregates, conforming to ASTM C 33. Local aggregates not complying with this standard may be used providing it can be shown by special test or a record or past performance that these aggregates produce concrete of adequate strength and durability.
 - 1. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances, within allowable standards.
 - 2. Coarse Aggregate: Clean, uncoated, graded aggregate containing no clay, mud, loam or foreign matter.
- C. Water shall be fresh, clean, and drinkable.
- D. Admixtures. An air-entraining admixture, conforming to ASTM C 260 shall be

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used in all concrete. No other admixture shall be used regardless of the type of cement selected, unless the Engineer gives written acceptance for its use. If the Engineer permits or requires use of a chemical admixture, it shall meet the requirements of ASTM C 494, or if a pozzolan, it shall meet the requirements of ASTM C 618. Any admixture shall be used in accordance with the provisions of ACI 212.3R and ACI 212.4R. Calcium chloride or admixtures containing calcium chloride shall not be used.

- E. Metal reinforcement shall be provided in accordance with the drawings.
 - 1. Reinforcing steel, conforming to ASTM A 615 "Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement".
 - 2. Welded wire fabric, conforming to ASTM A 185 "Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete".
 - 3. Metal accessories shall conform to the requirements of the CRSI "Manual of Standard Practice for Reinforcing Concrete Construction", latest edition.
- F. Joint material, conforming to ASTM D 1751, or ASTM D 1752.
- G. Curing materials shall exceed the moisture requirement of ASTM C 309 "Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete". Commercial curing compounds shall be "Masterseal" manufactured by Master Builders; "CS-309" manufactured by W.R. Meadows, Inc., "Horncure 50C" manufactured by Grace construction Materials, or accepted equal. Curing material shall provide water retention not exceeding loss of .035 gm/sq cm when used at a coverage of 200 square feet per gallon and tested in accordance with ASTM C 156.

2.02 CONCRETE QUALITY REQUIRED

- A. Where the concrete strength is listed as "f_c" on the drawings, it shall be the specified compressive strength at 28 days. The average strength shall exceed specified compressive strength as required in accordance with ACI 318, and section 2.03 of this specification.
- B. When Type III Portland Cement, high early strength, is used, the specified strength at 7 days shall be the same as that required at 28 days for compressive strength.
- C. Concrete shall have a maximum water-cement ratio by weight of 0.45.

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- D. Concrete shall be air-entrained. Total air content required (air-entrained and entrapped air) shall be $6\% \pm 1\%$. Air content shall be measured by ASTM C 231 "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method".
- E. Concrete shall be proportioned and produced to have a slump, not to exceed 4 inches.
- F. Lightweight aggregate concrete shall not be used without prior approval of the Engineer.

2.03 MIX PROPORTIONS

- A. Concrete shall be composed of Portland Cement, fine aggregate, coarse aggregate, water and an air-entraining admixture. Proportions of ingredients shall produce concrete which will work readily into corners and angles of forms and bond to reinforcement without segregation or excessive bleed water forming on the surface. Proportioning of materials shall be in accordance with ACI 211 "Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete". Proportions of ingredients shall be selected by past field experience or in-lieu of past performance by laboratory trial mixes to produce placeability, durability, strength and the additional properties specified.
- B. Required Average Compressive Strength Above Specified Strength. Determinations of required average strength above specified strength shall be in accordance with ACI 318 "Metric Building Code Requirements for Structural Concrete", and evaluations of compressive strength results of field concrete shall be in accordance with ACI 214.4R "Guide for Obtaining Cores and Interpreting Compressive Strength Results".

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1. Past Field Experience: Proportions shall be established on the actual field experience of the ready-mix producer with the materials proposed for use. Standard deviation shall be determined by 30 consecutive tests (or two groups of tests totaling 30 or more). The average strength used for selecting proportions shall exceed the specified strength (f'c) by at least:

400 psi	-	standard deviation less than 300
550 psi	-	standard deviation 300 to 399
700 psi	-	standard deviation 400 to 499
900 psi	-	standard deviation 500 to 600
1200 psi	-	standard deviation above 600, or unknown

2. Trial Mixes: When the ready-mix producer does not have a record of past performance, the combination of materials and the proportions selected shall be selected from trial mixes having proportions and consistencies suitable for the work based on ACI 211, using at least three different water-cement ratios which will produce a range of strengths encompassing those required. the average strength required shall be 1200 psi above specified strength.

2.04 TESTING AND INSPECTION

- A. Materials and operations shall be tested and inspected as work progresses. Failure to detect defective work shall not prevent rejection when defect is discovered, nor shall it obligate the Engineer for final acceptance.

- B. Testing agencies shall meet the requirements of "Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction" ASTM E 329.

- C. The following tests shall be performed by the Contractor or the designated agency and shall be paid for by the Contractor:
 1. Secure composite samples in accordance with "Standard Practice for Sampling Freshly Mixed Concrete" ASTM C 172.

 2. Mold and cure three specimens from each sample in accordance with "Standard Practic for Making and Curing Concrete Test Specimens in the Field" ASTM C 31.

 3. Compressive tests shall be in accordance with "Standard Test Method for

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Compressive Strength of Cylindrical Concrete Specimens" ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at 7 days for information.

4. Make one strength test for each 100 cu. yd. or fraction thereof, of each mix design of concrete placed in any one day.
5. Determine slump for each strength test and whenever consistency of concrete appears to vary, using "Standard Test Method for Slump of Hydraulic Cement Concrete" ASTM C 143.
6. Determine total air content of normal-weight concrete sample for each strength test in accordance with "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method" ASTM C 231.
7. Determine temperature of concrete sample for each strength test.
8. Determine unit weight, yield and air content for each strength test in accordance with "Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete" ASTM C 138.

2.05 EVALUATION AND ACCEPTANCE

- A. The strength level of the concrete will be considered satisfactory if the average of all sets of three consecutive strength test results equal or exceed specified strength and no individual test result is below specified strength by more than 500 psi for compressive tests. If the concrete fails to meet these criteria, remedial action shall be taken in accordance with ACI 318, Section 5.6.4 and the requirements of the Engineer.

2.06 FORMWORK

- A. Forms shall be used to confine and shape concrete to required dimensions. Forms shall have sufficient strength to withstand forces from placement and vibration of the concrete, and sufficient rigidity to maintain specified tolerances.
- B. Design, engineering, and construction of the formwork shall be the responsibility of the Contractor.
- C. Formwork shall be designed for loads, lateral pressure and allowable stresses in accordance with ACI 347 "Guide to Formwork For Concrete".

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- D. All tolerances, preparation of form surfaces, removal of forms, reshoring and removal strength shall be in accordance with ACI 301, "Specifications for Structural Concrete".

2.07 REINFORCEMENT

- A. Details of all reinforcement and accessories not covered in this section shall be in accordance with ACI SP-66 "ACI Detailing Manual", latest edition.
- B. All reinforcement shall be of the grade shown and shall conform to the following Specifications:
1. Deformed Bars: ASTM A 615 "Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement", grade 40 or 60, as shown on the drawings.
 2. Welded Wire Fabric: ASTM A 185 "Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete". Size shall be shown on the Drawings.
- C. Fabricating, placing tolerances, and placing shall be in accordance with the requirements of ACI 301, "Specifications for Structural Concrete".
- D. No welding of any reinforcement is allowed without prior approval of the Engineer.

2.08 JOINTS AND EMBEDDED ITEMS

- A. Construction joints, when not shown on working drawings, shall be made and located to least impair the strength of the structure and shall be acceptable to the Engineer.
- B. Isolation and Expansion Joints: Premolded expansion joint filler shall conform to one of the following:
1. ASTM D 1751 "Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)".
 2. ASTM D 1752 "Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction".

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- C. Construction joints shall be as shown on the working drawings.
- D. Other Embedded Items: All water stops, sleeves, inserts, anchors and embedded items required for adjoining work or for its support shall be placed prior to concreting, positioned accurately, and supported against displacement.

PART 3 - EXECUTION

3.01 MIXING AND TRANSPORTATION

- A. Concrete shall be ready-mixed batched, mixed and transported in accordance with ASTM C 94 "Standard Specification for Ready-Mixed Concrete" plant equipment and facilities shall conform to the "Check-List for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready-Mixed Concrete Association.

3.02 PLACEMENT

- A. Preparation: The Contractor shall provide access for delivery and provide sufficient equipment and manpower to rapidly place all concrete.
 - 1. All work shall be in accordance with ACI 304R "Guide for Measuring, Mixing, Transporting, and Placing Concrete".
 - 2. Formwork shall have been completed; snow, ice, water, debris removed from within forms.
 - 3. Reinforcement shall have been secured in position.
 - 4. Expansion joint material, anchors and all embedded items shall have been positioned.
 - 5. Subgrade shall be prepared and sprinkled sufficiently to eliminate water loss from the concrete.
 - 6. Concrete shall not be placed on frozen ground.
- B. Conveying: Concrete shall be handled from mixer to final deposit rapidly by methods which will prevent segregation or loss of ingredients to maintain required quality of concrete. Concrete shall not be pumped through a pipe made of

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aluminum or aluminum alloy.

- C. Depositing: Concrete shall be deposited continuously; when continuous placement is not possible, construction joints shall be located as accepted by the Engineer. Concrete shall be placed as nearly as possible to its final position; avoid rehandling or flowing.
- D. Concrete shall be consolidated by vibration, spading, rodding, or forking. Work concrete around reinforcement, embedded items, and into corners, eliminate all air or stone pockets and other causes of honeycombing, pitting or planes of weakness.
 - 1. Internal vibration shall have a minimum frequency of 8000 v/min. with amplitude to consolidate effectively.
 - 2. Vibrators shall be operated by competent workmen.
 - 3. Use of vibrators to transport concrete shall not be allowed.
 - 4. Vibrators shall be inserted and withdrawn approximately every 18 inches for 5 to 15 seconds.

3.03 COLD WEATHER

- A. Concrete shall not be placed on frozen subgrade. Do not place concrete when the air temperature is below 0 degrees F or when the air temperature is forecasted to fall below 0 degrees F within 24 hours of placement.
- B. Temperature of concrete delivered at the job-site shall conform to the following:

<u>Air Temperature</u>	<u>Concrete Temperature</u>
30 to 45 degrees F.	55 to 90 degrees F.
0 to 30 degrees F.	60 to 90 degrees F.
- C. Water heated to above 100 degrees F. shall be combined with the aggregates before cement is added. Cement shall not be added to water or aggregates having a temperature greater than 100 degrees F.
- D. All work shall be in accordance with ACI 306R "Cold Weather Concreting".
- E. When the outdoor temperature is less than 40 degrees F., the temperature of the concrete shall be maintained at not less than 50 degrees F. for the required curing time.

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1. Arrangements shall be made before placement to maintain required temperature without injury from excessive heat.
 2. Combustion heaters shall not be used during the first 48 hours without precautions to prevent exposure of concrete and workmen to exhaust gases containing carbon dioxide and carbon monoxide.
- F. Use of additives of so-called anti-freeze compounds for protection from freezing shall not be allowed.

3.04 HOT WEATHER

- A. Temperature of concrete delivered at the job-site shall not exceed 90 degrees F. Ingredients shall be cooled before mixing to prevent concrete temperatures in excess of 90 degrees F.
- B. All work shall be in accordance with ACI 305R "Hot Weather Concreting".
- C. Provisions shall be made for windbreaks, shading, fog spraying, sprinkling or wet cover when necessary.
- D. Use an evaporation retarder, finishing aid, similar to "Confilm" manufactured by Master Builders, or equal.

3.05 DEPOSITING CONCRETE UNDER WATER

- A. If necessary to deposit concrete under water the methods, equipment, materials, and mix to be used shall be submitted to and shall be approved by the Engineer before the work is started.
- B. Concrete shall not be placed in water having a temperature below 40 degrees F. The temperature of the concrete, when deposited, shall not be less than 60 degrees F. nor more than 90 degrees F.
- C. Cofferdams or forms shall be sufficiently tight to reduce the flow or current of water to 10 feet per minute through the space into which concrete is to be deposited and shall be sufficiently tight to prevent loss of mortar through the walls. Pumping of water will not be permitted while concrete is being placed, nor until 24 hours thereafter.
- D. Concrete shall be placed continuously until it is brought to the required height.

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During placement, the top surface shall be kept as nearly level as possible and the formation of seams shall be avoided. The method to be used for depositing concrete under water shall be one of the following:

1. Tremie: The tremie shall be watertight and large enough to allow a free flow of concrete. It shall be kept filled with concrete at all times during placing. The concrete shall be discharged and spread by so moving the tremie as to maintain a uniform flow and to avoid dropping the concrete through water. The slump of concrete shall be maintained between 4 and 6 inches.
 2. Drop Bottom Bucket: The top of the bucket shall be open. Bottom doors shall open freely downward and outward when tripped. The bucket shall be completely filled and lowered slowly, shall not be dumped until it rests on the surface upon which the concrete is to be deposited, and when discharged shall be withdrawn slowly until well above the concrete. The slump of concrete shall be maintained between 3 and 5 inches.
- E. To minimize the formation of laitance, care shall be exercised to disturb the concrete as little as possible while it is being deposited. Upon completion of a section of concrete, all laitance shall be entirely removed before work is resumed.

3.06 CURING AND PROTECTION

- A. Immediately following placement, concrete shall be protected from premature drying, hot and cold temperatures, rain, flowing water and mechanical injury.
- B. Materials and method of curing shall be accepted by the Engineer. Final curing shall continue for not less than 7 days.
- C. Approved methods include: ponding or continuous sprinkling, continuously wet mats, sand kept continuously wet, and liquid membrane - forming compounds.
 1. Applications of waterproof sheet material shall conform to ASTM C 171 "Standard Specification for Sheet Materials for Curing Concrete".
 2. Application of liquid membrane-forming compound shall conform to ASTM C 309 "Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete." Material shall maintain a maximum moisture loss of .035 gm/sq cm when used at a coverage of 200 square feet

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per gallon tested in accordance with ASTM C 156 "Standard Test Method for Water Retention by Concrete Curing Materials."

END OF SECTION

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**SECTION 03400
PRECAST CONCRETE**

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This section includes all labor, materials, equipment and related services necessary for the manufacture and erection of precast concrete shown on the plans, or as specified.
- B. All precast concrete shall be a product of a manufacturer who has demonstrated the capability to produce precast concrete products of the quality specified.
- C. It is the intent of this Specification to secure, for every part of the work, precast concrete of homogenous composition which, when erected, will exhibit the required strength, durability, and resistance to weathering. Laboratory testing is required in order to determine compliance with specified strengths.
- D. Elements of the work are shown on the Drawings.

1.02 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of all standards, codes and recommended practices listed below. In conflicts between standards, or required standards and this Specification, the more stringent requirements shall govern.
 - 1. "Specifications for Structural Concrete" ACI 301.
 - 2. "Metric Building code Requirements for Structural Concrete" ACI 318.
 - 3. "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products" PCI MNL-117, latest edition, Precast/Prestressed Concrete Institute.
- B. The precast manufacturer shall guarantee the precast products against defects in materials and workmanship for a period of one year after acceptance by the Authority.

1.03 SUBMITTALS

- A. Submit written evidence, when requested by the Engineer, that the manufacturer has experienced personnel, established quality control procedures, physical

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facilities, and a management capability sufficient to execute the precast concrete work.

- B. Submit samples of materials being used when requested by the Engineer including names, source and descriptions as required.
- C. Submit test reports, when requested by the Engineer, of compressive strength tests on concrete and water absorption tests on units.
- D. Shop drawings showing unit shapes, dimensions, finishes, reinforcing, joints, lifting points, supporting points, inserts, and connection details shall be submitted for review.
 - 1. Identification marks shall include date of casting and be the same as that on actual units.
 - 2. Show handling procedures and sequence of erection for special conditions.
 - 3. The precast manufacturer shall not proceed with fabrication of any products prior to receiving reviewed shop drawings by both the Engineer and Contractor.
 - 4. For standard precast concrete items, like splash blocks, the manufacturer may substitute descriptive literature in place of actual Shop Drawings.
- E. Samples, where required on the drawings, shall mean a minimum of three samples for each type of finished facing shall be submitted to the Engineer for review of color and texture prior to commencement of manufacture. Samples shall be at least 12 in. by 12 in. in size and of appropriate thickness, representative of the proposed finished product. One of the reviewed samples shall be returned to the Contractor and one to the Precaster prior to manufacture.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Portland Cement, conforming to ASTM C 150. Cement used in the work shall correspond to that on which the selection of concrete proportions was based. Only one brand and manufacturer of approved cement shall be used for exposed concrete. The cement shall be Type I unless another type is accepted by the Engineer.

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- B. Aggregates, conforming to ASTM C 33. Local aggregates not complying with this standard may be used providing it can be shown by special test or a record of past performance that these aggregates produce concrete of adequate strength and durability.
1. Fine aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious, substances, within allowable standards.
 2. Coarse aggregate: Clean, uncoated, graded aggregate containing no clay, mud, loam or foreign matter.
- C. Water shall be fresh, clean, and drinkable.
- D. Admixtures: An air-entraining admixture, conforming to ASTM C 260 shall be used in all concrete. If a chemical admixture is used, it shall meet the requirements of ASTM C 494. If a pozzolan is used, it shall meet the requirements of ASTM C 618.
- E. Metal Reinforcement.
1. Reinforcing steel, conforming to ASTM A 615 "Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement."
 2. Welded wire fabric, conforming to ASTM A 185 "Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete."
 3. Metal accessories shall conform to the requirements of the CRSI "Manual of Standard Practice for Reinforcing Concrete Construction," latest edition.
- F. Hardware.
1. Structural steel cast into precast concrete shall be ASTM A 36 and shall be shop painted.
 2. Inserts, bolts and other accessories cast into precast concrete shall be electroplated.
- G. Coloring agent shall be a synthetic mineral oxide that is harmless to concrete set and strength, stable at high temperature, and is sunlight and alkali-fast.

DGI Std. – E.D.

1/06

SECTION 03400
PRECAST CONCRETE

2.02 CONCRETE QUALITY REQUIRED

- A. Precast concrete shall have a minimum "f_c" of 4,000 psi, which shall be the specified compressive strength at 28 days. The average strength shall exceed specified compressive strength as required in accordance with ACI 381.
- B. When Type III Portland Cement, high early strength, is used, the specified strength at 7 days shall be the same as that required at 28 days for compressive strength.
- C. Precast Concrete shall have a maximum water-cement ratio by weight of 0.45.
- D. Precast Concrete shall be air-entrained. Total air content required (air-entrained and entrapped air) shall be 6% ± 1%. Air content shall be measured by ASTM C 231 "Test for Air Content of Freshly Mixed Concrete by the Pressure Method."
- E. Facing Mix where required.
 - 1. Minimum thickness of face mix after consolidation shall be at least one inch or a minimum of 1-1/2 times the maximum size of aggregates used, whichever is greater.
 - 2. Water-cement and cement-aggregate ratios of face and back-up mixes shall be similar.

2.03 MANUFACTURE

- A. Quality Control.
 - 1. The precast concrete manufacturer shall have an established quality control program in effect prior to letting of the contract.
 - 2. Quality control records shall be kept for at least two years after final acceptance.
 - 3. Manufacturing and testing procedures shall be in general compliance with the PCI recommendation in MNL 117, latest edition.
 - 4. One compression test shall be performed for each day's production of each type of concrete.

DGI Std. – E.D.

1/06

SECTION 03400
PRECAST CONCRETE

- a. Provide two test specimens for each compression test.
 - b. Obtain concrete for specimens from actual production batch.
 - c. Mold and cure specimens in accordance with "Test Methods of Making and Curing Concrete Test Specimens in the field" ASTM C 31.
 - d. Compressive tests shall be conducted by a qualified testing laboratory and in accordance with "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens" ASTM C 39.
5. Evaluation and acceptance of compression tests will follow ACI 318.
- B. Fabrication.
1. Forms for precast concrete shall be rigid and constructed of materials that will result in finished products conforming to the shape, lines and dimensions shown on the reviewed shop drawings.
 2. Precast Concrete shall be composed of Portland Cement, fine aggregate, coarse aggregate, water and an air-entraining admixture. Proportions of ingredients shall produce concrete which will work readily into corners and angles of forms and bond to reinforcement without segregation or excessive bleed water forming on the surface. Proportioning of materials shall be in accordance with ACI 211.1 "Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete." Proportions of ingredients shall be selected by past field experience or in-lieu of past performance by laboratory trial mixes to produce placability, durability, strength and the additional properties specified.
 3. Concrete shall be deposited and vibrated to insure proper consolidation, elimination of unintentional cold joints and to minimize entrapped air on vertical surfaces.
 4. All reinforcing steel shall have a minimum cover of 3/4 inch and shall be accurately located as indicated on the reviewed shop drawings.
 5. Metal chairs, with or without coatings shall not be used in the finished face.

DGI Std. – E.D.

1/06

SECTION 03400
PRECAST CONCRETE

6. Embedded anchors, inserts, plates, angles, and other cast-in items shall have sufficient anchorage and embedment for design requirements.
 7. All weldments, including tack welds, shall be made in accordance with the applicable provisions of the "Structural Welding Code-Steel," AWS D 1.1.
 8. The finished surfaces of precast concrete products shall be uniform. Patches shall be similar to surrounding surfaces.
- C. Curing shall be in accordance with the recommendations made by ACI Committee 533.
- D. Mark each precast panel with the date cast and with an identification to correspond with shop drawings for panel location.
- E. Plant records on all production shall be kept available for the Engineer upon request.
- F. Acceptance of the precast units by the Engineer shall depend on the units meeting the color and texture range and the dimensional tolerances required.

PART 3 - EXECUTION

3.01 HANDLING AND TRANSPORTATION

- A. Precast concrete units shall be lifted and supported during manufacturing, storage, transportation and erection operations only at the lifting or supporting points, or both, as shown on the contract and Shop Drawings.
- B. Blocking shall be clean and non-staining.
- C. Lateral support shall be sufficient to prevent excessive bowing and warping.
- D. Edges of the units shall be adequately protected by padding or other means to prevent staining, chipping or spalling of the concrete.

3.02 ERECTION

- A. Prior to installation of precast units, the erector shall check at the job site all dimensions affecting the work under his contract. Any discrepancies between

DGI Std. – E.D.

1/06

SECTION 03400
PRECAST CONCRETE

design dimensions and field dimensions which could adversely affect installation in strict accordance with the contract documents shall be brought to the Engineer's attention. If such conditions exist, installation shall not proceed until they are corrected or until installation requirements are modified.

- B. Set precast units level, plumb, square and true within the allowable tolerances. They must be positioned so that cumulative dimensional error is not allowed. Unless otherwise stated, dimensional tolerances of the erected units shall be as recommended in PCI MNL 117.
- C. Provide temporary supports and bracing as required to maintain position, stability and alignment as units are being permanently connected.
- D. Each panel shall be securely fastened in place as indicated on the reviewed Drawings.
 - 1. All structural welds shall be made by a certified welder in accordance with the erection drawings which shall clearly show type, extent, sequence and location of welds.
 - 2. Adjustments or changes in connections, which could involve additional stresses in the products or connections, shall not be permitted without acceptance by the Engineer.
 - 3. Lintels shall be set on bearing surfaces that are free of obstructions and in a fresh mortar leveling medium that provides full bearing.
- E. Patching shall match color and texture of surrounding concrete and shall minimize shrinkage.

3.03 JOINTS

- A. Horizontal and vertical joints shall be correctly aligned and uniform joint width shall be maintained as erection progresses.
- B. Edges of precast concrete units and of adjacent materials shall be sound, smooth, clean and free of all contaminants prior to joint treatment.
- C. If a sealant and primer are required, they shall be called for on the Drawings.

DGI Std. – E.D.

1/06

SECTION 03400
PRECAST CONCRETE

3.04 CLEANING

- A. All exposed facing shall be cleaned as necessary to remove dirt and stains which may be on the panels after erection. The precast units shall be cleaned only after all installation procedures, including joint treatment, are completed. The exposed facings shall be washed and rinsed in accordance with the precast manufacturer's recommendation.

- B. Care shall be taken that no part of the building or surrounding site work be damaged, or that the character of the finishes be changed by the cleaning material or process.

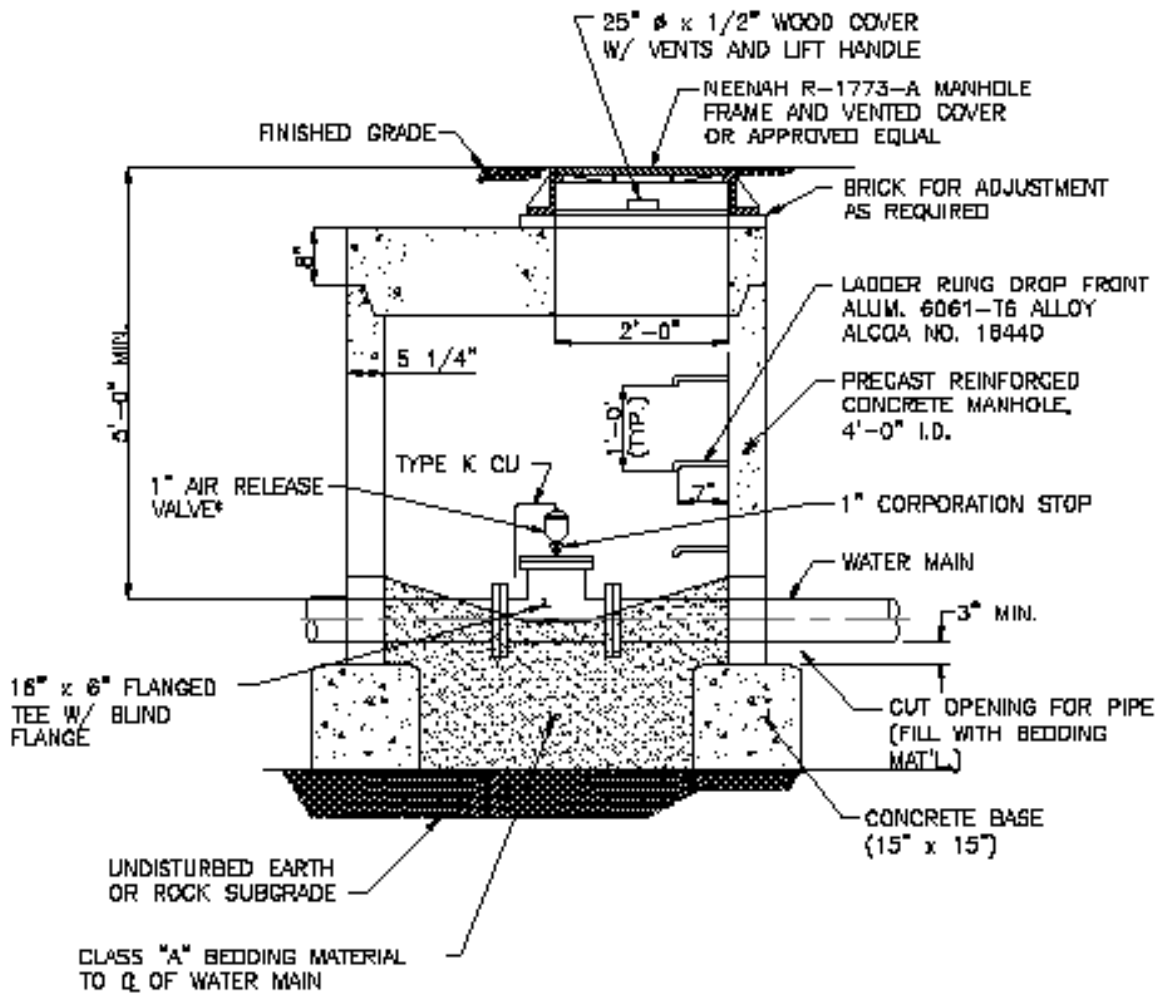
- C. Surface sealants when required shall be applied after the building has been caulked and all repairs and cleaning have been completed.

END OF SECTION

LIST OF STANDARD DETAILS

DETAIL NO.	TITLE
SWD-1	Air Valve Manhole Detail
SWD-2	Typical Service Corporation Stop and Curb Stop Detail
SWD-3	Trench Section & Service Connection for Ductile Iron Pipe
SWD-4	Temporary Blowoff Detail
SWD-5	Permanent Blowoff Detail
SWD-6	Stream Crossing
SWD-7	Thrust Block Detail
SWD-8	Concrete Thrust Collar
SWD-9	Typical Hydrant
SWD-10	Typical Jacking and Boring Sections
SWD-11	Trench Section – State Highways & Township Roads
SWD-12	Valve Box Detail
SWD-13	Water Line Encasement Detail
SWD-14	Standard Detail Residential Meter Pit

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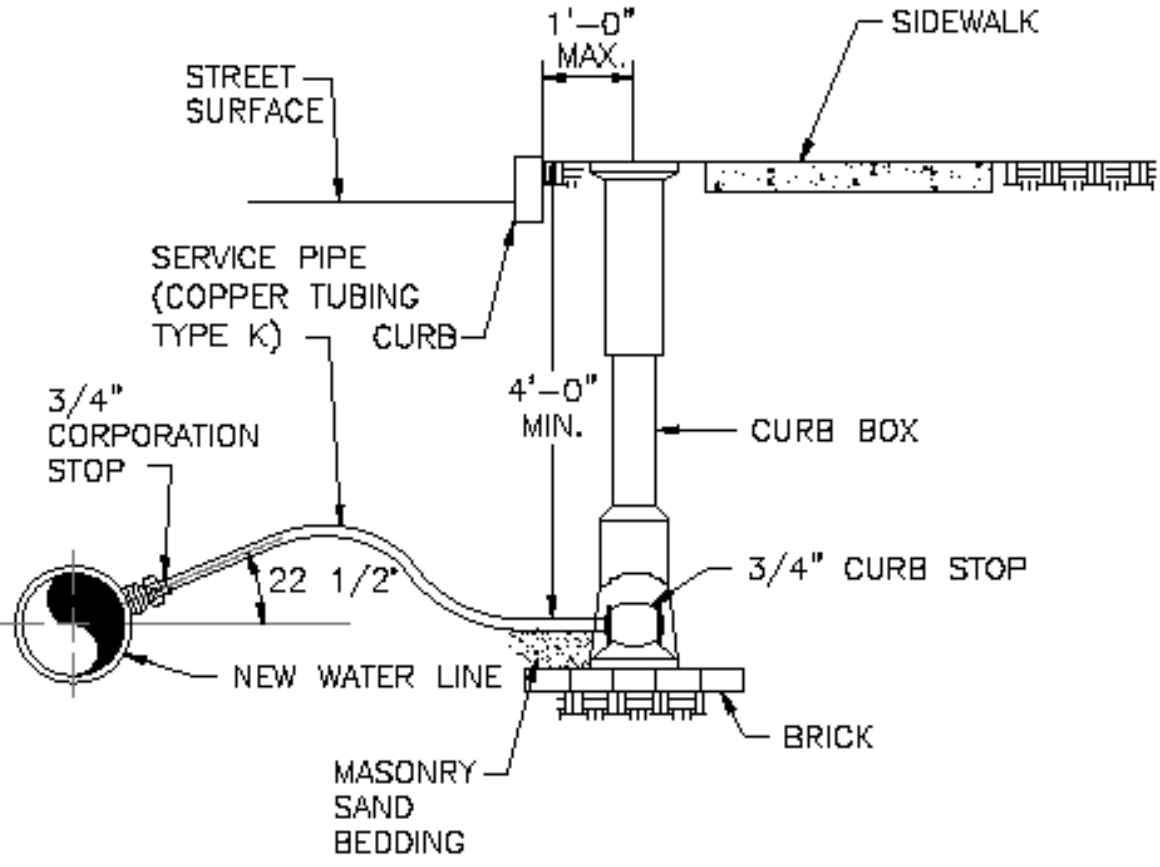


AIR VALVE MANHOLE DETAIL

NO SCALE

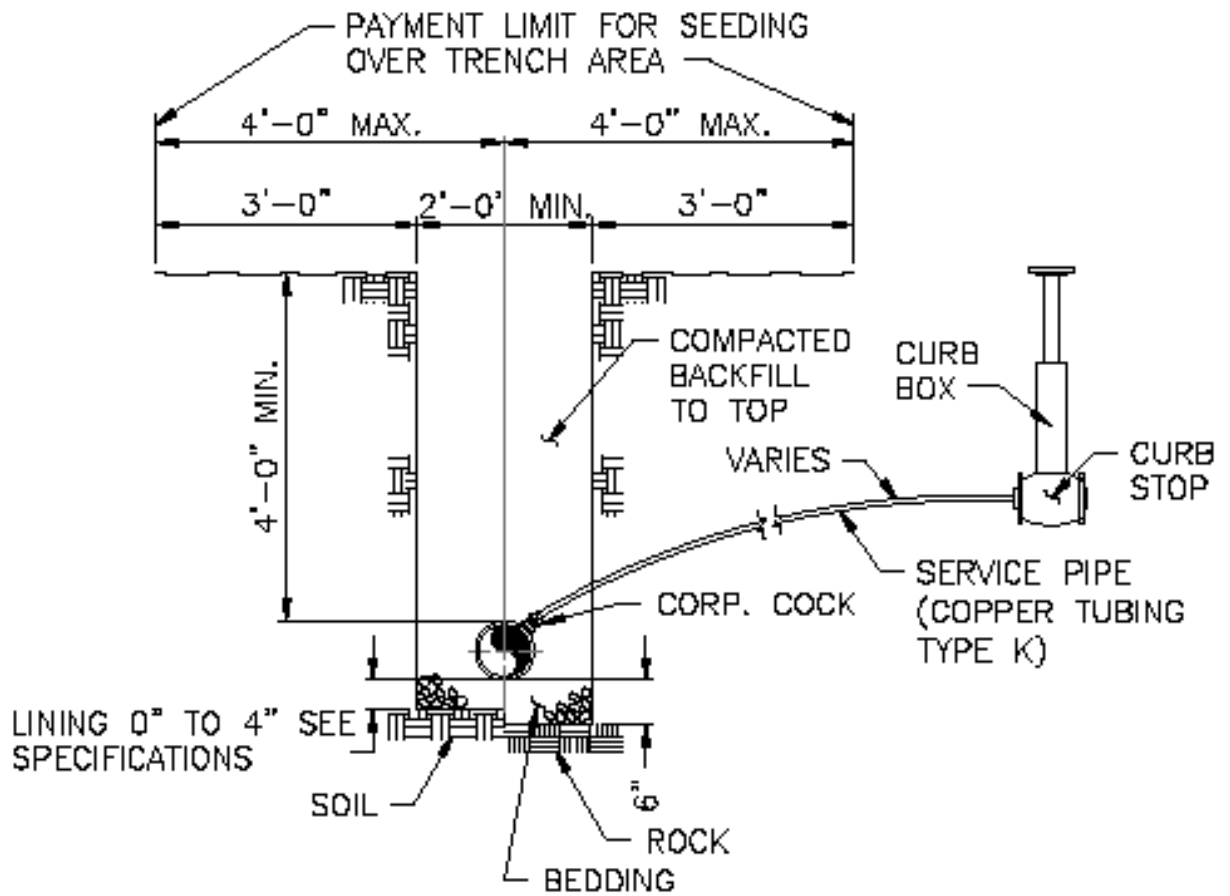
* SIZE OF AIR RELEASE VALVE MAY VARY DEPENDING ON JOB SPECIFIC REQUIREMENTS.

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2/28/2017



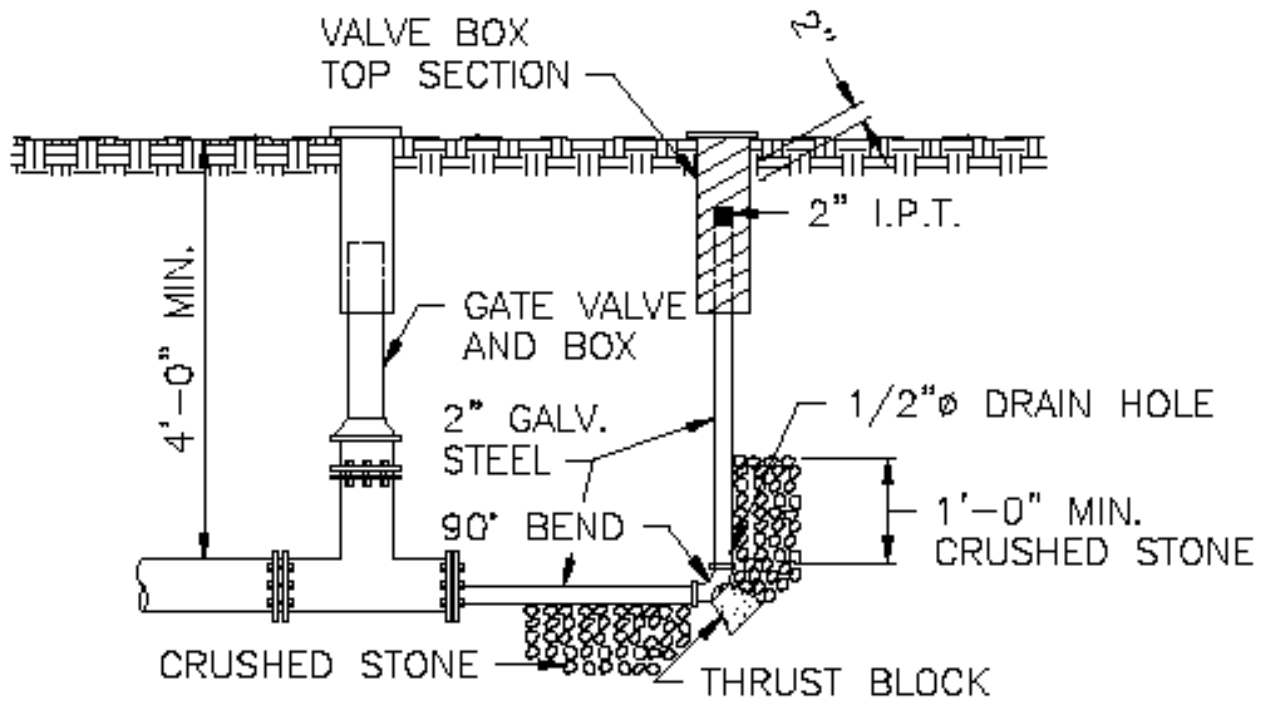
TYPICAL SERVICE CORPORATION STOP
AND CURB STOP DETAIL

G:\munte\Cadd\EDTMA Std Details\SWD-3 trench and service connect.dwg 2/28/2017

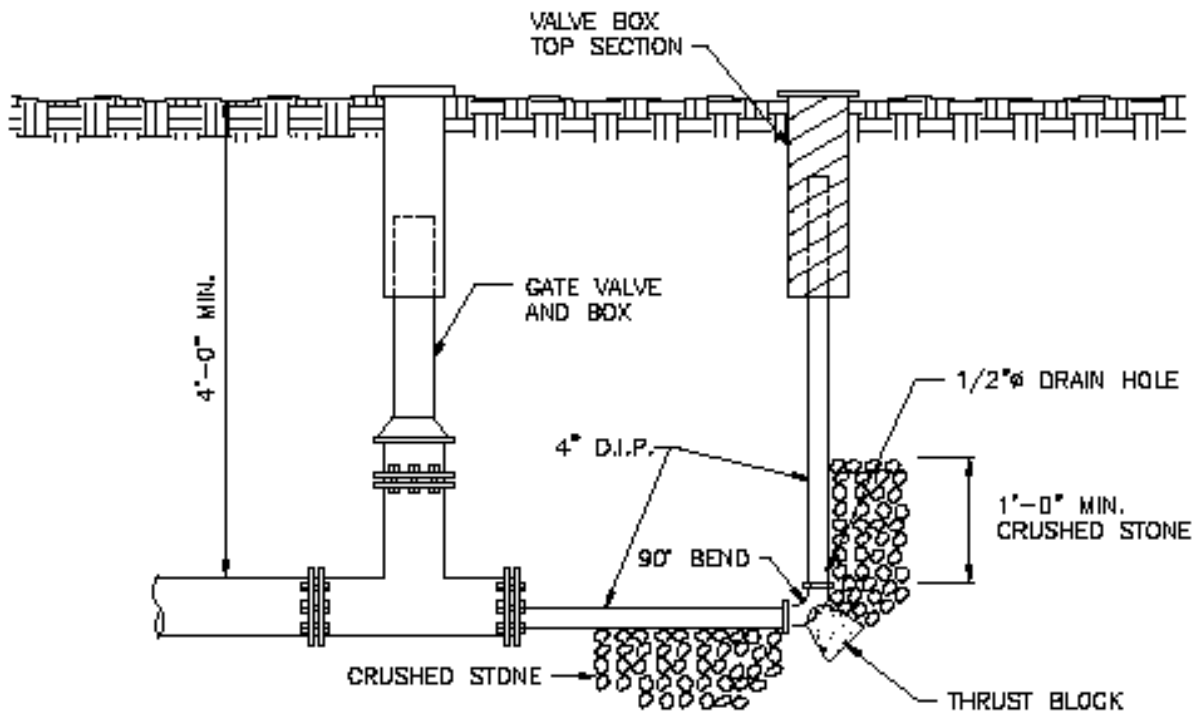


TRENCH SECTION &
SERVICE CONNECTION
FOR DUCTILE IRON PIPE
NO SCALE

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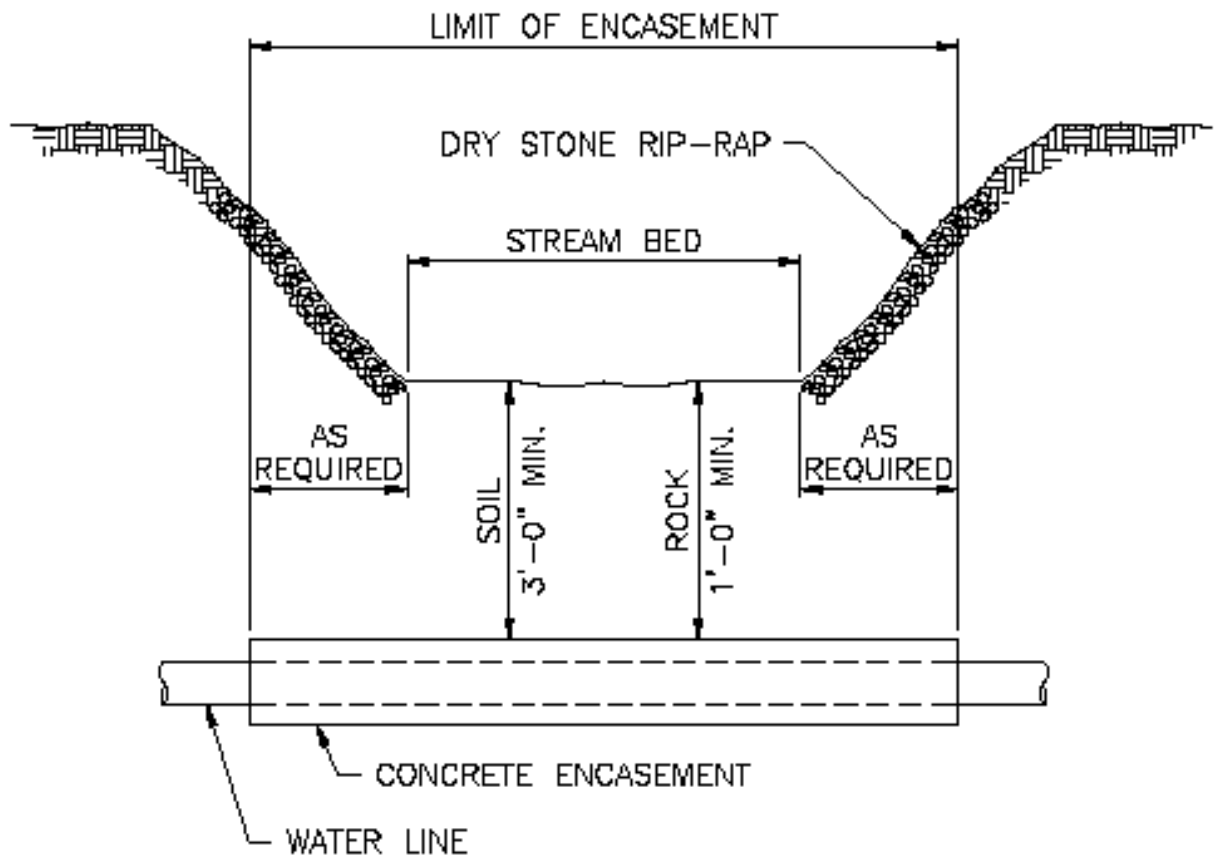


TEMPORARY BLOWOFF

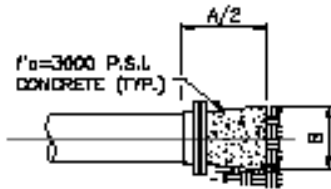


PERMANENT BLOWOFF DETAIL

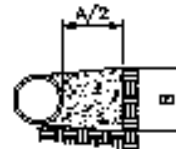
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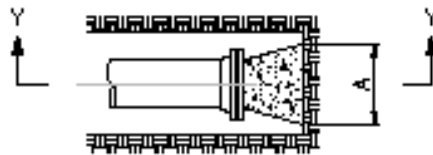
STREAM CROSSING



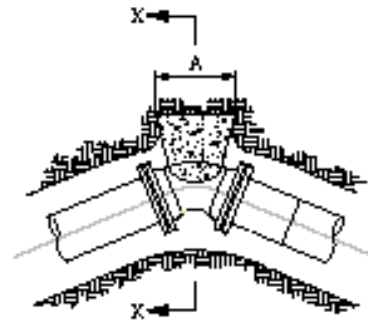
SECTION Y-Y



SECTION X-X



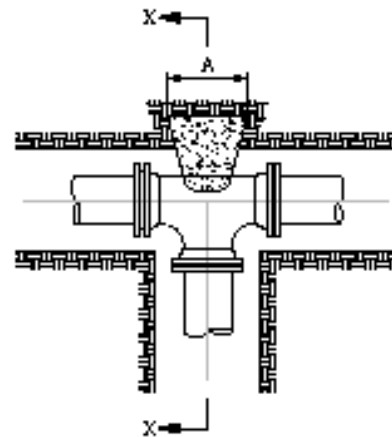
THRUST BLOCK PLAN AT TYPICAL PLUG



THRUST BLOCK PLAN AT TYPICAL BEND

THRUST BLOCK TABLE			
PIPE SIZE	DEGREE OF BEND	*DIMENSIONS	
		A	B
8"	TEE OR PLUG	2 1/2'	2'
8"	90	3'	2'
8"	45	3'	1 1/2'
8"	22 1/2	3'	1'
8"	11 1/4	2'	1'
8"	TEE OR PLUG	4'	2'
8"	90	3'	2 1/2'
8"	45	3'	2'
8"	22 1/2	3'	1'
8"	11 1/4	2'	1'
10"	TEE OR PLUG	4'	3'
10"	90	6'	3'
10"	45	5'	2'
10"	22 1/2	3'	2'
10"	11 1/4	3'	1'
12"	TEE OR PLUG	6'	3'
12"	90	8'	4'
12"	45	5'	3'
12"	22 1/2	4'	2'
12"	11 1/4	3'	2'
16"	TEE OR PLUG	8'	6'
18"	90	10'	6'

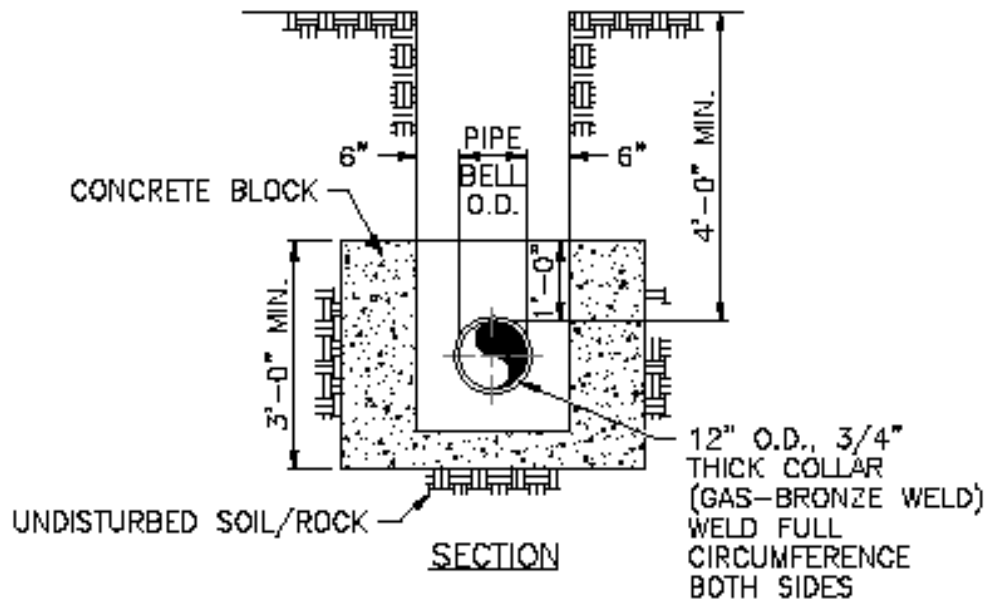
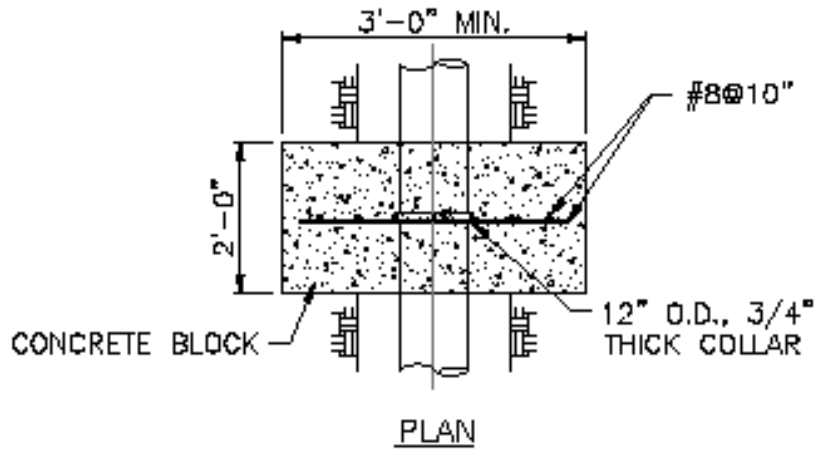
*CAST IN PLACE



THRUST BLOCK PLAN AT TYPICAL TEE

NOT TO SCALE

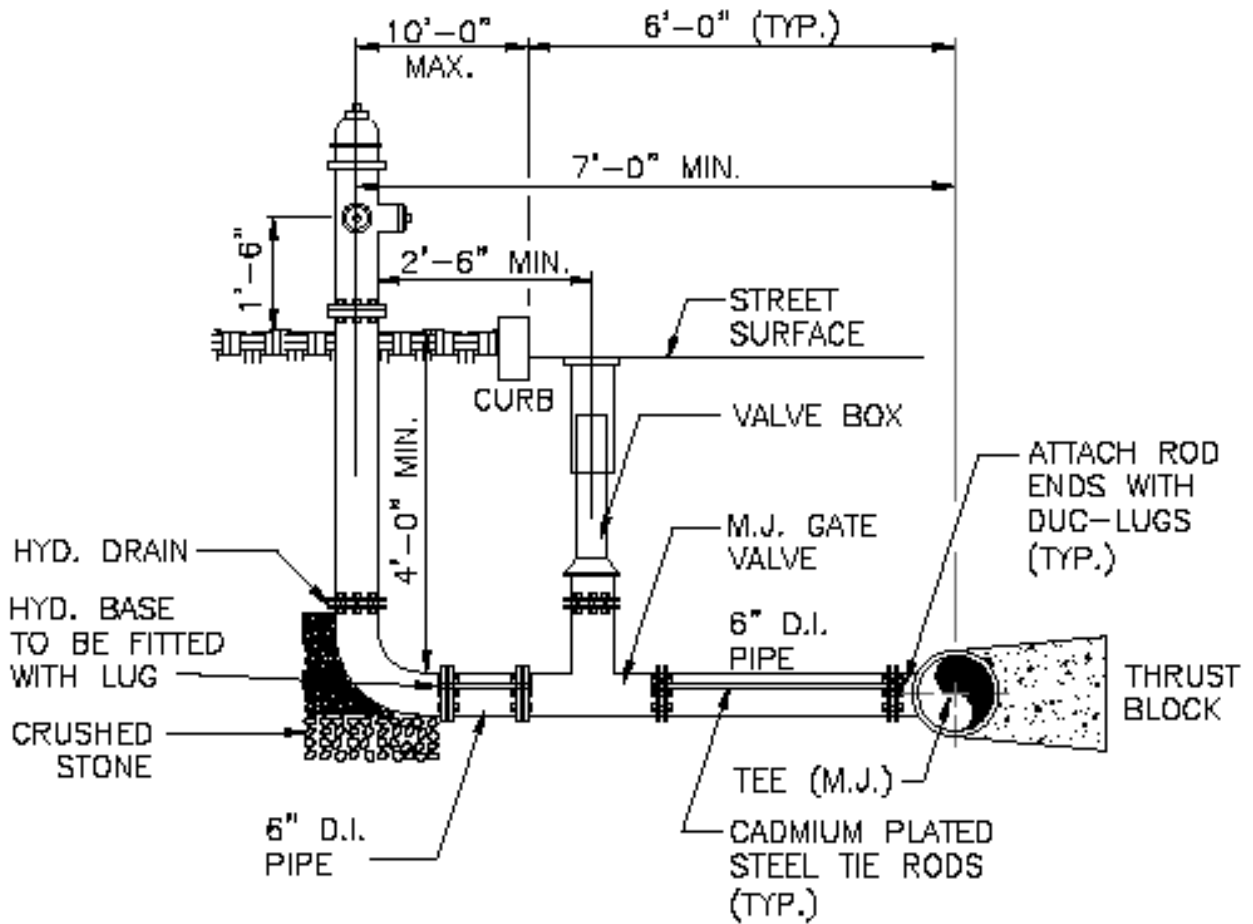
G:\munic\Cadd\EDTMA Sid Details\SWD-8 thrust collar.dwg 2/28/2017



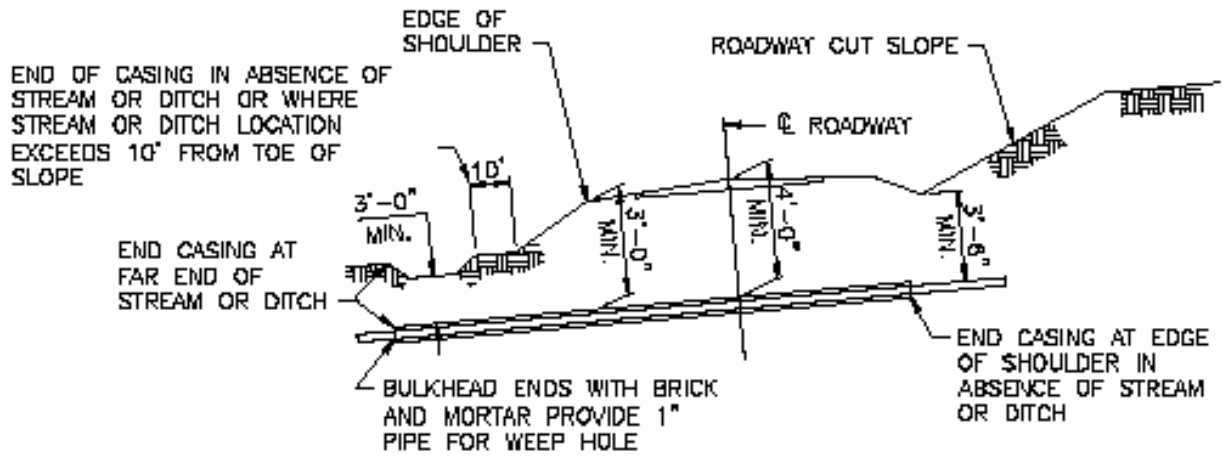
CONCRETE THRUST COLLAR

NOTE: COLLAR I.D. TO MATCH PIPE O.D.
COLLAR O.D. TO EQUAL I.D. + 4".

G:\munic\Cadd\EDTMA Std Details\SWD-9 hydrant.dwg 2/28/2017

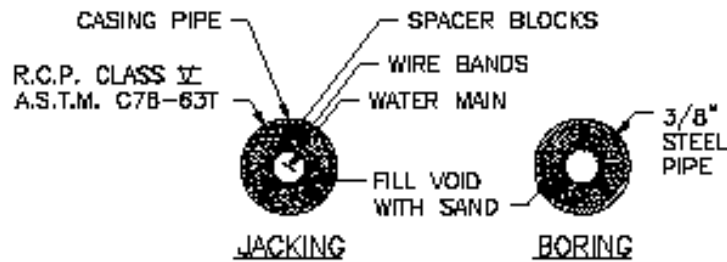


TYPICAL HYDRANT
NOT TO SCALE

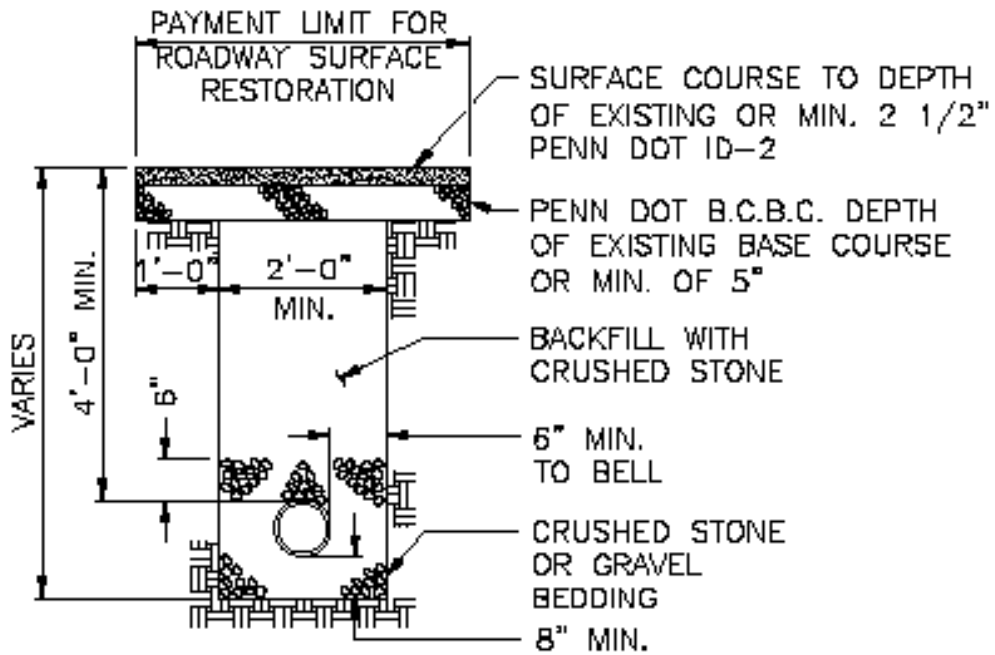


HIGHWAY CROSSING

NOTE: CASING PIPE FOR OPEN CUT CROSSINGS SHALL BE 12 GAUGE BITUMINOUS COATED C.M.P. W/ PAVED INVERT.

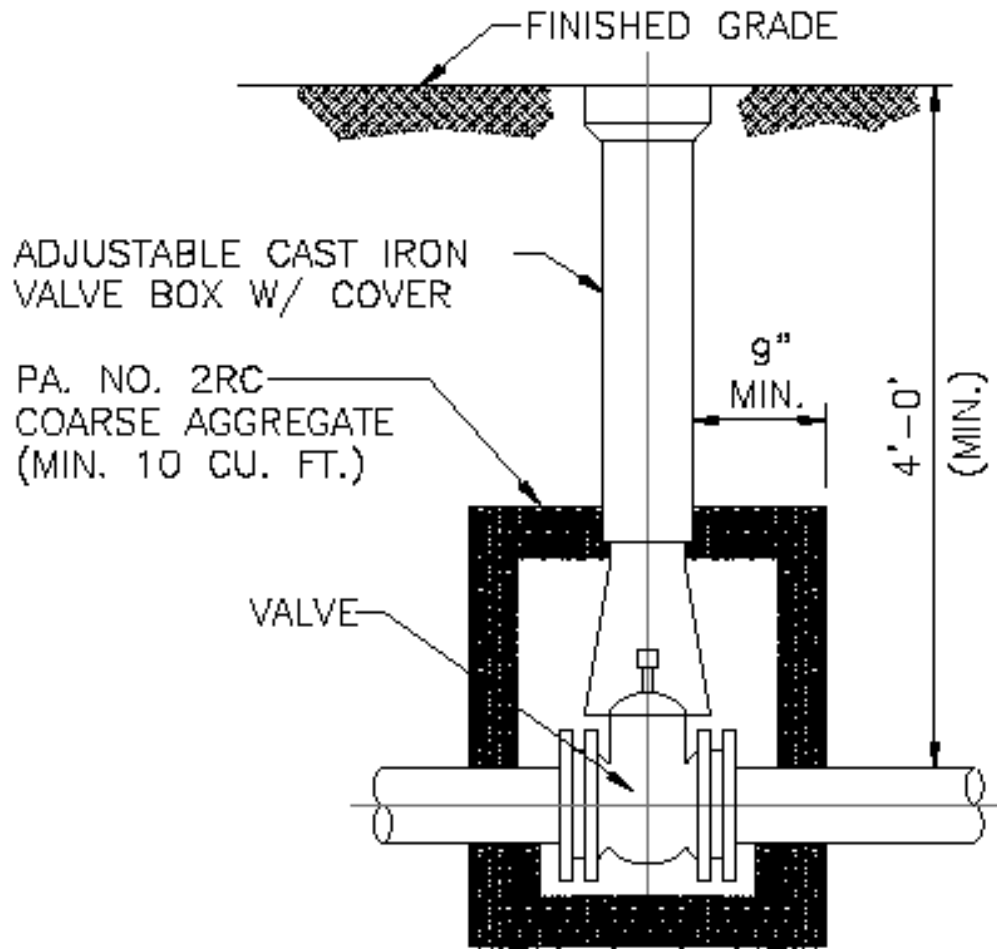


TYPICAL JACKING & BORING SECTIONS

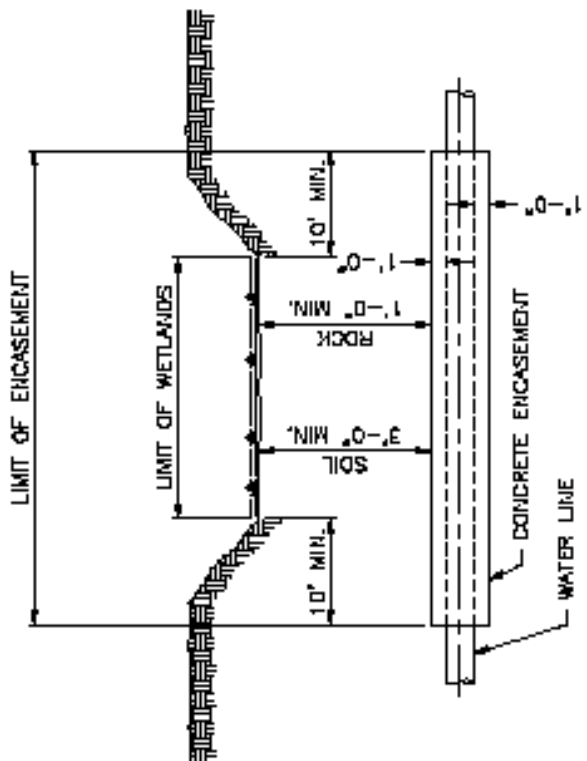
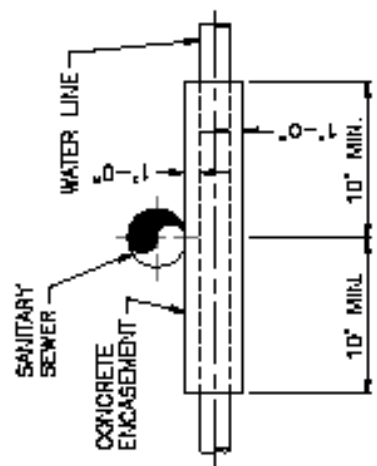


TRENCH SECTION
STATE HIGHWAYS &
TOWNSHIP ROADS

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VALVE BOX DETAIL
NO SCALE

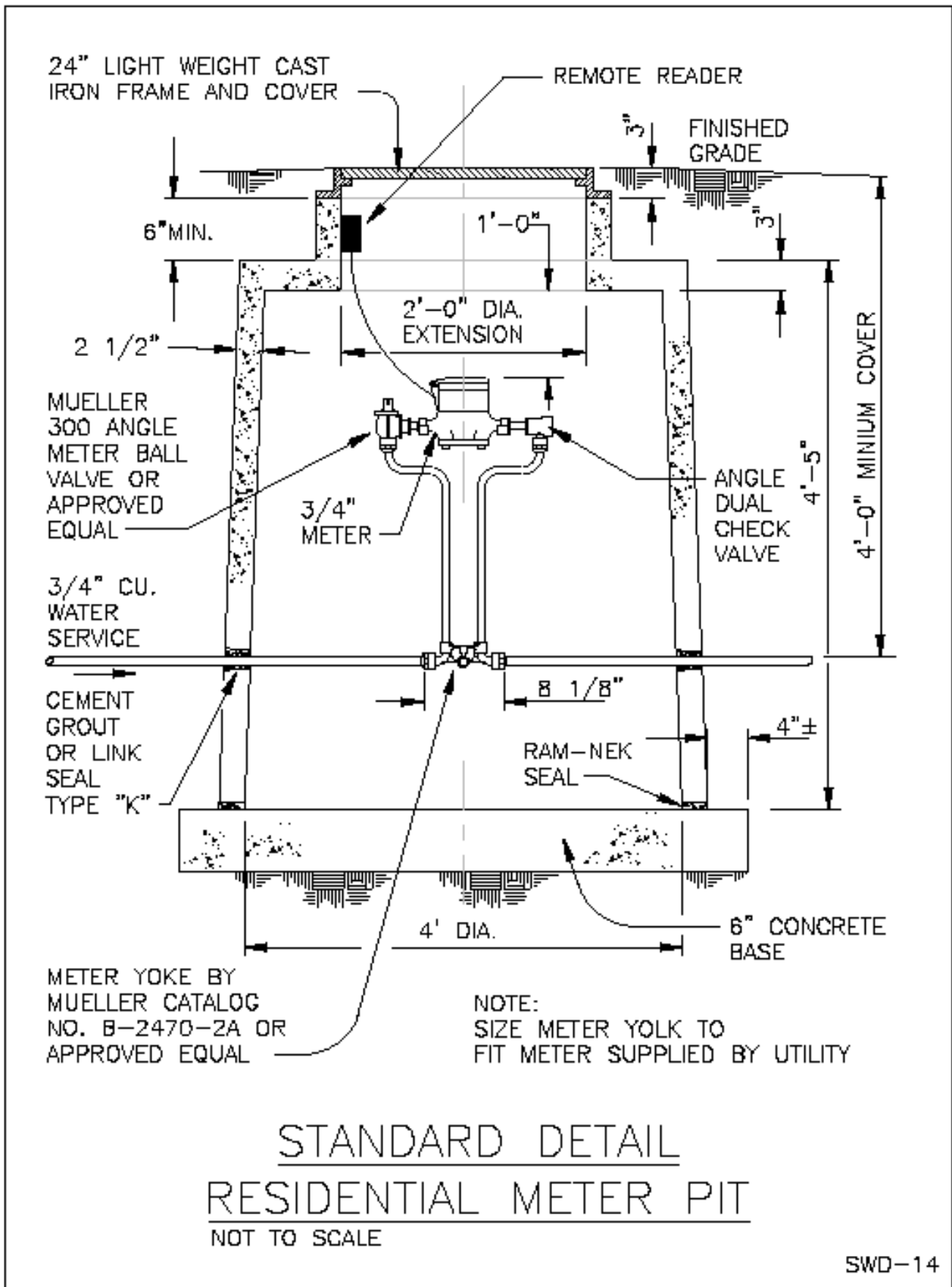


SECTIONAL ELEVATION

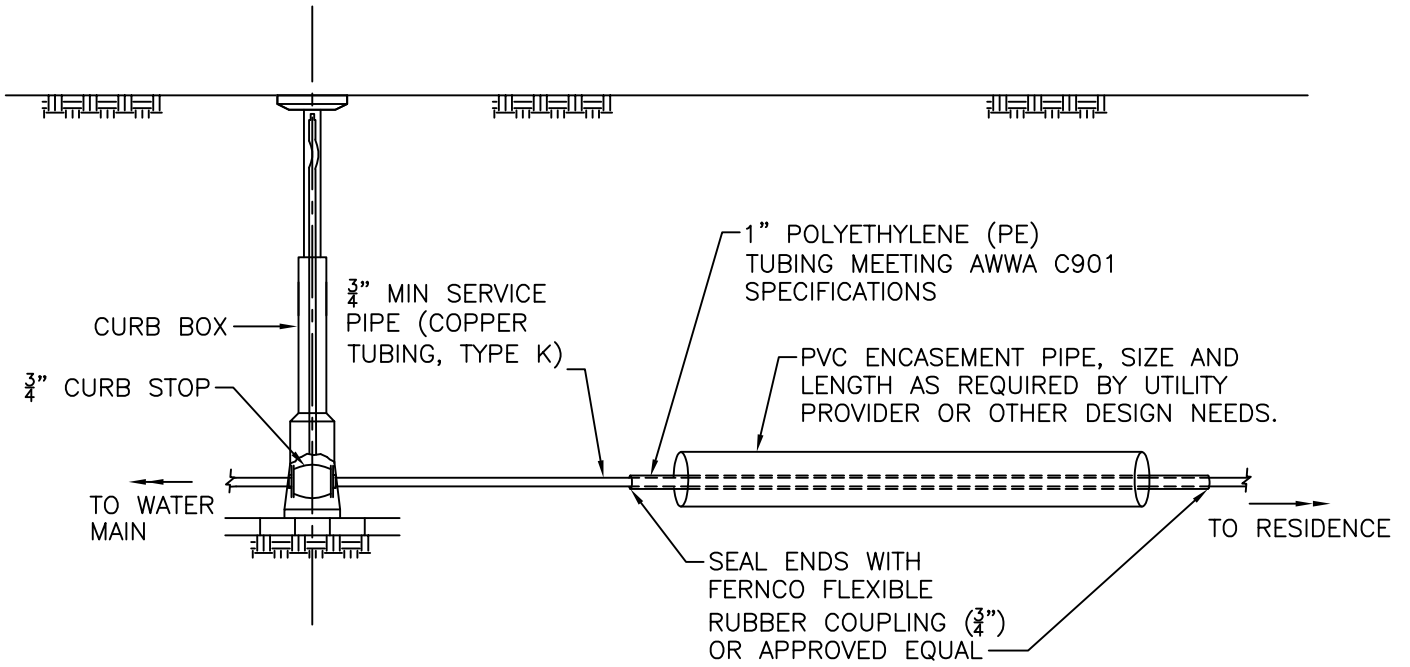
SECTION * IF CONTRACTOR DISTURBS EXISTING WETLANDS BEYOND THE LIMITS SHOWN, CONTRACTOR SHALL EXTEND CONCRETE ENCASEMENT TO UNDISTURBED SOIL OR ROCK AT HIS OWN EXPENSE.

WATER LINE
ENCASEMENT DETAIL

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STANDARD DETAIL
RESIDENTIAL METER PIT
NOT TO SCALE



TYPICAL SERVICE LINE PROTECTION
THROUGH ENCASEMENT DETAIL
 NOT TO SCALE

NOTES:

1. SLIDE 1" PE TUBING AND FERCO COUPLINGS ONTO 3/4" COPPER TUBING PRIOR TO LAYING IN TRENCH.
2. THE COST AND INSTALLATION OF THE PE PIPE AND FLEXIBLE COUPLINGS SHOWN ABOVE IS INCIDENTAL TO THE SERVICE LATERAL.

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-14. Please explain and quantify any impact the transaction will have on the amounts charged to EDTMA customers for water service prior to Columbia Water's next base rate case.

RESPONSE: The Application requests that EDTMA current rates remain in place for at least 3 years and thus there will be no impact to EDTMA's customers for water service prior to Columbia Water's next base rate case.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-17. Please provide details of EDTMA’s source of supply capabilities including design maximum production capacity, permitted/contracted maximum production capacity, peak daily production for the 2020 calendar year, and average daily production for the 2020 calendar year.

RESPONSE: EDTMA’s source of supply capabilities are as follows:

- design maximum production capacity – 0.864 MGD
- permitted maximum production capacity – 0.864 MGD
- peak daily production for the 2020 – 0.490 MGD
- average daily production for the 2020 – 0.419 MGD

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-18. In response to OCA Informal Discovery Requests (OCA Discovery), Columbia Water filed a document titled “EDTMA Condition Assessment” prepared by Buchart Horn, dated August 2020 (Condition Assessment). In the Condition Assessment, Buchart Horn indicated copies of all or complete Pennsylvania Department of Environmental Protection (DEP) Public Water Supply (PWS) permits were not available for review. Please provide copies of all DEP approved PWS permits including approval letters for EDTMA’s water system assets and/or provide documentation from DEP indicating which permit(s) could not be supplied.

RESPONSE: Attached are copies of the DEP approved Public Water Supply Permits.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER SUPPLY MANAGEMENT

AUG 23 2010

Mr. Robert Heistand, Chairman
East Donegal Township Municipal Authority
PO Box 82
Maytown, PA 17550

Re: Public Water Supply
Groundwater Rule
4-log Treatment of Viruses
Permit No. 3610524 MA
APSID No. 724902
PWSID No. 7360083.
East Donegal Township Municipal Authority
East Donegal Township, Lancaster County

Dear Mr. Heistand:

Issuance of the enclosed operation permit is authorized in accordance with the provisions of the laws of the Commonwealth.

Your attention is directed to the Special Conditions included as part of this permit. The Entry Point 100 (Well Nos. 1, 2 and the Gladfelter Spring) treatment facilities shall be operated in accordance with these Special Conditions to provide 4-log treatment of viruses.

We have reviewed the disinfection tracer study you submitted to the Department on April 8, 2010. We approve a baffling factor of 0.6 for the disinfection contact tanks and associated piping. We calculated a T_{10} of 17.09 minutes at 600 gallons per minute.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

Southcentral Regional Office | 909 Elmerton Avenue | Harrisburg, PA 17110-8200

717.705.4708 | Fax 717.705.4930

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Mr. Robert Heistand, Chairman
East Donegal Township Municipal Authority

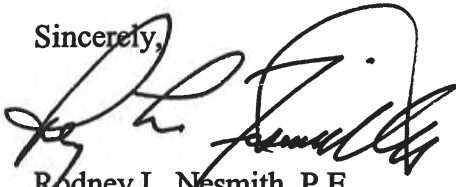
- 2 -

AUG 23 2010

If you want to challenge this action, your appeal must reach the Board within 30 days. You do not need a lawyer to file an appeal with the Board. Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free Pro Bono representation. Call the Secretary to the Board (717.787.3483) for more information.

If you have any questions, please call Mr. Michael Hess at 717.705.4155.

Sincerely,



Rodney L. Nesmith, P.E.
Program Manager
Water Supply Management Program

Enclosures

cc: Thomas S. Ladue, P.E., Dewberry-Goodkind, Inc.

RECEIVED

AUG 25 2010

DEWBERRY-GOODKIND, INC.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY MANAGEMENT

PUBLIC WATER SUPPLY PERMIT

NO. 3610524 MA

A. PERMITTEE: (Name and Address)

East Donegal Township Municipal Authority
PO Box 82
Maytown, PA 17550

B. PROJECT/PLANT LOCATION

Municipality East Donegal Township
County Lancaster

C. THIS PERMIT APPROVES FOR: 1. CONSTRUCTION
AS INDICATED BELOW:

2. OPERATION OF FACILITIES

Approved Under Construction Permit No. _____

Source

Facilities

BVRB

- Well(s)
 Spring(s)
 Surface Water
 Finished Water

- Impoundment
 Settling
 Filtration
 Iron and Manganese Treatment
 Softening
 Fluoridation
 Distribution Facility

- General Corrosion Control
 Corrosion Control for Lead/Copper
 Disinfection
 Pump Station(s)
 Transmission Lines
 Finished Water Storage
 Other 4-Log Treatment of Viruses

- Bottled Water System
 Bulk Water Hauling System
 Vended Water System
 Retail Water Facility

KNOWN AS: 4-log Treatment of Viruses – Entry Point 100

LIMIT OF AUTHORIZATION

YOU ARE HEREBY AUTHORIZED TO CONSTRUCT OR OPERATE, AS INDICATED ABOVE, PROVIDED THAT FAILURE TO COMPLY WITH CHAPTER 109, OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION OR THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.

THE PLANS, SPECIFICATIONS, REPORTS AND SUPPORTING DOCUMENTS SUBMITTED AS PART OF THE PERMIT APPLICATION BECOME PART OF THE PERMIT.

NO DEVIATIONS FROM APPROVED PLANS OR SPECIFICATIONS AFFECTING THE TREATMENT PROCESS OR QUALITY OF WATERS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM THE DEPARTMENT.

THIS PERMIT IS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION UNDER THE AUTHORITY OF THE PENNSYLVANIA SAFE DRINKING WATER ACT, THE ACT OF MAY 1, 1984 (P.L. 206, NO. 43). OPERATION SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 109 ADOPTED UNDER THE AUTHORITY IN SECTIONS 4 AND 6(e) OF THE PENNSYLVANIA SAFE DRINKING WATER ACT.

THIS PERMIT IS SUBJECT TO THE ATTACHED SPECIAL CONDITIONS: 1

PERMIT ISSUED

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date AUG 23 2010

By Rodney L. Nesmith, P.E.

Title Program Manager

**WATER SUPPLY MANAGEMENT PROGRAM
East Donegal Township Municipal Authority
Permit No. 3610524 MA**

Page 2

East Donegal Township
Lancaster County

This permit is issued subject to all Department of Environmental Protection Rules and Regulations now in force and the following Special Conditions:

1. The Entry Point 100 treatment facilities (Well Nos. 1, 2 and the Gladfelter Spring) shall be operated in accordance with the following conditions to provide 4-log treatment of viruses:
 - A. The instantaneous maximum flow through the treatment system shall not exceed 600 gallons per minute.
 - B. The minimum free chlorine residual at the entry point shall not be less than 0.4 mg/L.
 - C. Continuously monitor the free chlorine residual at the entry point and record the results at least every 15 minutes each day that water is served to the public. If there is a failure of the continuous monitoring equipment, conduct grab sampling every 4 hours until the continuous monitoring equipment is returned to service. The system shall return to continuous residual disinfectant monitoring within 14 days.

PUBLIC WATER SUPPLY PERMIT

NO. 3692502

A. PERMITTEE: (Name and Address)

East Donegal Township Municipal Authority

25 West High Street

Maytown, PA 17550

B. PROJECT LOCATION

Municipality East Donegal Township.

County Lancaster County.

C. THIS PERMIT APPROVES FOR: 1. Use as Source of Supply 2. Construction 3. Operation

AS INDICATED BELOW:

4. Source

- Well(s)
- Spring(s)
- Stream
- Lake

5. Facilities

- | | |
|---|---|
| <input type="checkbox"/> Impoundment | <input type="checkbox"/> Stabilization |
| <input type="checkbox"/> Settling | <input checked="" type="checkbox"/> Disinfection |
| <input type="checkbox"/> Filtration | <input type="checkbox"/> Pump Station(s) |
| <input type="checkbox"/> Iron and Manganese Treatment | <input checked="" type="checkbox"/> Transmission Lines |
| <input type="checkbox"/> Softening | <input type="checkbox"/> Distribution Storage |
| <input type="checkbox"/> Fluoridation | <input checked="" type="checkbox"/> Distribution System |
| <input type="checkbox"/> Other _____ | |

KNOWN AS _____

YOU ARE HEREBY AUTHORIZED TO USE AS SOURCE(S) OF SUPPLY, CONSTRUCT OR OPERATE, AS INDICATED ABOVE, PROVIDED THAT FAILURE TO COMPLY WITH CHAPTER 109, ARTICLE II, OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL RESOURCES OR THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.

NO DEVIATIONS FROM APPROVED PLANS OR SPECIFICATIONS AFFECTING THE TREATMENT PROCESS OR QUALITY OF WATERS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM THE DEPARTMENT.

THIS PERMIT IS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL RESOURCES UNDER THE AUTHORITY OF THE PENNSYLVANIA SAFE DRINKING WATER ACT, THE ACT OF MAY 1, 1984 (P.L. 206, NO. 43). OPERATION SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 109 ADOPTED UNDER THE AUTHORITY IN SECTIONS 4 AND 6(e) OF THE PENNSYLVANIA SAFE DRINKING WATER ACT.

THIS PERMIT IS SUBJECT TO THE ATTACHED SPECIAL CONDITIONS _____

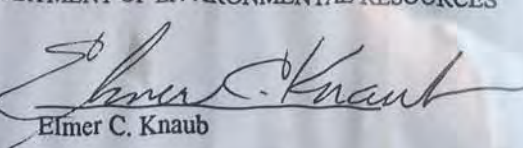
THIS PERMIT IS SUBJECT TO THE FOLLOWING STANDARD CONDITIONS RELATING TO EROSION CONTROL All (1991).

PERMIT ISSUED

DEPARTMENT OF ENVIRONMENTAL RESOURCES

DATE 1 APR 5 1995

BY


Elmer C. Knaub

TITLE Program Manager.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY MANAGEMENT

PUBLIC WATER SUPPLY PERMIT

NO. 3699502

A. PERMITTEE: (Name and Address)

East Donegal Township Municipal Authority
PO Box 82
Maytown, PA 17550

B. PROJECT/PLANT LOCATION

Municipality East Donegal Township

County Lancaster County

C. THIS PERMIT APPROVES FOR: 1. CONSTRUCTION
AS INDICATED BELOW:

2. OPERATION OF FACILITIES

Approved Under Construction Permit No. 3699502

Source	Facilities	BVRB
<input checked="" type="checkbox"/> Well(s)	<input type="checkbox"/> Impoundment	<input type="checkbox"/> Bottled Water System
<input type="checkbox"/> Spring(s)	<input type="checkbox"/> Settling	<input type="checkbox"/> Bulk Water Hauling System
<input type="checkbox"/> Surface Water	<input type="checkbox"/> Filtration	<input type="checkbox"/> Vended Water System
<input type="checkbox"/> Finished Water	<input type="checkbox"/> Iron and Manganese Treatment	<input type="checkbox"/> Retail Water Facility
	<input type="checkbox"/> Softening	
	<input type="checkbox"/> Fluoridation	
	<input type="checkbox"/> Distribution Facility	
	<input type="checkbox"/> General Corrosion Control	
	<input type="checkbox"/> Corrosion Control for Lead/Copper	
	<input checked="" type="checkbox"/> Disinfection	
	<input checked="" type="checkbox"/> Pump Station(s)	
	<input checked="" type="checkbox"/> Transmission Lines	
	<input checked="" type="checkbox"/> Finished Water Storage	
	<input checked="" type="checkbox"/> Other <u>Nitrate Removal via Ion Exchange</u>	

KNOWN AS: Well No. 2 @ 225 gpm.

LIMIT OF AUTHORIZATION

YOU ARE HEREBY AUTHORIZED TO CONSTRUCT OR OPERATE, AS INDICATED ABOVE, PROVIDED THAT FAILURE TO COMPLY WITH CHAPTER 109, OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION OR THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.

THE PLANS, SPECIFICATIONS, REPORTS AND SUPPORTING DOCUMENTS SUBMITTED AS PART OF THE PERMIT APPLICATION BECOME PART OF THE PERMIT.

NO DEVIATIONS FROM APPROVED PLANS OR SPECIFICATIONS AFFECTING THE TREATMENT PROCESS OR QUALITY OF WATERS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM THE DEPARTMENT.

THIS PERMIT IS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION UNDER THE AUTHORITY OF THE PENNSYLVANIA SAFE DRINKING WATER ACT, THE ACT OF MAY 1, 1984 (P.L. 206, NO. 43). OPERATION SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 109 ADOPTED UNDER THE AUTHORITY IN SECTIONS 4 AND 6(e) OF THE PENNSYLVANIA SAFE DRINKING WATER ACT.

THIS PERMIT IS SUBJECT TO THE ATTACHED SPECIAL CONDITIONS: 1, 2, 3, & 4.

PERMIT ISSUED

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date AUG 23 2001

By

Elmer C. Knaub
Elmer C. Knaub

Title Program Manager

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF COMMUNITY ENVIRONMENTAL CONTROL

PUBLIC WATER SUPPLY PERMIT

NO. 3689512

<p>A. PERMITTEE: (Name and Address)</p> <p>East Donegal Township Municipal Authority 25 West High Street Maytown, PA 17550</p>	<p>B. PROJECT LOCATION</p> <p>Municipality <u>East Donegal Township</u> County <u>Lancaster</u></p>
--	---

C. THIS PERMIT APPROVES FOR: 1. Use as Source of Supply 2. Construction 3. Operation

AS INDICATED BELOW:

- | | |
|---|--|
| <p>4. Source</p> <p><input type="checkbox"/> Well(s)
<input type="checkbox"/> Spring(s)
<input type="checkbox"/> Stream
<input type="checkbox"/> Lake</p> | <p>5. Facilities</p> <p><input type="checkbox"/> Impoundment
<input type="checkbox"/> Settling
<input type="checkbox"/> Filtration
<input type="checkbox"/> Iron and Manganese Treatment
<input type="checkbox"/> Softening
<input type="checkbox"/> Fluoridation
<input checked="" type="checkbox"/> Other <u>Nitrate Treatment</u></p> |
|---|--|

- Stabilization
 Disinfection
 Pump Station(s)
 Transmission Lines
 Distribution Storage
 Distribution System

KNOWN AS _____

YOU ARE HEREBY AUTHORIZED TO USE AS SOURCE(S) OF SUPPLY, CONSTRUCT OR OPERATE, AS INDICATED ABOVE, PROVIDED THAT FAILURE TO COMPLY WITH CHAPTER 109, ARTICLE II, OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL RESOURCES OR THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.

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THIS PERMIT IS SUBJECT TO THE ATTACHED SPECIAL CONDITIONS 1

THIS PERMIT IS SUBJECT TO THE FOLLOWING STANDARD CONDITIONS RELATING TO EROSION CONTROL
All - 1985

PERMIT ISSUED

Date

JUL 31 1991

DEPARTMENT OF ENVIRONMENTAL RESOURCES

By

Eimer C. Knaub
Eimer C. Knaub

Title

Regional Sanitarian

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-20. Please provide copies of the most recent Susquehanna River Basin Commission (SRBC) approvals related to EDTMA's system, which may include SRBC Docket No. 20190314.

RESPONSE: Attached are copies of the most recent Susquehanna River Basin Commission (SRBC) approvals related to EDTMA's system, including SRBC Docket No. 20190314.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Application 19990702

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY

Ground-Water Withdrawal (30-Day Average) of 0.324 mgd from Well 2,
and a Combined Ground-water Withdrawal from Well 1 and 2 (30-Day Average) of 0.584 mgd,
for Public Water Supply, East Donegal Township, Lancaster County, Pennsylvania

Review Authority

The application was reviewed by Commission staff pursuant to Article 3, Section 3.10 of the Susquehanna River Basin Compact, P.L. 91-575, and Commission Regulation 803.43 relating to ground-water withdrawals. The application was received by the Commission on October 8, 1998 and amended on January 15 and May 7, 1999.

Description

Purpose. The purpose of the application is to request approval for the withdrawal of ground water for distribution in a public water supply system.

Location. The project is located in East Donegal Township, Lancaster County, Pennsylvania.

Project Features. The applicant has requested approval for the withdrawal (30-day average) of 0.324 million gallons per day (mgd) from Well 2. This was reduced from an original request of 0.432 mgd after staff raised concerns about the quantity of the withdrawal. Well 2 is a 8-inch diameter bedrock well constructed with 91 feet of 8-inch steel casing and drilled to a total depth of 305 feet, penetrating limestone and dolomite of the Cambrian-aged Buffalo Springs Formation. After reviewing water quality testing results, the well was backfilled with Portland cement to 168.5 feet below grade in order to seal off several water-bearing zones that produced water with elevated levels of total dissolved solids. The well was drilled in May 1997 and backfilled in February 1998.

The East Donegal Township Municipal Authority serves Maytown and the vicinity and has an existing average withdrawal of 0.42 mgd and a maximum daily water demand of 0.66 mgd. The Authority currently operates two sources: an existing well, Well 1, that was approved for a withdrawal of 0.260 mgd (30-day average) by the Commission in 1981 (SRBC docket 19810309) and a spring having a Pa. DEP allocation of 0.290 mgd. During drought conditions in 1998, the Authority had difficulty meeting demands with these existing supplies. Well 2 is proposed as an additional source.

The applicant requested and was granted on January 26, 1999 an emergency permit for the use of Well 2 from the Pennsylvania Department of Environmental Protection (Pa. DEP), subject to certain conditions. Among others, those conditions include submittal of a Public Water Supply application for the permanent use of the proposed new source within 90 days of the date of the approval. Pa. DEP has reviewed the project and is preparing to issue a Safe Drinking Water Permit.

Pumping Test. A 48-hour constant-rate pumping test was conducted on February 14-16, 1998. Pumping at an average rate of 300 gpm (0.432 mgd) over 48 hours produced about 8 feet of total drawdown in Well 2. Water levels in ten wells within a radius of approximately 1,800 feet were monitored approximately every two hours during pumping and recovery periods. Eight of these wells supply residences or farms (the nearest being 850 feet to the southwest), one is an unused former residential supply well, and one is an existing production well owned by the applicant. A spring located approximately 2,000 feet southeast of Well 2 was not monitored during the pumping test.

Drawdown over the 48 hours in the private wells ranged from negligible to 3.3 feet in a well owned by Mr. James Houseal about 1,000 feet away. Generally, effects were more pronounced in wells to the southwest. In Mr. John Hess' well, highly variable water levels ranging from 86 to 153 feet were measured. The applicant attributed these variations to Mr. Hess' heavy feedlot and domestic use of about 7,500 gpd.

Water Availability. The project well is located in a small watershed underlain by carbonate bedrock, along with the existing production well. The available ground water must be shared among the applicant's two well withdrawals, existing private wells, and spring flow. The amount of ground water available to the project is complicated by its proximity to the watershed divide.

Using topographic divides as an indicator of ground-water divides, which is usually valid for ground-water flow in fractured rocks in Pennsylvania, the drainage basin contains 0.56 square miles. Based on average rainfall of about 40 inches for the project area and an average recharge rate of 700,000 gallons per day per square mile (gpd/mi²), the average water available would be 392,000 gpd (0.392 mgd) for the watershed. The applicant's proposed total average withdrawals from Wells 1 and 2 is 0.584 mgd, which is significantly more than the average recharge of 0.392 mgd available in the drainage basin. This does not include other existing private ground-water withdrawals in the watershed and a spring.

Commission staff and Pa. DEP staff met with the applicant and its consultants to discuss the issue of water availability on April 23, 1999. At this meeting, consultants for the applicant defined the recharge area by geologic formation boundaries to the north and south, a diabase dike to the west, and the change in direction of surface-water drainage to the east. The total area enclosed by these boundaries is 2.4 square miles. Using these aquifer boundaries and baseflow values for the Conestoga Creek basin, and the 25-year recharge rate of 422,000 gpd/mi², the water available would be 1,012,000 gpd (1.012 mgd) in the recharge area of Wells 1 and 2.

Findings

The withdrawal of water from Well 2 is subject to SRBC's ground-water withdrawal approval and reporting requirements as per Commission Regulation 803.43.

Analysis of the data gathered during testing indicates Well 2 penetrates a karstic, carbonate bedrock aquifer at the intersection of two fracture traces oriented northeast-southwest and northwest-southeast. Wells monitored during the pumping test are located near the fracture traces, which are presumed to be the preferred routes of ground-water flow.

Ground-water flow in carbonate rock is facilitated by rock dissolution, which can result in a dramatic increase in secondary porosity developed along fractures and bedding planes. Ground-water divides in karst terrain may extend beyond the topographic basin and are best determined through expensive field studies. Lacking corroborative data from extensive water level measurements or dye tracing, using topography in this case to determine recharge area is probably too conservative. The geologic boundaries suggested by the applicant are reasonable for this hydrogeologic setting and are acceptable to Commission staff for purposes of this analysis.

Based on geology, staff estimates that the 25-year drought recharge rate for the locale is about 0.422 mgd/mi², or 1.012 mgd for the 2.4 square mile watershed during a severe drought. This analysis indicates sufficient recharge to support the proposed withdrawal.

However, due to uncertainty inherent in the analysis of water availability, and the possibility of unacceptable interference problems with existing withdrawals and flow to the perennial spring, especially during droughts, staff recommends the additional monitoring and conditions described below.

The spring located approximately 2,000 feet southeast of Well 2 is indicated as perennial on the U.S. Geologic Survey topographic map and is the apparent source of the unnamed tributary to the Susquehanna River at Marietta. No observations of this spring were made during the pumping test. Although ambient data are not available, staff recommends that the applicant monitor spring discharge during the first year of operation of Well 2 to determine any adverse response to pumping. Staff recommends creating a continuous record with the installation of a v-notch weir, in conjunction with a water level recorder. However, other instrumentation such as a Parshall flume or Marsh-McBirney flow meter may be appropriate over the range of hydrologic conditions likely to be encountered during a year. Monitoring instrumentation and frequency should be proposed by the applicant and approved by SRBC staff prior to initiation of pumping. The monitoring data should be provided to the Commission quarterly and as requested by staff.

In Mr. John Hess' well, highly variable water levels were measured during the pumping test. Mr. Hess reports his daily water use to be approximately 7,500 gallons at his farm, which is apparently designated as Agriculture Security—Agriculture Preserve lands. Mr. Hess' well is 305 feet deep with the pump set at 290 feet. Staff finds that the hand-taped water levels measured every two hours during the pumping test, without adequate antecedent water level data, are insufficient to evaluate impacts.

To provide documentation for evaluation of adverse impacts and potential future adverse impacts, staff recommends that the applicant maintain a continuous water-level monitor in Mr. John Hess' well during the first year of operation of Well 2. The applicant should also record daily water use by Mr. Hess and daily amounts of local precipitation. The monitoring data should be provided to the Commission quarterly and as requested by staff. If problems occur to Mr. Hess' well, staff will evaluate the data and make appropriate mitigation recommendations. If no problems occur in the first year, the data will be reviewed to determine future monitoring requirements of the well. If the Commission determines this use should be mitigated, the applicant may elect to drill a new well to supply the farm's needs or connect Mr. Hess to the public water supply, at its expense. Staff recommends that, if Mr. Hess is connected to the public water supply, he should be provided with the quantity of water that he has used historically, without charge.

Additionally, prior to operation of Well 2, the applicant should prepare a contingency plan to provide sufficient quantities of water to maintain the farming operation should a disruption in its water supply occur.

Three domestic wells were clearly affected by test pumping Well 2 at 300 gpm, and projections for continuous pumping during extended periods with no recharge indicate substantial decreases in the amount of available drawdown in one well. A significant decrease occurs in the J. Houseal well, where after 120 days the amount of available drawdown decreases from more than 15 feet to about 8 feet (projected). The reduction in the proposed pumping rate would lessen this impact, but pumping Well 2 may lead to a problem at the Houseal well which would require the applicant to connect the residence to the public water supply system. The applicant has indicated that residents in this area have been given notice that they will be required to connect to the municipal source when directed by the authority.

The project has an existing average daily demand of 0.42 mgd and a past maximum daily water demand of 0.66 mgd. Projection of the use to the year 2023 results in a 30-day maximum demand of 0.792 mgd. Although Wells 1 and 2 and the Authority's spring appear capable of meeting projected demands, staff recommends the applicant seek additional supplies because of the uncertainty regarding water availability. Staff recommends that a new source be developed in an unstressed watershed and that the location of any future water supply well proposed by the applicant have prior approval of Commission staff.

The withdrawal is subject to SRBC water conservation requirements as per Commission Regulation 804.20(a). The water system is 100 percent metered, which is in compliance with SRBC requirements. System losses are less than the 20 percent required by Commission Regulation 804.20(a)(1).

The applicant has paid the appropriate application fee, pursuant to Commission Regulation 803.28 and in accordance with Commission Resolution No. 98-19. The applicant has also provided all proofs of required notification as called for in Commission Regulation 803.25.

Pa. DEP regulates the applicant as a Community Water System and the new well will also require their approval as a new source. Commission staff has some concern about long-term

water quality because of the geologic setting (karstic carbonate rock with a sinkhole located 425 feet southeast of the well), well location (a swale that captures surface runoff, including drainage from a feedlot), and local land use (active farming including manure spreading). The applicant has been informed that Surface Water Identification Protocol testing will be required by Pa. DEP.

With the exceptions noted above, no adverse impacts on other area ground-water withdrawals are anticipated. The project does not conflict with or adversely affect the SRBC Comprehensive Plan, is physically feasible, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

The project is approved for a 30-day average withdrawal of 0.324 mgd from Well 2, and a combined 30-day average ground-water withdrawal from Well 1 and 2 of 0.584 mgd, pursuant to Article 3, Section 3.10 of the Compact subject to the following conditions:

a. The applicant shall comply with all SRBC regulations, including ground-water reporting requirements as per Commission Regulation 803.43. The required reporting data shall be submitted to the Commission annually and as otherwise specified.

b. The applicant shall install a meter, accurate to within five percent, on Well 2. The Commission reserves the right to inspect all measurement equipment and audit all measurement records.

c. The applicant shall keep records of the project's daily pumpage from each well and weekly water levels in both wells. The applicant shall submit the required ground-water reporting data to the Commission quarterly during the first year of operation of Well 2 and annually thereafter, or as otherwise requested.

d. The applicant shall prepare a contingency plan to provide sufficient quantities of water to maintain Mr. John Hess' farming operation should a disruption in his water supply occur. The applicant shall submit this plan to Mr. Hess and the Commission, and SRBC staff shall review and approve the plan prior to initiation of pumping.

e. The applicant shall, with the owner's permission, continuously monitor and record water levels in Mr. John Hess' well, record daily water use from this well, record daily amounts of local precipitation, and submit records to the Commission quarterly or as otherwise requested. Staff will review the data after the first year and re-evaluate the monitoring requirements. This monitoring shall be in addition to any monitoring required under Commission Regulation 803.43.

f. The applicant shall, with the landowner's permission, monitor and record the daily discharge from the unnamed spring located approximately 2,000 feet southeast of Well 2, and submit records to the Commission quarterly or as otherwise requested. The applicant shall propose monitoring instrumentation and frequency and SRBC staff shall review and approve the

monitoring program prior to initiation of pumping. Staff will review the data after the first year and re-evaluate the monitoring requirements. This monitoring shall be in addition to any monitoring required under Commission Regulation 803.43.

g. Because the system will be insufficient if the best well fails, the applicant shall develop plans for an additional source within two years of this approval and implement said plan within four years. The applicant shall make annual reports to the Commission and Pa. DEP on the progress being made.

h. The location of any future water supply well proposed by the Authority must have prior approval by Commission staff.

i. The applicant shall comply with SRBC water conservation requirements as per Commission Regulation 804.20(a).

j. If the Commission determines that operation of the proposed ground-water withdrawal adversely affects any existing ground-water or surface-water withdrawal, the applicant shall be required to provide, at its expense, an alternate water supply or other mitigating measures.

k. This action shall not be construed to exempt the applicant from obtaining all necessary permits and/or approvals required for the project from other federal, state or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend or revoke this action if the applicant fails to obtain or maintain such approvals.

l. If the project applicant fails to comply with any term or condition of this docket, the Commission may suspend, modify or revoke its approval of same. Upon written notice by the Commission, the project applicant shall have thirty (30) days to correct such non-compliance, unless an alternate period is specified in the notice. Failure to comply within thirty (30) days, or within the alternate period identified in the notice, shall result in a ninety (90) day suspension of approval of this docket. If the project applicant fails to address the non-compliance to the satisfaction of the Commission within the suspension period, this approval may be revoked. Nothing herein shall preclude the Commission from exercising its authority to immediately modify, suspend or revoke this approval where it determines exigent circumstances warrant such action.

m. The Commission reserves the right, based upon new findings, to reopen any project docket and make additional orders that may be necessary to mitigate or avoid adverse impacts or otherwise to protect the public health, safety, welfare or the environment. Commission approval confers no property rights upon project sponsors.

n. This approval is effective until July 8, 2024. In order to continue operation beyond this time, the applicant shall submit a renewal application by January 8, 2023.

o. The applicant has a period of three years from the date of this approval to initiate the project or such approval will automatically expire, unless an extension is requested by the

applicant and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the applicant and approved by the Commission.

By the Commission:



Chairman

Dated: July 8, 1999



SUSQUEHANNA RIVER BASIN COMMISSION

4423 North Front Street • Harrisburg, Pennsylvania 17110-1788

(717) 238-0423 Phone • (717) 238-2436 Fax

www.srbc.net

Docket No. 20190314

Approval Date: March 10, 2011

Modification Date: March 15, 2019

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY

**Groundwater Withdrawal (30-Day Average) of 0.260 mgd from Well 1,
and Total System Withdrawal Limit (30-Day Average) of 0.835 mgd**

Section 1. Approval

After review of the record, including the technical findings of Susquehanna River Basin Commission (Commission) staff, the application of the project sponsor requesting a withdrawal of water in support of the project identified in Section 2, from the source identified in Section 3, is hereby approved by the Commission in accordance with the conditions set forth below.

Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP) during review of this project.

On June 29, 2018, the project sponsor submitted a grandfathered water use registration form (Form) in accordance with 18 CFR Part 806, Subpart E. Based on the review of the Form and available data, and in accordance with 18 CFR §806.44, the Executive Director has determined a revised grandfathered quantity for withdrawal from Glatfelter Springs. This determination supersedes the grandfathered quantity listed in Commission Docket No. 20110305; therefore, the Commission initiated this corrective modification to update the previously considered grandfathered quantity.

Section 2. Project Information

Information concerning the project sponsor, water use type, and location are set forth in the table below.

Project Information	
Project Sponsor:	East Donegal Township Municipal Authority
Approval Type:	Groundwater Withdrawal
Past Docket No.:	20110305
Water Use Type:	Public Water Supply
Municipality:	East Donegal Township
County:	Lancaster County
State:	Pennsylvania

Section 3. Source Information

Information concerning the source of water from which the withdrawal will be made is set forth in the table below.

Source Information	
Withdrawal Type:	Groundwater
Withdrawal Source:	Well 1
Subbasin:	Lower Susquehanna
Watershed Boundary Dataset (WBD):	0205030617

Section 4. Aquifer Testing

The project sponsor requested that the constant-rate aquifer testing required by Commission Regulation 18 CFR §806.12 for groundwater withdrawals be waived. In support of its request for the waiver of the constant-rate aquifer testing, the project sponsor stated that Well 1 has been operating with no known adverse impacts, and that the withdrawal rate from the well is not proposed to increase. Commission staff determined that the withdrawal from Well 1 at the requested withdrawal rate should not cause permanent loss of aquifer storage, render competing supplies unreliable, or cause adverse impacts to the water resources of the basin, subject to the conditions set forth below. Therefore, the aquifer testing requirements for Well 1, according to Commission Regulation 18 CFR §806.12, are hereby waived.

Section 5. Approved Withdrawal Conditions

Conditions applicable to the withdrawal approved hereunder are set forth in the table below.

Approved Withdrawal Conditions		
Withdrawal Location (degrees)*:	Lat: --	Long: --
30-Day Average Withdrawal (mgd):	0.260	
Maximum Instantaneous Withdrawal Rate (gpm):	250 (Not to Exceed)	
Total System Withdrawal Limit (30-Day Average) (mgd):	0.835	
Combined Well 1 and Well 2 Withdrawal Limit (30-Day Average) (mgd) (see Section 6):	0.584	
Flow Protection Required:	No	
mgd – million gallons per day gpm – gallons per minute		
* Specific location information concerning discrete water-related project features has been withheld for security reasons.		

Section 6. Existing Approved Withdrawals

Conditions applicable to the existing approved withdrawals are listed in the table below.

Existing Approved Groundwater Withdrawals		
Source	30-Day Average Withdrawal (mgd)	Commission Docket No.
Well 1	0.260	19810309
Well 2	0.324	19990702
Well 1 and Well 2 (partial system cap)	0.584	19990702

Section 7. Grandfathering Determination – Groundwater Withdrawals

On June 29, 2018, the project sponsor submitted a Form under 18 CFR §§806.40-45. The Executive Director has made the following determination pursuant to 18 CFR §806.44:

Grandfathered Groundwater Withdrawals	
Source	30-Day Average Withdrawal (mgd)
Glatfelter Springs	0.351

Section 8. Standard Conditions

1. The project sponsor shall comply with all Commission regulations, including metering and reporting requirements contained in Commission Regulation 18 CFR §806.30.

2. Within ninety (90) days from the date of this approval, the project sponsor shall certify and maintain metering on the withdrawal in accordance with Commission Regulation 18 CFR §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter and certify the accuracy of the measuring device to within five (5) percent of actual flow.

3. The project sponsor or any other person shall allow authorized employees or agents of the Commission, without advance notice, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained, or otherwise exercise all investigative powers authorized under Commission Regulation 18 CFR §808.12.

4. The project sponsor shall keep daily records of all the project's withdrawals and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter. Any alternative measuring, monitoring, or accounting procedure requested by the project sponsor shall be reviewed and, if appropriate, approved by Commission staff.

5. Within ninety (90) days from the date of this approval, the project sponsor shall submit a plan to Commission staff for review and approval for the implementation of a groundwater elevation monitoring program. The plan shall include proposed methods for the daily measurement and recording of groundwater elevations in the sources listed in Sections 3 and 6. Following approval, the project sponsor shall execute the plan and complete installation of water level monitoring equipment in accordance with the approved schedule. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the water level monitoring equipment when it has been installed and certify the accuracy of the measuring devices. The project sponsor shall notify the Commission when the monitoring plan has been fully implemented. Thereafter, the groundwater elevations data shall be reported to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

6. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and groundwater elevations, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow or elevation.

7. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with 25 PA Code §110.201, Pennsylvania Water Resources Planning Act, Act 220 of 2002.

8. If the project sponsor fails to comply with the provisions of the Susquehanna River Basin Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation 18 CFR §808.

9. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. All such permits and/or approvals shall be obtained prior to the withdrawal of water. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

10. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

11. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

12. This project is approved for inclusion in the Commission's Comprehensive Plan for the Water Resources of the Susquehanna River Basin.

13. Should the project's anticipated withdrawal be expected to exceed the approved amounts listed herein, the project sponsor shall be required to make application for modification to this approval at that time.

14. If the Commission determines that the operation of the project's groundwater withdrawal adversely affects any existing groundwater or surface water withdrawal, the project sponsor shall be required to provide, at its expense, an alternate water supply or other mitigating measure.

Section 9. Special Conditions

15. This approval is effective until March 9, 2026. As specified in Commission Regulation 18 CFR §806.31(e), the project sponsor shall submit an application by September 9, 2025, and obtain Commission approval prior to continuing operation beyond March 9, 2026.

16. Docket No. 19810309 approving the groundwater withdrawal from Well 1 is hereby rescinded.

17. Should the project's grandfathered withdrawal be expected to exceed the amounts listed herein, the project sponsor shall be required to make application for approval at that time.

18. Should the project's anticipated total system demand be expected to exceed the approved total system withdrawal limit herein, the project sponsor shall be required to make application for approval at that time.

19. Commission Docket No. 20110305 is hereby superseded.

CERTIFICATION: I, Jason E. Oyler, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 15, 2019.

Dated: March 18, 2019



Jason E. Oyler, Esq.



SUSQUEHANNA RIVER
BASIN COMMISSION

4423 N. Front Street | Harrisburg, PA 17110-1788 | 717.238.0423 | srbc.net | @SRBCnews

NY ■ PA ■ MD ■ USA

October 2, 2019

Mr. Robert E. Hiestand, Chairman
East Donegal Township Municipal Authority
117 South River Street
P.O. Box 82
Maytown, PA 17550

Re: Groundwater Elevation Monitoring Plan Approval;
East Donegal Township Municipal Authority;
East Donegal Township, Lancaster County, Pennsylvania;
Commission Docket No. 20190314

Dear Mr. Hiestand:

Susquehanna River Basin Commission (Commission) staff has reviewed the Groundwater Elevation Monitoring Plan (Plan) dated August 19, 2019, submitted by East Donegal Township Municipal Authority (Authority). The Plan is associated with groundwater withdrawals from Wells 1 and 2 (Wells), located in East Donegal Township, Lancaster County, Pennsylvania. The Plan was submitted to fulfill Standard Condition 5 of Commission Docket No. 20190314 (Docket). The Plan was received by the Commission via the Monitoring Data Website (MDW) on August 19, 2019, and is hereby approved as follows.

GROUNDWATER ELEVATION MEASUREMENTS

Continuous water level measurements will be taken from the Wells using a water level monitoring system installed in each well. Daily groundwater elevation data will be transmitted and recorded utilizing a central Supervisory Control and Data Acquisition (SCADA) system. As a backup method, water level measurements will be manually taken from the Wells using existing airlines in each well.

When possible, the Authority shall collect manual water level readings from the Wells on a quarterly basis in order to verify the accuracy of the water level probes in place. If a deviation is noted in the depth to water recorded by the two methods, recalibration shall be performed in accordance with the manufacturer's recommendations, or as deemed necessary by the Commission.

REPORTING

For reporting purposes, only one groundwater elevation, preferably in feet above mean sea level (AMSL), will be required from each well. The reported groundwater elevation measurement shall be the lowest groundwater elevation recorded each day. The Authority shall keep daily records of the groundwater levels in the Wells, and shall submit the data electronically to the Commission on a quarterly basis, or as otherwise required. Please note that while only one daily groundwater elevation measurement is required to be reported for each active well, it may be advantageous for the Authority to collect and record water level data more frequently than the required minimum of once per day. The groundwater elevation data shall be reviewed frequently by the Authority (or its representative), and any indications of an adverse impact shall be reported to the Commission immediately.

CONCLUSION

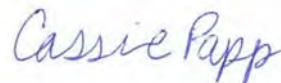
Commission staff has reviewed the above-referenced Plan and finds it to be acceptable; therefore, the Authority is approved to operate the project in accordance with the Docket and the approved Plan.

The Authority shall implement the Plan in accordance with the schedule outlined in the approved Plan. The Authority shall notify the Commission when the Plan has been fully implemented.

As a reminder, any alternative measuring, monitoring, and/or accounting procedures requested by the Authority must first be reviewed and approved by Commission staff. The Authority shall submit an addendum to the Plan and receive written approval prior to the installation of any components at the withdrawal sites that differ from those described in the approved Plan.

If you have any questions regarding the above information, please contact me at (717) 238-0423, extension 1209, or via e-mail at cpapp@srbc.net.

Sincerely,



Cassie Papp
Compliance Specialist



SUSQUEHANNA RIVER BASIN COMMISSION

4423 North Front Street • Harrisburg, Pennsylvania 17110-1788

(717) 238-0423 Phone • (717) 238-2436 Fax

www.srbc.net

CERTIFICATE OF REGISTRATION FOR GRANDFATHERED WATER USE

Certificate No. GF-201903025

A. Facility Information

Project Sponsor: East Donegal Township Municipal Authority

Facility: East Donegal Township Municipal Authority

Municipality, County, State: East Donegal Township, Lancaster County, Pennsylvania

B. Source Information and Withdrawal Quantities

The withdrawal from the listed source is considered to be grandfathered subject to the quantity limit and/or restrictions set forth below:

- Withdrawal of 0.351 million gallons per day (mgd), as a maximum consecutive 30-day average, from Glatfelter Springs, for public water supply.

C. Consumptive Use Quantity

Not Applicable

AUTHORIZATION

After review of the record, the Executive Director has determined the water uses for the Facility are considered to be grandfathered as described herein in accordance with the conditions set forth below and 18 CFR §§ 806.41-43. This Certificate is issued pursuant to the authority set forth in 18 CFR § 806.44 and is subject to the provisions of the Susquehanna River Basin Compact.

Dated: March 15, 2019


Andrew D. Dehoff, Executive Director

AUTHORIZATION CONDITIONS

1. The project sponsor shall seek Susquehanna River Basin Commission (Commission) approval prior to exceeding the above-referenced average. Per 18 CFR § 806.43 and Standard Condition 4 of Commission Docket No. 20190314, the Facility shall continue to keep daily records of withdrawals from Glatfelter Springs and shall report these data to the Commission quarterly, and as otherwise required, in the form and manner as prescribed by Commission staff. Quarterly monitoring reports shall be submitted online and are due within thirty (30) days after the close of the preceding quarter.
2. The project sponsor is required to adhere to the metering and monitoring procedures reviewed and approved by Commission staff. Daily records of water withdrawn from Glatfelter Springs shall be quantified using the existing flow meter. Any alternative measuring, monitoring, or accounting procedure shall be submitted for review and approval by Commission staff, in accordance with 18 CFR § 806.43. Modifications shall not be made until the project sponsor receives written approval from the Commission.
3. In accordance with 18 CFR § 806.30(b)(2), the Facility is required to report exceedances of the withdrawal quantity average referenced above to the Commission within five (5) days of such exceedance, and report loss of measuring or recording capabilities required under 18 CFR § 806.30(a)(1) within five (5) days after any such loss.
4. Grandfathering is contingent upon continued operation of the Facility under current terms and conditions. The Facility shall submit appropriate applications to the Commission for review and approval prior to any changes to its operations, including:
 - a. Development of new withdrawal sources at the Facility;
 - b. Increases in withdrawals over the quantity referenced above; or
 - c. Changes in the nature of water uses at the Facility.
5. In accordance with 18 CFR § 806.6, if ownership of the Facility changes, the new project sponsor must submit an application for transfer of this authorization within ninety (90) days of the change in ownership. A transfer will be conditioned to require the submission of new applications, as appropriate, for review and approval. Upon undergoing a name change that does not affect ownership or control of the Facility, the project sponsor must request a reissuance of this determination within ninety (90) days of the change of name.
6. This determination is approved for inclusion in the Commission's Comprehensive Plan for the Water Resources of the Susquehanna River Basin.

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-21. Please state if EDTMA will dissolve after closing with Columbia Water.

RESPONSE: It is the intention of EDTMA to be dissolved after Commission approval and subsequent closing of the transaction with Columbia Water.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-22. Please state the distance, in miles, between Columbia Water's closest existing water facility and EDTMA's water system.

RESPONSE: The EDTMA and Columbia Water Company water systems are immediately adjacent to each other, and in fact are connected by an emergency interconnection that has been in place for greater than 3 decades.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-23. Please identify any operational and/or managerial changes Columbia Water intends to make after acquiring EDTMA's water system.

RESPONSE: EDTMA has no direct employees and uses part-time contractors. These contractors have indicated a desire to retire soon. Columbia Water will continue to use the part-time contractors to operate the system after closing and will transition to Columbia Water operators over time.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-25. Please provide a copy of the certified operator's certificate for the individual(s) Columbia Water intends to operate the EDTMA facilities to be acquired.

RESPONSE: Attached is a copy of the certified operators' certificates who may be involved from time to time with the operation of EDTMA facilities.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

ALAN L MILLER

*Is Hereby Authorized to Operate
WATER SYSTEM*

Client ID: 197515

**Class: A,E, Water
Subclass: 1,2,3,4,5,6,7,8,9,10,11,12,13,14**

**ALAN L MILLER
3300 COLEBROOK RD
ELIZABETHTOWN PA 17022-9075**

**Issue Date Oct 1, 2019
Expiration Date Sep 30, 2022**

Certificate No. W9637


Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

DANIEL R ZELAMER

Client ID: 286658
DANIEL R ZELAMER
455 LOCUST GROVE RD
YORK PA 17402-3521



Issue Date: Oct 1, 2020
Expiration Date: Sep 30, 2023

Certificate No. W18596

Joseph J. Smerlock
Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

DONALD R RICHARDS

*Is Hereby Authorized to Operate
WATER SYSTEM*

Client ID: 199893

Class: A,E, Water
Subclass: 7,8,9,10,11,12,13,14

DONALD R RICHARDS
3229 MAYTOWN RD
MARIETTA PA 17547-9759

Issue Date Oct 1, 2019
Expiration Date Sep 30, 2022

Certificate No. W8994


Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

ERIC T FAUS

*Is Hereby Authorized to Operate
WATER SYSTEM*

*Class: A/E, Water
Subclass: 1,12*

**ERIC T FAUS
PO BOX 350
COLUMBIA PA 17512-0350**

**Issue Date Oct 1, 2020
Expiration Date Sep 30, 2023**

Certificate No. W18599

Joseph P. Steward
Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

JASON K LIVELSBERGER

Is Hereby Authorized to Operate
WATER SYSTEM

Class: A.E. Water

Subclass: 1

**JASON K LIVELSBERGER
131 MAPLE ST
WRIGHTSVILLE PA 17368-1633**

**Issue Date: Jan 1, 2021
Expiration Date: Dec 31, 2023**

Certificate No. W20596

Joseph P. Sweeney
Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

JOSHUA T GROFT

*Is Hereby Authorized to Operate
WATER SYSTEM*


Client ID: 276315

Class: A,E, Water
Subclass: 1,8,12

**JOSHUA T GROFT
500 N FRONT ST EXT
WRIGHTSVILLE PA 17368-1334**

Issue Date Jan 1, 2019
Expiration Date Dec 31, 2021

Certificate No. W18018


Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the
Department of Environmental Protection*

MARC S ECK

Is Hereby Authorized to Operate
WATER SYSTEM

Client ID: 197239

Class: A,E, Water
Subclass: 1,2,3,4,5,6,7,8,9,10,11,12,13,14

**MARC S ECK
844 WRIGHT ST
COLUMBIA PA 17512-1543**

Issue Date Apr 1, 2019
Expiration Date Mar 31, 2022

Certificate No. W5782


Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the
Department of Environmental Protection*

MICHAEL T HORST

Is Hereby Authorized to Operate

WATER SYSTEM

Class: A, Water

Subclass: 1,6,7,8,10,11,12,13

Client ID: 239082

**MICHAEL T HORST
18 DEVONSHIRE PL
COLUMBIA PA 17512-9465**

Issue Date Jan 1, 2021
Expiration Date Dec 31, 2023

Joseph J. Swandorak
Board Chairman

Certificate No. W14659

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

TAZ M KEYSER

Is Hereby Authorized to Operate
WATER SYSTEM

Client ID: 273398

Class: A,E, Water
Subclass: 1,2,7,8,9,11,12

TAZ M KEYSER
1030 LOCUST ST
COLUMBIA PA 17512-1324

Issue Date Apr 1, 2021
Expiration Date Mar 31, 2024

Mary Rose

Certificate No. W18850

Board Chairperson

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the*

Department of Environmental Protection

TIMOTHY W HORNE

Is Hereby Authorized to Operate
WATER SYSTEM

Client ID: 194609

Class: A,E, Water
Subclass: 1,3,6,7,8,9,10,11,12,13

TIMOTHY W HORNE
78 N PENN ST
WINDSOR PA 17366-9669

Issue Date Feb 3, 2021
Expiration Date Jun 30, 2023

Mary K...

Board Chairperson

Certificate No. W18461

Commonwealth of Pennsylvania

Department of Environmental Protection

*In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the
Department of Environmental Protection*

TIMOTHY J RICHARDS

Is Hereby Authorized to Operate

WATER SYSTEM

Class: A,E, Water

Subclass: 7,8,9,10,11,12,13,14

Client ID: 201058

**TIMOTHY J RICHARDS
23 N RIVER ST
MARIETTA PA 17547-9537**

Issue Date Oct 1, 2019
Expiration Date Sep 30, 2022

Certificate No. W8593

Joseph S. Swandorff
Board Chairman

Commonwealth of Pennsylvania

Department of Environmental Protection

In accordance with the
State Board for Certification of Water and Wastewater Systems Operators
and the Regulations of the
Department of Environmental Protection

TYLER M. STIFFEY

Is Hereby Authorized to Operate
WATER SYSTEM


Client ID: 207998

TYLER M STIFFEY
1127 DRAGER RD
COLUMBIA PA 17512-8705

Class: A,E, Water
Subclass: 1,7,8,9,10,11,12,13,14

Issue Date Jul 01, 2018
Expiration Date Jun 30, 2021

Certificate No. W12171


Board Chairman

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-27. Please verify that Columbia Water will be able to provide adequate water supply, treatment, storage, and distribution capacity to meet present and future customer demands within the requested territory.

RESPONSE: EDTMA's systems has adequate stand-alone water supply, treatment, storage and distribution capacity to meet present and future customer demands. Supplement from the Columbia Water system is not needed, anticipated or planned.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY'S RESPONSES TO BUREAU OF TECHNICAL SERVICES' DATA REQUESTS, SET 1

A-29. Columbia Water's letter filed on October 4, 2021, at Docket No. A-2021-3027134 included a copy of an agreement between Columbia Water and East Donegal Sewer Authority dated May 21, 1990. Please confirm that Columbia Water is seeking a certificate of filing pursuant to Section 507 of the Public Utility Code, 66 Pa.C.S. § 507, regarding the assignment of this agreement to Columbia Water.

RESPONSE: Confirmed that Columbia Water is seeking a certificate of filing pursuant to 66 Pa. C.S. § 507 for the assignment of the East Donegal Sewer Authority agreement dated May 21, 1990 between East Donegal Sewer Authority and EDTMA.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-30. Please explain how EDTMA customers receive wastewater service (e.g., public sewer or on-lot septic) and confirm if EDTMA water usage data is used to calculate wastewater bills.

RESPONSE: Public sewer in EDTMA’s service area is provided by the Marietta Donegal Joint Sewer Authority. EDTMA’s water usage data is not used to calculate wastewater bills.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 26, 2021

Application of Columbia Water Company for approval of the right to: (1) acquire, by sale, substantially all the water systems assets of East Donegal Township Municipal Authority; and (2) begin to offer, render, furnish and supply water service to the public in portions of East Donegal Township, Lancaster County, Pennsylvania; Docket No. A-2021-3027134

COLUMBIA WATER COMPANY’S RESPONSES TO BUREAU OF TECHNICAL SERVICES’ DATA REQUESTS, SET 1

A-33. Please provide copies of EDTMA’s two most recent annual financial statements filed with the Department of Community and Economic Development.

RESPONSE: Attached are copies of EDTMA’s financial statements for FY2019 and FY2020.

PROVIDED BY: David Lewis, Vice President and General Manager

DATE: October 27, 2021

**EAST DONEGAL TOWNSHIP MUNICIPAL
AUTHORITY**

DCED Report

Year Ended September 30, 2019

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
DCED REPORT
YEAR ENDED SEPTEMBER 30, 2019

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BERTZ, HESS & CO., LLP

CERTIFIED PUBLIC ACCOUNTANTS

BUSINESS AND FINANCIAL CONSULTANTS

36 EAST KING STREET
LANCASTER, PA 17602-2896

(717) 393-0767
FAX: (717) 293-8560
800-522-9967
www.bertzhess.com



INDEPENDENT AUDITORS' REPORT

To the Board of Directors

East Donegal Township Municipal Authority

Maytown, Pennsylvania

We have audited the accompanying financial statements of East Donegal Township Municipal Authority (the "Authority"), Maytown, Pennsylvania, which comprise the Authority's basic financial statements as listed in the table of contents as of and for the year ended September 30, 2019, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the regulatory basis of accounting, as described in Note 2. Management is also responsible for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

To the Board of Directors
East Donegal Township Municipal Authority
Maytown, Pennsylvania

Basis for Adverse Opinion on U.S. Generally Accepted Accounting Principles

As described in Note 2, the financial statements are prepared by the Authority on the regulatory basis of accounting using accounting practices prescribed or permitted by the Commonwealth of Pennsylvania's Department of Community and Economic Development (DCED), which is a basis of accounting other than accounting principles generally accepted in the United States of America.

The effects on the financial statements of the variances between the regulatory basis of accounting described in Note 2 and accounting principles generally accepted in the United States of America, although not reasonably determinable, are presumed to be material.

Adverse Opinion on U.S. Generally Accepted Accounting Principles

In our opinion, because of the significance of the matter discussed in the "Basis for Adverse Opinion on U.S. Generally Accepted Accounting Principles" paragraph, the financial statements referred to above do not present fairly, in accordance with accounting principles generally accepted in the United States of America, the financial position of the Authority as of September 30, 2019, or the respective changes in financial position for the year then ended. Further, the Authority has not presented a management's discussion and analysis that accounting principles generally accepted in the United States has determined is necessary to supplement, although not required to be part of, the basic financial statements.

Unmodified Opinion on Regulatory Basis of Accounting

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of East Donegal Township Municipal Authority as of September 30, 2019, and its respective changes in financial position for the year then ended, in accordance with the regulatory basis of accounting as described in Note 2.

Bertz, Hess & Co., LLP

BERTZ, HESS & CO., LLP
Lancaster, Pennsylvania
September 14, 2020

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
 OPERATING AUTHORITIES BALANCE SHEET
 FISCAL YEAR ENDING SEP 2019

ASSETS			
CURRENT ASSETS			
Cash and cash equivalents	\$ 1,280,441		
Investments	-		
Accounts receivable	179,439		
Inventories	-		
Other current assets	<u>20,180</u>		
TOTAL CURRENT ASSETS		1,480,060	
RESTRICTED ASSETS/TRUST FUNDS		7,009	
DEFERRED CHARGES		-	
FIXED ASSETS			
Property, plant & equipment, at cost	6,591,517		
Less accumulated depreciation	(4,166,555)		
Construction work in process	218,785		
Other fixed assets	<u>-</u>		
NET FIXED ASSETS		<u>2,643,747</u>	
TOTAL ASSETS			<u>\$ 4,130,816</u>
LIABILITIES AND FUND EQUITY			
Accounts payable	\$ 210,120		
Accrued payroll & withholdings	4,680		
Accrued interest payable	-		
Current portion of long-term debt	-		
Other current liabilities	<u>20,128</u>		
TOTAL CURRENT LIABILITIES		234,928	
LONG-TERM DEBT - less current portion		<u>-</u>	
TOTAL LIABILITIES			234,928
FUND EQUITY			
CONTRIBUTED CAPITAL			
Governmental grants	298,949		
Other contributions	<u>417,759</u>		
TOTAL CONTRIBUTED CAPITAL		716,708	
RETAINED EARNINGS			
Reserved	7,009		
Unreserved	<u>3,172,171</u>		
TOTAL RETAINED EARNINGS		<u>3,179,180</u>	
TOTAL FUND EQUITY			3,895,888
TOTAL LIABILITIES & FUND EQUITY			<u>\$ 4,130,816</u>

See notes to financial statements.

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
WATER
OPERATING AUTHORITIES
STATEMENT OF INCOME AND EXPENDITURES

OPERATING REVENUES		
Sale of service/user charges	\$ 476,088	
Operating grants - State	-	
- Federal	-	
Local government operating subsidies	-	
Interest income	27,639	
Other operating revenues	<u>22,303</u>	
TOTAL OPERATING REVENUES		526,030
OPERATING EXPENSES		
Cost of sales and services	198,938	
Administration - Salaries	138,915	
- Other costs	35,421	
Depreciation	182,001	
Other operating expenses	<u>-</u>	
TOTAL OPERATING EXPENSES		<u>555,275</u>
OPERATING INCOME (LOSS)		(29,245)
NONOPERATING REVENUES		
Capital grants - State	-	
- Federal	-	
Proceeds of sale of fixed assets	-	
Proceeds of borrowings	-	
Other nonoperating revenues	<u>4,025</u>	
TOTAL NONOPERATING REVENUES		4,025
NONOPERATING EXPENSES		
Debt service payments (interest only)	-	
Constructions/extension of system	-	
Major equipment purchased	-	
Other nonoperating expenses	<u>-</u>	
TOTAL NONOPERATING EXPENSES		<u>-</u>
TOTAL NONOPERATING REVENUE (LOSS)		<u>4,025</u>
NET INCOME BEFORE EXTRAORDINARY ITEMS		(25,220)
EXTRAORDINARY GAIN (LOSS)		-
NET INCOME		<u>\$ (25,220)</u>
RETAINED EARNINGS (beginning of year)		\$ 3,204,400
RETAINED EARNINGS (end of year)		\$ 3,179,180

See notes to financial statements.

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
FOR YEAR ENDED SEPTEMBER 30, 2019

NOTE 1: CORPORATE DATA

The East Donegal Township Municipal Authority (the "Authority"), Maytown, Pennsylvania, was organized by the Supervisors of East Donegal Township, Pennsylvania, under the laws of the Commonwealth of Pennsylvania pursuant to the Municipality Authorities Act of 1945, approved May 2, 1945 P. L. 382 as amended. The Authority, which was incorporated in 1949, operates a water supply and distribution system in East Donegal Township. The Board of Directors amended the Articles of Incorporation on November 4, 1989 to extend the term of existence of the Authority to November 1, 2039. Water rents are billed on a quarterly basis to customers based on individual meter readings.

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The financial statements of the East Donegal Township Municipal Authority have been prepared in accordance with accounting principles as prescribed by the Commonwealth of Pennsylvania's Department of Community and Economic Development (DCED) for complying with the Municipal Authorities Act, Section 8, in which every Authority is required to file an annual report. The most significant difference between this regulatory basis of accounting and generally accepted accounting principles (GAAP) is that the Government Accounting Standards Board (GASB) Statement 34, Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments; Statement 54, Fund Balance Reporting and Governmental Fund Type Definitions; and Statement 61, Omnibus: An Amendment of GASB Statements 14 and 54 need not be implemented to meet the requirements of the Municipal Authorities Act. GASB 34, 54, and 61 would require significant additional changes including:

- Government-Wide Reporting
- Focus on Funds
- Changes in Budgetary Reporting
- Management Discussion and Analysis
- Infrastructure Reporting

Management has considered adopting GASB 34, 54, and 61 and determined that preparing the financial statement utilizing the comprehensive basis of accounting as prescribed by the DCED as described above, as opposed to GAAP, makes fiscal sense for the Authority.

The Authority accounts for its operation in an enterprise fund using the economic resources measurement focus and the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when incurred, regardless of the timing of related cash flows.

Pronouncements of GASB and FASB

Under Government Accounting Standards Board (GASB) Statement No. 20, the Authority has opted not to apply Financial Accounting Standards (FASB) pronouncements issued after November 20, 1989.

Cash and Cash Equivalents

The Authority considers all highly liquid investments, including restricted assets and certificates of deposit, to be cash equivalents.

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
FOR YEAR ENDED SEPTEMBER 30, 2019

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Investments

The Authority is authorized by the Municipal Authorities Act of 1945 to invest its funds. Authorized types of investments include the following:

1. U.S. Treasury bills.
2. Short-term obligations of the U.S. Government or its agencies or instrumentalities.
3. Insured savings and checking accounts and certificates of deposit in banks, savings and loan associations, and credit unions.
4. General obligation bonds of the U.S. Government or any of its agencies, the Commonwealth of Pennsylvania or any state agency, or of any Pennsylvania political subdivision.
5. Shares of mutual funds whose investments are restricted to the above categories.

Inventory

Inventories of supplies are minimal and expensed by the Authority and therefore are not reflected on the financial statements.

Capital Assets

Capital assets, which include property, plant, equipment and infrastructure assets (e.g. water lines), are defined by the Authority as assets with an initial cost of more than \$1,000 and an estimated useful life in excess of two years. Assets are recorded at cost. Contributed capital assets are recorded at fair market value at the time they are received and consist primarily of distribution lines and connections constructed and donated by developers.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized.

Capital assets of the Authority are depreciated using the straight line method over the following estimated useful lives:

Water source of supply and treatment	40 to 50 years
Water storage and distribution	40 to 50 years
Capacity rights	40 years
Meters and service connections	20 to 25 years
Buildings and improvements	10 to 50 years
Office and general equipment	5 to 10 years

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
FOR YEAR ENDED SEPTEMBER 30, 2019

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Basis of Presentation

The Authority reports information regarding its balance sheet and statement of income and expenditures according to two classes of retained earnings as follows:

Unreserved Retained Earnings

Unreserved retained earnings are retained earnings that are not subject to stipulations.

Reserved Retained Earnings

Reserved retained earnings have been restricted by bond indenture, law or contractual obligations to be used for specified purposes, such as servicing bonded debt and construction of capital assets. Generally, reserved resources are not commingled with unreserved resources in financing projects and activities.

Reserved retained earnings include water connection fees. The resolution establishing the Authority for water connection fees restricts the use of these fees to the construction, acquisition or financing of capital assets. The sale of service/user charges are exchange transactions (operating revenues). The connecting party receives a benefit (connection to the system) approximately equal in value to the amount paid. These fees do not represent capital contributions (non-exchange transactions).

Revenue Recognition

The Authority recognizes revenue for water rents in the period when the water is used rather than in the period when the bills are sent out. Metered water accounts are read and billed on a quarterly basis. Therefore, water used during the last quarter of the fiscal year ended September 30, 2019, but not billed until after that date, is recognized as revenue in the fiscal year ended September 30, 2019. As of September 30, 2019, unbilled receivables, which are a part of accounts receivable, were \$96,473. An allowance for doubtful accounts has not been established for accounts receivable. The Authority estimates this amount to be insignificant.

Other revenue includes rent income from space the Authority leases on top of the Authority's water tower to a cell phone service provider (see Note 8). Rent income is recognized when due and interest income when earned. Interest is earned from certificates of deposit and governmental securities held by the Authority.

Classification of Revenues and Expenses

An enterprise fund distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the Authority's principal ongoing operations. The principal operating revenues of the Authority are charges to customers for water sales and tapping fees. Operating expenses for the Authority include the cost of sales, administrative expenses and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

Non-operating revenues and expenses are those revenues and expenses generated that are not directly associated with the normal business of supplying water. During the year ended September 30, 2019, the non-operating revenue included miscellaneous reimbursements. There were no non-operating expenses during the year ended September 30, 2019.

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
 NOTES TO FINANCIAL STATEMENTS
 FOR YEAR ENDED SEPTEMBER 30, 2019

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Compensated Absences

Some employees of the Authority are eligible for compensation for vacation and sick leave. Compensated absences for vacation and sick pay have not been accrued since management considers the amount to be insignificant and are expensed as incurred.

Use of Estimates

The financial statements are prepared in accordance with the basis permitted by the Commonwealth of Pennsylvania following the DCED annual report and accordingly include amounts that are based on management's best estimates and judgments. Actual results may differ from estimated amounts.

Management's Evaluation of Subsequent Events

Events that occurred subsequent to September 30, 2019 have been evaluated by the Authority's management through the date of the independent auditors' report, which is the date the financial statements were available to be issued.

NOTE 3: CASH AND CASH EQUIVALENTS

Cash and cash equivalents at September 30, 2019 consisted of the following:

	Unrestricted	Restricted	Total
Checking Accounts	\$ 64,640	\$ 7,009	\$ 71,649
Money Market Accounts	1,190,794	-	1,190,794
Certificates of Deposit	25,007	-	25,007
Total	\$ 1,280,441	\$ 7,009	\$ 1,287,450

NOTE 4: CONCENTRATIONS

Credit Risk

The Authority maintains cash and certificates of deposit at various financial institutions. These balances are insured by the Federal Deposit Insurance Corporation (FDIC), which provides \$250,000 of coverage per custodian. At September 30, 2019, the Authority had uninsured balances of \$516,725, which is covered by pooled assets of the bank pledged under Act 72 of Pennsylvania and is considered a category 3 risk. Category 3 risks are those cash balances for which securities are pledged by the bank as collateral but not in the Authority's name specifically.

The Authority maintains investment accounts where cash and investment balances are insured by the Securities Investor Protection Corporation (SIPC) up to \$500,000. At September 30, 2019, the Authority had no uninsured investment balances.

Operating Revenues

During the year ended September 30, 2019, revenues from one customer comprised 20.5% of total revenues.

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
 NOTES TO FINANCIAL STATEMENTS
 FOR YEAR ENDED SEPTEMBER 30, 2019

NOTE 5: SECURITY DEPOSITS

The Authority receives and disburses security deposits for various development and construction projects to ensure proper compliance with Authority regulations. The cash balance of security deposits at September 30, 2019 was \$20,180 and is included in other current assets on the balance sheet and includes \$52 of interest available for operations. The liability for these deposits is included in other current liabilities on the balance sheet.

NOTE 6: CONTRIBUTED CAPITAL

Capital contributions consist of contributed capital assets and special charges that are legally restricted for capital expenditures by state law or by the Board of Directors action that established those charges.

The Contributed Capital is composed of the following:

Water Distribution Systems assumed from Developers	\$ 417,759
Lancaster County Redevelopment Authority Community Dev. Block Grant for The Rowenna Project	298,949
Total Contributed Capital	\$ 716,708

NOTE 7: FIXED ASSETS

Activity for the year ended September 30, 2019 was as follows:

	Beginning	Additions	Reductions	Ending
Fixed Assets:				
Land	\$ 93,047	\$ -	\$ -	\$ 93,047
Building, water tanks, wells, & spring basin	2,584,672	-	-	2,584,672
Water distribution system and equipment	3,405,560	504,093	-	3,909,653
Office Equipment	-	4,145	-	4,145
Construction work in progress	80,604	642,274	(504,093)	218,785
Total Fixed Assets	6,163,883	1,150,512	(504,093)	6,810,302
Less Accumulated Depreciation:				
Building, water tanks, wells, & spring basin	(2,050,398)	(83,477)	-	(2,133,875)
Water distribution system and equipment	(1,934,156)	(97,859)	-	(2,032,015)
Office Equipment	-	(665)	-	(665)
Total Accumulated Depreciation	(3,984,554)	(182,001)	-	(4,166,555)
Fixed Assets, net	\$ 2,179,329	\$ 968,511	\$ (504,093)	\$ 2,643,747

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
FOR YEAR ENDED SEPTEMBER 30, 2019

NOTE 7: FIXED ASSETS (Continued)

Depreciation expense for the year ended September 30, 2019 was \$182,001.

Construction Work in Progress

Construction work in progress is stated at cost, which includes the cost of construction and other direct costs attributable to the construction. No provision for depreciation is made on construction work in progress until such time as the relevant assets are completed and put into use.

The Authority completed its work on repaving Route 743 and extending the water main of Coffee Goss and Endslo roads during the year ended September 30, 2019. The balance in Construction Work in Progress of \$80,604, as well as costs incurred during the year ended September 30, 2019, were capitalized.

The Authority is extending the water main of East High Street, which is scheduled to be completed during the year ending September 30, 2020. As of September 30, 2019, the Authority incurred and capitalized costs of \$218,785 in "Construction work in progress". The estimated cost to complete during the year ended September 30, 2020 is \$315,503.

NOTE 8: LEASES

The Authority leases space on top of the water tower to a cell phone company to use for wireless communication services. The lease began in 1999 with an initial five-year term. The lease automatically renews on January 1 for four successive five-year terms with a 12.5% increase at each renewal period. Payments on this lease are due at the beginning of each month in the amount of \$1,859. Total lease income for the year ended September 30, 2019 was \$22,303.

The future non-cancelable portion of the lease to be received for the years ended September 30 is as follows:

2020	\$	5,576
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NOTE 9: COST-SHARING AGREEMENT

During the year ended September 30, 2018, the Authority signed a cost-sharing agreement with the Commonwealth of Pennsylvania (the "Commonwealth") for the re-paving of Route 743 (see Note 7). Under this agreement, the Commonwealth agreed to reimburse the Authority 75% of the costs of the construction. For the year ended September 30, 2018, the Authority incurred costs of \$44,576 and expects to be reimbursed \$36,655, which was included in "Accounts receivable" on the operating authorities balance sheet. This amount remained an outstanding receivable as of September 30, 2019.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

AND

REPORT OF CERTIFIED PUBLIC ACCOUNTANTS

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA

SEPTEMBER 30, 2020

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INDEPENDENT AUDITOR'S REPORT

To the Members of the Board
East Donegal Township Municipal Authority
Maytown, Pennsylvania

Report on the Financial Statements

We have audited the accompanying financial statements of the East Donegal Township Municipal Authority as of and for the year ended September 30, 2020, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above presented fairly, in all material respects, the respective financial position of East Donegal Township Municipal Authority as of September 30, 2020 and the respective changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Management has omitted the management's discussion and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

Sager, Swisher and Company, LLP

Columbia, Pennsylvania
June 11, 2021

EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA

STATEMENT OF NET POSITION
SEPTEMBER 30, 2020

ASSETS

Current Assets

Cash and Cash Equivalents	\$ 1,000,136
Cash - Escrow Deposits	41,180
Accounts Receivable – Other	27,796
Accounts Receivable – Water Rents	<u>153,987</u>

Total Current Assets 1,223,099

Restricted Assets

Cash and Cash Equivalents	<u>13,043</u>
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Total Restricted Assets 13,043

Capital Assets

Property, Plant and Equipment (Net of Accumulated Depreciation)	<u>2,590,313</u>
---	------------------

Total Capital Assets 2,590,313

Total Assets \$ 3,826,455

LIABILITIES

Current Liabilities

Accounts Payable	\$ 28,154
Payroll Withholdings	3,211
Developer Escrows	<u>41,088</u>

Total Current Liabilities 72,453

TOTAL LIABILITIES 72,453

NET POSITION

Net Investment in Capital Assets	2,590,313
Restricted	13,043
Unrestricted	<u>1,150,646</u>

TOTAL NET POSITION 3,754,002

TOTAL LIABILITIES AND NET POSITION \$ 3,826,455

The accompanying notes are an integral part of these financial statements.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**STATEMENT OF REVENUE, EXPENSES, AND
CHANGES IN NET POSITION
YEAR ENDED SEPTEMBER 30, 2020**

OPERATING REVENUE	
Charges and Fees	
User Fees	\$ 488,829
Administrative Fees	<u>1,774</u>
TOTAL OPERATING REVENUE	<u>490,603</u>
OPERATING EXPENSES	
Administrative Expenses	
Personnel Costs	17,020
Officer Compensation	21,125
Legal Services	39,873
Professional Services	23,607
Office Expenses	<u>6,563</u>
Total Administrative Expenses	<u>108,188</u>
Plant Expenses	
Personnel Costs	111,486
Payroll Taxes	9,946
Engineering Fees	36,259
Plant Maintenance	72,199
Plant Utilities	39,610
Chemicals	46,019
Insurance	17,024
Lab Testing	13,438
Other Plant Expenses	6,125
Permits	6,500
Depreciation	<u>198,633</u>
Total Plant Expenses	<u>557,239</u>
TOTAL OPERATING EXPENSES	<u>665,427</u>
OPERATING INCOME (LOSS)	<u>(174,824)</u>
NON-OPERATING REVENUES (EXPENSES)	
Interest Income	11,403
Rental Income	24,394
Tapping Fees	6,000
Refund of Prior Year's Revenues	<u>(8,859)</u>
TOTAL NON-OPERATING REVENUES (EXPENSES)	<u>32,938</u>
Changes in Net Position	(141,886)
Net Position – Beginning of Year	<u>3,895,888</u>
Net Position – End of Year	<u>\$ 3,754,002</u>

The accompanying notes are an integral part of these financial statements.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**STATEMENT OF CASH FLOWS
YEAR ENDED SEPTEMBER 30, 2020**

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash Received from Customers	\$ 479,397
Cash Payments for Goods and Services	(314,663)
Cash Payments to Employees	<u>(124,497)</u>
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>40,237</u>
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
	<u>--</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Payments for Capital Acquisitions	(335,305)
Tapping Fee Revenue	6,000
Rental Income	<u>24,394</u>
NET CASH PROVIDED BY (USED FOR) CAPITAL AND RELATED FINANCING ACTIVITIES	<u>(304,911)</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Earnings on Investments	<u>11,403</u>
NET CASH PROVIDED BY INVESTING ACTIVITIES	<u>11,403</u>
Net (Decrease) in Cash and Cash Equivalents	(253,271)
Cash and Cash Equivalents – Beginning of Year	<u>1,307,630</u>
Cash and Cash Equivalents – End of Year	<u>\$ 1,054,359</u>
 Reconciliation of Operating Income to Net Cash Provided by Operating Activities	
Operating (Loss)	\$ (174,824)
 Adjustments to Reconcile Operating Income (Loss) to Net Cash Provided by Operating Activities	
Depreciation	198,633
(Increase) Decrease In Accounts Receivable	(11,203)
Increase (Decrease) In Accounts Payable	8,140
Payroll Withholdings	(1,469)
Developer Escrows	<u>20,960</u>
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>\$ 40,237</u>

The accompanying notes are an integral part of these financial statements.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**NOTES TO THE FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

NOTE 1 – REPORTING ENTITY AND SIGNIFICANT ACCOUNTING POLICIES

The East Donegal Township Municipal Authority (the "Authority"), Maytown, Pennsylvania, was organized by the Supervisors of East Donegal Township, Pennsylvania, under the laws of the Commonwealth of Pennsylvania pursuant to the Municipal Authorities Act of 1945, approved May 2, 1945 P.L. 382 as amended. The Authority, which was incorporated in 1949, operates a water supply and distribution system in East Donegal Township. The Board of Directors amended the Articles of Incorporation on November 4, 1989 to extend the existence of the Authority to November 1, 2039. Water rents are billed on a quarterly basis to customers based on individual meter readings.

The financial statements of the East Donegal Municipal Authority have been prepared in accordance with generally accepted accounting principles (GAAP) as applied to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles. The more significant of these accounting policies are as follows:

A. Basis of Accounting

The Authority uses the accrual method of accounting. Revenue is recognized in the period in which earned and becomes measurable. Expenses are recognized at the time they are incurred.

The accounts of the Authority are organized on the basis of funds, each of which is considered a separate accounting entity. The operations of each fund are accounted for by providing a separate set of self-balancing accounts which comprise its assets, liabilities, fund equity, revenues, and expenses. Resources are allocated to and accounted for in individual funds based upon the purposes for which they are to be spent.

B. Basis of Presentation

The Authority reports one major fund type as follows:

Proprietary Fund Types – these funds account for operations that are organized to be self-supporting through user charges. Included in this category are Enterprise Funds.

Enterprise Funds – these funds are established to account for operations in a manner similar to private business enterprises, where the costs of providing goods or services to the general public on a continuing basis are intended to be financed or recovered primarily through user charges. The Enterprise Funds of the Authority are as follows:

Water Revenue Fund – used to account for revenues earned and expenses incurred in the operation of the water distribution system.

C. Measurement Focus

The Proprietary Fund is accounted for on a flow of economic resources measurement focus. All assets and liabilities (current and noncurrent) associated with the activity funds are included on the Statement of Net Position. The Statement of Revenue, Expenses and Changes in Net Position presents increases and decreases in total net position.

D. Cash and Restricted Cash

The Authority considers all cash accounts and all highly liquid, including restrict assets, to be cash equivalents. Restricted cash represents cash received from developers and held in separate accounts. The funds will be utilized for development plan reviews and inspection fees. Any unused funds will be returned to the developer.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**NOTES TO THE FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

NOTE 1 – REPORTING ENTITY AND SIGNIFICANT ACCOUNTING POLICIES (Continued)

E. Accounts Receivable

It is the Authority's policy to record an allowance for doubtful accounts based on management's assessment of the collectability of specific balances and the aging of accounts receivable. Management has determined that no valuation allowance for uncollectible account is required as of September 30, 2020.

F. Inventories

Inventories of supplies are minimal and expensed by the Authority and therefore are not reflected on the financial statements.

G. Capital Assets

Capital assets, which include property, plant, equipment, and infrastructure assets (e.g. water lines), are defined by the Authority as assets with an initial cost of more than \$1,000 and an estimated useful life in excess of two years. Assets are reported at cost. Contributed capital assets are recorded at fair market value at the time they are received and consist primarily of distribution lines and connections constructed and donated by developers.

The cost of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized. Major outlays for capital assets and improvements are capitalized as projects are constructed.

All reported capital assets are depreciated using the straight-line method over the following estimated useful lives:

<u>Assets</u>	<u>Years</u>
Land	--
Water source of supply and treatment	40 to 50
Water storage and distribution	40 to 50
Capacity rights	40
Meters and service connections	20 to 25
Buildings and improvements	10 to 50
Office and general equipment	5 to 10

H. Compensated Absences

Some employees of the Authority are eligible for compensation for vacation and sick leave. Compensated absences for vacation and sick pay have not been accrued since management considers the amount to be insignificant and are expensed as incurred.

I. Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

J. Deferred Outflows/Inflows of Resources

In addition to assets, the statement of financial position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period and so will not be recognized as an outflow of resources until then. During the year ended September 30, 2020, the Authority did not have any deferred outflows of resources.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**NOTES TO THE FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

NOTE 1 – REPORTING ENTITY AND SIGNIFICANT ACCOUNTING POLICIES (Continued)

J. Deferred Outflows/Inflows of Resources (Continued)

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period and so will not be recognized as an inflow of resources until that time. During the year ended September 30, 2020, the Authority did not have any deferred inflows of resources.

K. Net Position Flow Assumption

Sometimes the Authority will fund outlays for a particular purpose from both restricted and unrestricted resources. It is the Authority's policy to consider restricted – net position to have been depleted before unrestricted – net position is applied.

L. Budget

The Authority is not required to adopt a budget on an annual basis; however, a budget is adopted annually in order to enhance the operating effectiveness of the Authority.

M. Date of Management's Review

Management has evaluated subsequent events through June 11, 2021, the date the financial statements were available to be issued.

NOTE 2 – CASH AND CASH EQUIVALENTS AND INVESTMENTS

The Pennsylvania Municipal Authorities Act, Section 7.1 requires that the Authority's deposits be federally insured. Deposits above the insured maximum are required to have collateral pledged in the name of the financial institution. In addition, the following types of investments are authorized:

1. United States Treasury Bills
2. Short-term obligations of the United States Government, its agencies or its instrumentalities
3. Obligations of the United States of America or any of its agencies or instrumentalities backed by the full faith and credit of the United States of America, the Commonwealth of Pennsylvania or any of its agencies or instrumentalities

The statutes do not prescribe regulations related to demand deposits; however, they do allow the pooling of governmental funds for investment purposes. Deposits of the Authority's funds are maintained in demand deposits at various financial institutions. The cash and cash equivalents are stated at cost, which is equal to market value. Cash and cash equivalents are defined as short-term highly liquid investments that are readily convertible to known amounts of cash and include investments with original maturities of three months or less.

Cash

Custodial Credit Risk – Deposits

Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned. The Authority does not have a policy for custodial credit risk. As of September 30, 2020, none of the Authority's bank balance of \$179,381 was exposed to custodial credit risk.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**NOTES TO THE FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

NOTE 2 – CASH AND CASH EQUIVALENTS AND INVESTMENTS (Continued)

Reconciliation to Financial Statements

Insured Amount	\$ 179,381
Less: Outstanding Checks	<u>(629)</u>
Carrying Amount – Bank Balances	178,752
Plus: Pooled Cash and Cash Equivalents – PLGIT	<u>875,607</u>
Total Cash per Financial Statements	<u>\$ 1,054,359</u>

Interest Rate Risk

The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. Management does monitor rates of returns for investments on a monthly basis.

Credit Risk

The Authority does not have an investment policy that would limit its investment choices to certain credit ratings.

Concentration of Credit Risk

The Authority holds deposit accounts at various financial institutions. The total deposits of \$1,054,988 as of September 30, 2020 were invested in the various financial institutions as follows:

<u>Financial Institution</u>	<u>Deposit Amount</u>	<u>Concentration Percentage</u>
PLGIT	\$ 875,607	82.99%
Northwest Bank	<u>179,381</u>	<u>17.01%</u>
	<u>\$ 1,054,988</u>	<u>100.00%</u>

NOTE 3 – ACCOUNTS RECEIVABLE - OTHER

During the year ended September 30, 2018, the Authority signed a cost-sharing agreement with the Commonwealth of Pennsylvania (the "Commonwealth") for the re-paving of Route 743. Under this agreement, the Commonwealth agreed to reimburse the Authority 75% of the costs of the construction. During the year ended September 30, 2018, the Authority incurred costs of \$44,576 and expected to be reimbursed \$36,655, which was included in the Authority's financial statements at September 30, 2019. The amount remained an outstanding receivable as of September 30, 2020, however, only \$27,796 was received by the Authority in February 2021. As a result, the receivable was adjusted to \$27,796 and is reflected in these financial statements as Accounts Receivable – Other.

NOTE 4 – ACCOUNTS RECEIVABLE – WATER RENTS

The Authority recognizes revenue for water rents in the period when the water is used rather than in the period when the bills are sent out. Metered water accounts are read and billed on a quarterly basis. Therefore, water used during the last quarter of the fiscal year ended September 30, 2020, but not billed until after that date, is recognized as revenue in the fiscal year ended September 30, 2020. As of September 30, 2020, unbilled receivables, which are a part of accounts receivable, were \$109,016.

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**NOTES TO THE FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

NOTE 5 – ESCROWS

The Authority receives and disburses escrow deposits for various development and construction projects to ensure proper compliance with Authority regulations. The cash balance of escrow deposits at September 30, 2020 was \$41,180 and is included as cash - escrow deposits in these financial statements. This amount includes \$92 of interest available for operations. The liability for these deposits is included in these financial statements as Developer Escrows in the amount of \$41,088.

NOTE 6 – CHANGES IN CAPITAL ASSETS

	<u>Beginning Balance</u>	<u>Increases</u>	<u>Decreases</u>	<u>Ending Balance</u>
Water Fund				
Capital Assets, Not Being Depreciated				
Land	\$ 93,047	\$ --	--	93,047
Construction in Progress	<u>218,785</u>	<u>--</u>	<u>218,785</u>	<u>--</u>
Total Capital Assets Not Being Depreciated	<u>311,832</u>	<u>--</u>	<u>218,785</u>	<u>93,047</u>
Capital Assets Being Depreciated				
Building, water tanks, wells and spring basin	2,584,672	--	--	2,584,672
Water distribution system and equipment	3,909,653	363,984	--	4,273,637
Office Equipment	<u>4,145</u>	<u>--</u>	<u>--</u>	<u>4,145</u>
Total Capital Assets Being Depreciated	<u>6,498,470</u>	<u>363,984</u>	<u>--</u>	<u>6,862,454</u>
Less Accumulated Depreciation for:				
Building, water tanks, wells and spring basin	2,133,875	83,477	--	2,217,352
Water distribution system and equipment	2,032,015	114,327	--	2,146,342
Office Equipment	<u>665</u>	<u>829</u>	<u>--</u>	<u>1,494</u>
Total Accumulated Depreciation	<u>4,166,555</u>	<u>198,633</u>	<u>--</u>	<u>4,365,188</u>
Total Capital Assets, Being Depreciated, Net	<u>2,331,915</u>	<u>165,351</u>	<u>--</u>	<u>2,497,266</u>
Water Fund, Capital Assets, Net	<u>\$ 2,643,747</u>	<u>\$ 165,351</u>	<u>\$ 218,785</u>	<u>\$ 2,590,313</u>

NOTE 7 – CONTRIBUTED CAPITAL

Capital contributions consist of contributed capital assets and special charges that are legally restricted for capital expenditures by state law or by the Board of Directors action that establishes those charges. Contributed capital is included on these statements in Net Investment in Capital Assets. The contributed capital is composed of the following:

Water Distribution Systems assumed from Developers	\$ 417,759
Lancaster County Redevelopment Authority Community Development Block Grant for the Rowenna Project	<u>298,949</u>
	<u>\$ 716,708</u>

**EAST DONEGAL TOWNSHIP MUNICIPAL AUTHORITY
MAYTOWN, PENNSYLVANIA**

**NOTES TO THE FINANCIAL STATEMENTS
SEPTEMBER 30, 2020**

NOTE 8 – LEASES

The Authority leases space on top of the water tower to a cell phone company to use for wireless communication services. The lease began in 1999 with an initial five-year term. The lease automatically renews on January 1 for four successive five-year terms with a 12.5% increase at each renewal period. Payments on this lease are due at the beginning of each month in the amount of \$1,859 through 2019 and in the amount of \$2,091 for months during 2020. The Authority received \$24,394 in rental income during the year ended September 30, 2020.

The future annual lease payments for the Authority for the next five years are as follows:

<u>Year Ended September 30,</u>	
2021	\$ 25,092
2022	25,092
2023	25,092
2024	25,092
2025	<u>6,273</u>
	<u>\$ 106,641</u>

NOTE 9 – CONCENTRATION OF RISK

The Authority has one large industrial customer that comprised 23.18% of total user fees during the year ended September 30, 2020.

NOTE 10 – COVID-19

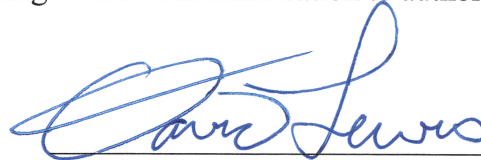
On March 11, 2020, the World Health Organization declared the outbreak of a coronavirus (COVID-19) a pandemic. As a result, economic uncertainties have arisen which are likely to negatively impact financial position. Other financial impact could occur though such potential impact is unknown at this time.

NOTE 11 – SUBSEQUENT EVENT

In May 2021, the Authority entered into a Sale and Purchase Agreement with the Columbia Water Company for the sale of the water production and distribution system. The purchase price for the system and related assets shall be \$2,500,000, which is to be increased and/or decreased for various contingencies. The Authority received a deposit in the amount of \$50,000 in May 2021 when the agreement was signed by both parties. The Authority will also receive a seven-year promissory note at 3% interest in the amount of \$2,250,000 at closing. The remaining balance of the purchase price will be received in cash at closing.

VERIFICATION

I, David T. Lewis, on behalf of Columbia Water Company, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing in this matter. This verification is made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.



David T. Lewis, P.E.
General Manager
Columbia Water Company

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the parties, listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a party).

VIA EMAIL ONLY

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/s/ Whitney E. Snyder

Thomas J. Sniscak
Whitney E. Snyder
Bryce R. Beard

Dated: October 29, 2021