

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Electronic Application of Water Service)
Corporation of Kentucky for a General) Case No. 2020-00160
Adjustment in Existing Rates)

APPLICATION FOR GENERAL ADJUSTMENT IN EXISTING RATES

Water Service Corporation of Kentucky, by counsel, submits its application for an increase in rates pursuant to KRS 278.190 to be effective August 1, 2020, or sooner if allowed by the Commission.

1. Water Service Corporation of Kentucky is a Kentucky corporation, whose stock is wholly owned by Utilities, Inc. The mailing address of Water Service Corporation of Kentucky is 500 West Monroe St. Suite 3600, Chicago, Illinois, 60661. Water Service Corporation of Kentucky can be reached via e-mail through its attorneys Todd Osterloh at tosterloh@sturgillturner.com and James Gardner at jgardner@sturgillturner.com.
2. Water Service Corporation of Kentucky has elected to use the electronic filing procedures authorized by 807 KAR 5:001, Section 8. This application shall be filed electronically and a paper copy shall be filed pursuant to subsection (12)(a)(2) of that Section.
3. Water Service Corporation of Kentucky currently owns and operates water production, transmission, and distribution facilities in the cities of Middlesboro and Clinton. It serves approximately 6,955 equivalent residential customers. It also has a contract with the City

of Clinton to operate the City's wastewater system. The wastewater system and operations are not part of this rate application.

4. A certified copy of the articles of incorporation was filed in Case No. 2002-00142. Water Service Corporation of Kentucky was incorporated in Kentucky on April 12, 2002. A copy of its current Certificate of Authorization is attached as Exhibit 1, and Water Service Corporation of Kentucky attests that it is a corporation in good standing in Kentucky.
5. Water Service Corporation of Kentucky is not a limited liability company.
6. Water Service Corporation of Kentucky is not a limited partnership.
7. An adjustment in rates is necessary to recover operating expenses, debt service costs, depreciation, taxes and other expenses related to the operation of both water systems that are not presently being recovered in rates. The reasons for the proposed increase are more fully explained in Steven Lubertozzi's and Robert Guttormsen's testimonies attached as Exhibit 5.
8. Water Service Corporation of Kentucky has no assumed names, and therefore, no certificate of assumed name is required.
9. New tariff sheets, as well as present tariffs indicating proposed additions by underscoring and striking over proposed deletions, are attached as Exhibit 2.
10. In addition to the change in rates, Water Service Corporation of Kentucky is proposing certain changes to its tariff. The utility is proposing a Qualified Infrastructure Program, similar to one approved by the Commission for another water utility. This proposal is discussed in more detail in the testimony of Robert Guttormsen.

11. Public notice of the rate application will be given in compliance with the requirements set forth in 807 KAR 5:001, Section 17. Copies of the notices are attached as Exhibit 3. Proof of publication will be filed with the Commission within 45 days pursuant to 807 KAR 5:001, Section 17(3).
12. Because Water Service Corporation of Kentucky's gross annual revenue is not greater than \$5,000,000, it is exempt from the notice requirements of 807 KAR 5:001, Section 16(2).
13. Water Service Corporation of Kentucky's Annual Reports have been filed with the Commission.
14. A pro forma schedule of changes and corresponding workpapers are attached as Exhibit 4, which along with witnesses' testimony and other documents provide a description and quantified explanation for all proposed adjustments with support for changes in price or activity levels, and other factors.
15. Prepared testimony is attached as Exhibit 5. Steven Lubertozi, Robert Guttormsen, Andrew Dickson, Perry Brown, Stephen Vaughn, Shawn Elicegui, and Patrick Baryenbruch are the witnesses supporting the rate adjustment and rate design, depreciation, and overview of Kentucky operations. Due to the current state of emergency related to Covid-19, the testimony has been verified by each witness but not notarized. Notarized verifications will be filed in the record at a later date.¹
16. Estimated impact proposed rates will have on revenues is attached as Exhibit 6. As stated in Robert Guttormsen's testimony, the proposed rates will produce anticipated additional

¹ Because WSCK's annual gross revenue is less than \$5,000,000, the utility is not required to file testimony as a part of the minimum filing requirements.

revenues of \$1,080,300 per year, or 38.32%, which would be a total of \$3,955,581 in annual revenue.

17. The effect of the proposed rates on the average customer's bill is attached as Exhibit 6.

18. A billing analysis is attached as Exhibit 7.

19. A summary of the calculation of the revenue requirements is attached as Exhibit 8.

Supporting documentation is attached as Exhibit 4.

20. A reconciliation of rate base and capital is attached as Exhibit 9.

21. A current chart of accounts is attached as Exhibit 10.

22. The independent auditor's report is attached as Exhibit 11.

23. There are no FERC or FCC audit reports because this is a water company.

24. Water Service Corporation of Kentucky is proposing to recover depreciation expense based on the 1979 NARUC Study of Depreciation Practices for Small Water Utilities. This is consistent with the Commission's decisions in the utility's last two rate cases. The depreciation rates and a comparison schedule is contained in Exhibit 12.

25. A list of in-house software associated with the filing of the utility's application is identified in Exhibit 13.

26. Water Service Corporation of Kentucky has no stock prospectus.

27. Water Service Corporation of Kentucky has no report to shareholders.

28. Monthly managerial reports are attached as Exhibit 14. There are no written reports other than the rolling monthly financial statement.

29. Water Service Corporation of Kentucky has no annual report or other filings with the Securities and Exchange Commission.

30. Allocations to affiliates are explained in Exhibit 15. Additional information on how the allocations are determined and the reasonableness of those allocations are contained in the testimony of Steven Lubertozzi and Robert Guttormsen.
31. Because Water Service Corporation of Kentucky has annual revenues of less than \$5,000,000, it is exempt from the requirement to file a cost-of-service study. In the absence of a cost-of-service study, the utility is proposing to increase all fixed charge rates by a uniform percentage. Volumetric rates have been designed to maintain the same ratios between volumetric charges, and have established an opt-in, low-income rate and a wholesale rate. Rate design is fully discussed in the testimony of Andrew Dickson.
32. An income statement and balance sheet are attached as Exhibit 16.
33. A capital construction budget is attached as Exhibit 17.
34. Information required to be filed on each proposed pro forma adjustment reflecting plant additions is contained in Exhibit 19.
35. An operating budget for each month of the period encompassing the pro form adjustments is attached as Exhibit 18.
36. The number of customers removed from the test period to represent customer decline is 30. This is based on a historical analysis of customer loss. Customer decline is addressed in Andrew Dickson's testimony.
37. The percentage change and dollar change in the rates for each customer class are identified in Exhibit 6.
38. Present and proposed rates are reflected in the tariffs filed in Exhibits 2 and 6.
39. The effect on the average customer's bill is listed in Exhibit 7.

Water Service Corporation of Kentucky requests that the Commission approve the proposed rate change, low-income rate, leak adjustment policy, and the Qualified Infrastructure Program. It also requests a deviation pursuant to 807 KAR 5:001, Section 22, from any requirement that might delay the review of the application if such requirement can be considered as substantially met or as unnecessary for a complete review of the proposed rates.

Respectfully submitted,



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JAMES W. GARDNER
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Lexington, Kentucky 40507
Telephone No.: (859) 255-8581
Fax No. (859) 231-0851
tosterloh@sturgillturner.com
jgardner@sturgillturner.com

ATTORNEYS FOR WATER SERVICE CORPORATION
OF KENTUCKY

Application

Exhibit 1

Commonwealth of Kentucky
Michael G. Adams, Secretary of State

Michael G. Adams
Secretary of State
P. O. Box 718
Frankfort, KY 40602-0718
(502) 564-3490
<http://www.sos.ky.gov>

Certificate of Existence

Authentication number: 232160
Visit <https://web.sos.ky.gov/ftshow/certvalidate.aspx> to authenticate this certificate.

I, Michael G. Adams, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

WATER SERVICE CORPORATION OF KENTUCKY

is a corporation duly incorporated and existing under KRS Chapter 14A and KRS Chapter 271B, whose date of incorporation is April 12, 2002 and whose period of duration is perpetual.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that Articles of Dissolution have not been filed; and that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 1st day of June, 2020, in the 229th year of the Commonwealth.



Michael G. Adams

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
232160/0534921

Application

Exhibit 2

AREA Middlesboro and Clinton and adjacent _____

PSC KY NO. 4 _____

SHEET NO. 22 _____

Water Service Corporation of Kentucky
(NAME OF UTILITY)

CANCELLING PSC KY NO. 3 _____

SHEET NO.22 _____

quantity of service rendered.

- (f) The use of water by the same customer in different premises or localities will not be combined, and each installation shall stand by itself.

18. TERMS OF PAYMENT:

- (a) Special charges shall be payable upon demand.
- (b) Bills for metered service shall be rendered monthly and are due and payable when rendered.
- (c) Bills for private fire service shall be rendered monthly in advance and are due and payable when rendered.
- (d) If a bill is not paid within ten days after its due date, the Company may discontinue the water service. The Company will give at least five (5) days notice before termination for nonpayment and that service will not be terminated before 20 days after the mailing date of the original bill.
- (e) If a customer has two returned checks for non-sufficient funds, all subsequent bills must be paid in cash for a period of six months or until the credit score is returned to an acceptable level, whichever comes first.

- 19. (a) There shall be no abatement of the minimum rates due to the extended absence of the Customer without proper notice having been given to the Company.

DATE OF ISSUE June 1, 2020 _____
MONTH / DATE / YEAR

DATE EFFECTIVE July 1, 2020 _____
MONTH / DATE / YEAR

ISSUED BY Stewart _____
SIGNATURE OF OFFICER

TITLE President, WSCK _____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____ DATED _____

AREA Middlesboro and Clinton and adjacent_____

PSC KY NO. 4_____

SHEET NO. 23_____

Water Service Corporation of Kentucky
(NAME OF UTILITY)

CANCELLING PSC KY NO. 3_____

SHEET NO.23_____

- (c) If test results on a Customer's meter show an average error greater than two percent (2%) fast or slow, or if a Customer has been incorrectly billed for any other reason, except in an instance where a Company has filed a verified complaint with the appropriate law enforcement agency alleging fraud or theft by a Customer, the Company shall immediately determine the period during which the error has existed, and shall recompute and adjust the Customer's bill to either provide a refund to the Customer or collect an additional amount of revenue from the underbilled Customer. The account adjustment shall be performed according to 807 KAR 5:006 Section 10(2) with corrected billing or refund as directed therein.

20. BOILER AND ENGINE WATER SUPPLY:

The Company does not guarantee a sufficient or uniform pressure, or an uninterrupted supply of water, and Customers are cautioned to provide a sufficient storage of water where an absolutely uninterrupted supply must be assured; such as for steam boilers, hot water systems, gas engines, etc.

21. INTERRUPTIONS IN WATER SUPPLY:

The Company may at any time shut off the water in the mains in case of accident, or for the purpose of making connections, alterations, repairs, changes, or for other reasons, and may restrict the use of water to reserve a sufficient supply for the public fire service or other emergencies whenever the public welfare may require it.

22. LIABILITY OF COMPANY:

DATE OF ISSUE June 1, 2020_____

MONTH / DATE / YEAR

DATE EFFECTIVE July 1, 2020_____

MONTH / DATE / YEAR

ISSUED BY Stewart_____

SIGNATURE OF OFFICER

TITLE President, WSCK_____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____ DATED _____

FOR Middlesboro and Clinton and Adjacent Territory
Community, Town or City

P.S.C. KY. NO. 11

SHEET NO. **38**

Water Service Corporation of Kentucky
(Name of Utility)

CANCELLING P.S.C. KY. NO. **10**

CONTENTS

RATES

The following rates and charges are prescribed for the customers in the area served by Water Service Corporation of Kentucky. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

Monthly Water Rates

Service Charge Per Month
For All Service Areas

Volumetric Rates

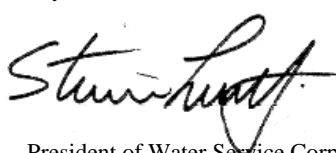
	<u>Meter Size</u>	<u>Monthly Charge</u>	<u>All Service Areas</u>	
(I)	5/8"	\$15.84	First 100,000 gallons	\$7.548 per 1,000 gallons (I)
(I)	3/4"	\$15.84	All over 100,000 gallons	\$5.208 per 1,000 gallons (I)
(I)	1"	\$39.60	Wholesale Water Rate	\$2.214 per 1,000 gallons (N)
(I)	1.5"	\$79.19	Opt-in, Low Income Rate*	\$5.926 per 1,000 gallons (N)
(I)	2"	\$126.70		
(I)	3"	\$237.56		
(I)	4"	\$395.94		
(I)	6"	\$791.88		

* Residential customers can apply for our low income rate through 3rd party verification of income below the federal poverty level (poverty level defined at <https://www.census.gov>).

DATE OF ISSUE June 1, 2020
Month / Date / Year

DATE EFFECTIVE July 1, 2020

ISSUED BY



TITLE President of Water Service Corporation of Kentucky

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION

IN CASE NO. 2020-00160 DATED June 1, 2020

FOR Middlesboro and Clinton and Adjacent Territory
Community, Town or City

P.S.C. KY. NO. 11

SHEET NO. **39**

Water Service Corporation of Kentucky
(Name of Utility)

CANCELLING P.S.C. KY. NO. **10**

CONTENTS

Monthly Fire Protection Charges

Middlesboro municipally owned hydrants	\$10.24 per hydrant	(I)
Private Hydrants or Sprinkler Systems	\$46.34 per hydrant or sprinkler	(I)
Ambleside Private Fire Surcharge*	\$4.61 per customer	(I)

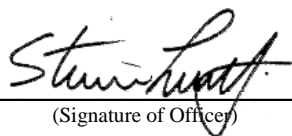
*Surcharge is only applicable to those customers residing in the Ambleside subdivision in Middlesboro, KY

DATE OF ISSUE June 1, 2020
Month / Day / Year

DATE EFFECTIVE July 1, 2020
Month/Day/Year

ISSUED BY

Steve Lubertozzi



(Signature of Officer)

TITLE President of Water Service Corporation of Kentucky

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION

IN CASE NO. 2020-00160 DATED June 1, 2020

AREA Middlesboro and Clinton and adjacent_____

PSC KY NO. 4_____

SHEET NO. 22_____

Water Service Corporation of Kentucky
(NAME OF UTILITY)

CANCELLING PSC KY NO. 3_____

SHEET NO.22_____

quantity of service rendered.

- (f) The use of water by the same customer in different premises or localities will not be combined, and each installation shall stand by itself.

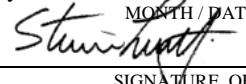
18. TERMS OF PAYMENT:

- (a) Special charges shall be payable upon demand.
- (b) Bills for metered service shall be rendered monthly and are due and payable when rendered.
- (c) Bills for private fire service shall be rendered monthly in advance and are due and payable when rendered.
- (d) If a bill is not paid within ten days after its due date, the Company may discontinue the water service. The Company will give at least five (5) days notice before termination for nonpayment and that service will not be terminated before 20 days after the mailing date of the original bill.
- (e) If a customer has two returned checks for non-sufficient funds, all subsequent bills must be paid in cash for a period of six months or until the credit score is returned to an acceptable level, whichever comes first.

- 19. (a) There shall be no abatement of the minimum rates due to the extended absence of the Customer without proper notice having been given to the Company. **No abatement**

DATE OF ISSUE June 1, 2020_____ MONTH / DATE / YEAR

DATE EFFECTIVE July 1, 2020_____ MONTH / DATE / YEAR

ISSUED BY  _____ SIGNATURE OF OFFICER

TITLE President, WSCK_____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____ DATED _____

AREA Middlesboro and Clinton and adjacent _____

PSC KY NO. 4 _____

SHEET NO. 23 _____

Water Service Corporation of Kentucky _____
(NAME OF UTILITY)

CANCELLING PSC KY NO. 3 _____

SHEET NO.23 _____

~~shall be made for leaks or for water wasted by improper or damaged service pipes or fixtures belonging to the Customer.~~

- (c) If test results on a Customer's meter show an average error greater than two percent (2%) fast or slow, or if a Customer has been incorrectly billed for any other reason, except in an instance where a Company has filed a verified complaint with the appropriate law enforcement agency alleging fraud or theft by a Customer, the Company shall immediately determine the period during which the error has existed, and shall recompute and adjust the Customer's bill to either provide a refund to the Customer or collect an additional amount of revenue from the underbilled Customer. The account adjustment shall be performed according to 807 KAR 5:006 Section 10(2) with corrected billing or refund as directed therein.

20. BOILER AND ENGINE WATER SUPPLY:

The Company does not guarantee a sufficient or uniform pressure, or an uninterrupted supply of water, and Customers are cautioned to provide a sufficient storage of water where an absolutely uninterrupted supply must be assured; such as for steam boilers, hot water systems, gas engines, etc.

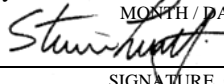
21. INTERRUPTIONS IN WATER SUPPLY:

The Company may at any time shut off the water in the mains in case of accident, or for the purpose of making connections, alterations, repairs, changes, or for other reasons, and may restrict the use of water to reserve a sufficient supply for the public fire service or other emergencies whenever the public welfare may require it.

22. LIABILITY OF COMPANY:

DATE OF ISSUE June 1, 2020 _____
MONTH / DATE / YEAR

DATE EFFECTIVE July 1, 2020 _____
MONTH / DATE / YEAR

ISSUED BY  _____
SIGNATURE OF OFFICER

TITLE President, WSCK _____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____ DATED _____

FOR Middlesboro and Clinton and Adjacent Territory
Community, Town or City

P.S.C. KY. NO. 10

SHEET NO. **39**

Water Service Corporation of Kentucky
(Name of Utility)

CANCELLING P.S.C. KY. NO. 9

CONTENTS

Monthly Fire Protection Charges

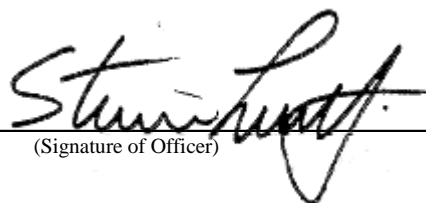
Municipally owned hydrants	\$7.40 <u>\$10.24</u> per hydrant _____	(I)
Private Hydrants or Sprinkler Systems	\$33.50 <u>\$46.34</u> per hydrant or sprinkler _____	(I)
Ambleside Private Fire Surcharge (Middlesboro)*	\$3.33 <u>\$4.61</u> per customer _____	(I)

(N) * Surcharge is only applicable to those customers residing in the Ambleside subdivision in Middlesboro, KY

DATE OF ISSUE June 1, 2020
Month / Date / Year

DATE EFFECTIVE July 1, 2020
Month / Date / Year

ISSUED BY Steve Lubertozi



(Signature of Officer)

TITLE President

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION

IN CASE NO. 2020-00160 DATED

Application

Exhibit 3

Water Service Company of Kentucky

NOTICE OF PROPOSED INCREASE

Pursuant to the regulations of the Public Service Commission of Kentucky, Water Service Corporation of Kentucky gives notice to its customers in Clinton that it intends to adopt an increase in its water rates. The utility is requesting an increase in annual revenue totaling \$1,080,300, which will be a total increase of 38.32% to the utility. The rates listed below are proposed to be effective July 1, 2020.

	Present Fixed Charge	Present First 100k gal Vol Rate	Present Over 100k gal Vol Rate	Proposed Fixed Charge	Proposed First 100k gal Vol Rate	Proposed Over 100k gal Vol Rate	Current Avg Bill	Proposed Avg Bill	Dollar Increase	% Increase
Water Service Corporation of Kentucky										
5/8" and 3/4" Meter	\$ 11.45	\$ 5.00	\$ 3.35	\$ 15.84	\$ 7.55	\$ 5.21	\$ 28.66	\$ 41.81	\$ 13.16	45.91%
1" Meter	\$ 28.63	\$ 5.00	\$ 3.35	\$ 39.60	\$ 7.55	\$ 5.21	\$ 103.17	\$ 152.12	\$ 48.95	47.45%
1.5" Meter	\$ 57.25	\$ 5.00	\$ 3.35	\$ 79.19	\$ 7.55	\$ 5.21	\$ 229.15	\$ 338.69	\$ 109.54	47.80%
2" Meter	\$ 91.60	\$ 5.00	\$ 3.35	\$ 126.70	\$ 7.55	\$ 5.21	\$ 192.77	\$ 279.42	\$ 86.66	44.95%
3" Meter	\$ 171.75	\$ 5.00	\$ 3.35	\$ 237.56	\$ 7.55	\$ 5.21	\$ 2,194.72	\$ 3,360.06	\$ 1,165.34	53.10%
4" Meter	\$ 286.25	\$ 5.00	\$ 3.35	\$ 395.94	\$ 7.55	\$ 5.21	\$ 2,733.63	\$ 4,178.25	\$ 1,444.62	52.85%
6" Meter	\$ 572.50	\$ 5.00	\$ 3.35	\$ 791.88	\$ 7.55	\$ 5.21	\$ 992.49	\$ 1,425.90	\$ 433.41	43.67%
Municipally Owned Hydrants	\$ 7.40			\$ 8.10			\$ 7.40	\$ 10.24	\$ 2.84	38.32%
Private Hydrants & Sprinkler Systems	\$ 33.50			\$ 36.50			\$ 33.50	\$ 46.34	\$ 12.84	38.32%
Ambleside Private Fire Surcharge	\$ 3.33			\$ 3.63			\$ 3.33	\$ 4.61	\$ 1.28	38.32%

WSCK has proposed additions to its tariff to include a Qualified Infrastructure Program surcharge that would be applied to all customer classifications for qualified infrastructure investments. This surcharge would be calculated annually based on qualified infrastructure costs and applied to each customer's monthly bill. The surcharge would then be updated annually until the next rate case, at which time the investment costs would be incorporated into base rates and the surcharge reset at zero.

To increase the affordability for our most at-risk customers; WSCK is proposing an opt-in, low-income rate such that residences whose income falls below the poverty line can take advantage of a lower volumetric rate. The proposal would set a volumetric charge to \$5.93 per thousand gallons for the essential water consumption up to 3,000 gallons per month for qualifying customers. WSCK is also proposing a leak adjustment policy, whereby customers can receive a partial credit for underground leaks on customer-owned infrastructure under certain circumstances. In addition, WSCK is proposing a new wholesale water rate, proposed to be set at \$2.20 per 1,000 gallons.

The rates contained in the notice are the rates proposed by Water Service Corporation of Kentucky on or about June 1, 2020, with the Commission but that the Public Service Commission may order rates to be charged that differ from the proposed rates contained in this notice.

A corporation, association, or person may within thirty (30) days after the initial publication or mailing of notice of the proposed rate changes, submit a written request to intervene to the Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602 that establishes the grounds for the request including the status and interest of the party. If the Commission does not receive a written request for intervention within thirty (30) days of initial publication or mailing of the notice, the Commission may take final action on the application.

A person may examine this filing and any other documents Water Service Corporation of Kentucky has filed with the Public Service Commission at the offices of Water Service Corporation of Kentucky located at 100 East Jackson Street, Clinton, Kentucky 42031.

This filing and any other related documents can be examined at the Commission's offices located at 211 Sower Boulevard, Frankfort, Kentucky, Monday through Friday, 8:00 a.m. to 4:30 p.m., or found on the Public Service Commission's Web site at <http://psc.ky.gov/>. Written comments regarding the proposed rate may be submitted to the Public Service Commission by mail or through the Public Service Commission's Web site.

If you have any questions, feel free to contact us at (844) 310-5556. Please have your account number ready.

Water Service Corporation of Kentucky

Water Service Company of Kentucky

NOTICE OF PROPOSED INCREASE

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4" Meter	\$ 286.25	\$ 5.00	\$ 3.35	\$ 395.94	\$ 7.55	\$ 5.21	\$ 2,733.63	\$ 4,178.25	\$ 1,444.62	52.85%
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WSCK has proposed additions to its tariff to include a Qualified Infrastructure Program surcharge that would be applied to all customer classifications for qualified infrastructure investments. This surcharge would be calculated annually based on qualified infrastructure costs and applied to each customer's monthly bill. The surcharge would then be updated annually until the next rate case, at which time the investment costs would be incorporated into base rates and the surcharge reset at zero.

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A corporation, association, or person may within thirty (30) days after the initial publication or mailing of notice of the proposed rate changes, submit a written request to intervene to the Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602 that establishes the grounds for the request including the status and interest of the party. If the Commission does not receive a written request for intervention within thirty (30) days of initial publication or mailing of the notice, the Commission may take final action on the application.

A person may examine this filing and any other documents Water Service Corporation of Kentucky has filed with the Public Service Commission at the offices of Water Service Corporation of Kentucky located at 100 East Jackson Street, Clinton, Kentucky 42031.

This filing and any other related documents can be examined at the Commission's offices located at 211 Sower Boulevard, Frankfort, Kentucky, Monday through Friday, 8:00 a.m. to 4:30 p.m., or found on the Public Service Commission's Web site at <http://psc.ky.gov/>. Written comments regarding the proposed rate may be submitted to the Public Service Commission by mail or through the Public Service Commission's Web site.

If you have any questions, feel free to contact us at (844) 310-5556. Please have your account number ready.

Water Service Corporation of Kentucky

AFFIDAVIT

Comes _____ Ann Raponi _____, and after first being duly sworn, deposes and states:

- 1. I am the ___ Billing Supervisor _____ for Utilities, Inc.;
- 2. On June 1, 2020, I caused to be mailed the customer notice to all customers of Water Service Corporation of Kentucky.
- 3. A copy of the customer notice that was mailed out is attached to this affidavit as an exhibit.
- 4. This affidavit will be filed in compliance with 807 KAR 5:011, Section 8.

Further, Affiant sayeth naught, this 1st day of June 2020.

Ann Raponi

 Ann Raponi

STATE OF _____)
)
 COUNTY OF _____)

The foregoing affidavit was subscribed and sworn to before me this ___ day of _____, 20___, by _____.

My commission expires _____, 20___.

 Notary Public, Commission No. _____

Application

Exhibit 4

WATER SERVICE CORPORATION OF KENTUCKY

List of Schedules and Workpapers

Table of Contents	TOC-List of Schedules
Schedule A	Balance Sheet
Schedule B	Income Statement
Schedule C	Rate Base
Schedule D	Revenue Requirement
Schedule E	Revenue at Present Rates
Schedule F	Revenue at Proposed Rates
w/p [a]	Uncollectibles
w/p [b]	Summary of Payroll & Benefits
w/p [c]	Plant in Service
w/p [d]	Rate Case Expense
w/p [e]	Taxes Other Than Income
w/p [f]	Depreciation
w/p [g]	Income Taxes
w/p [h]	Capital Structure
w/p [i]	Cash Working Capital
w/p [j]	Maintenance and Repair
w/p [k]	Expense Report Summary
w/p [l]	Plant - Computers Summary
w/p [m]	Plant - Vehicles Summary
w/p [n]	Plant - GL Additions
w/p [o]	Allocation of Corporate Costs

WATER SERVICE CORPORATION OF KENTUCKY

Schedule A

Case No. 2020-00160

Balance Sheet

Test Year Ended 3/31/2020

	A	B	C	D
<u>Line No.</u>	<u>ASSETS</u>		<u>LIABILITIES AND OTHER CREDITS</u>	
1.	Plant In Service		Capital Stock and Retained Earnings	
2.	Water	\$ 13,384,685		
3.	Sewer	-	Common Stock and Paid In Capital	\$ 5,068,438
4.		<u> </u>	Retained Earnings	525,965
5.	Total	\$ 13,384,685		
6.		<u> </u>	Total	\$ 5,594,403
7.	Accumulated Depreciation-Water	(6,388,934)	Current and Accrued Liabilities	
8.	Accumulated Depreciation-Sewer	-	Accounts Payable-Trade	456,536
9.		<u> </u>	Taxes Accrued	44,773
10.	Total	\$ (6,388,934)	Deferred Credits	57,340
11.		<u> </u>	Customer Deposits - Interest	1,274
12.			A/P - Assoc. Companies	1,264,517
13.	Net Utility Plant	\$ 6,995,752	Deferred Revenue	-
14.		<u> </u>		
15.			Total	\$ 1,824,440
16.			Advances In Aid of Construction	
17.	Plant Acquisition Adjustment-Water	(119,881)	Water	0
18.	Plant Acquisition Adjustment-Sewer	-	Sewer	-
19.		<u> </u>		
20.	Total	\$ (119,881)	Total	\$ 0
21.		<u> </u>		
22.			Contributions In Aid of Construction	
23.	Construction Work In Process-Water	44,057	Water	269,718
24.	Construction Work In Process-Sewer	-	Sewer	-
25.		<u> </u>		
26.	Total	\$ 44,057	Total	\$ 269,718
27.		<u> </u>		
28.	Current Assets		Accumulated Deferred Income Tax	
29.	Cash	12,954	Unamortized ITC	-
30.	Accounts Receivable - Net	1,247,431	Deferred Tax - Federal	802,424
31.	Other Current Assets	14,677	Deferred Tax - State	(91,961)
32.		<u> </u>		
33.	Total	\$ 1,275,062	Total	\$ 710,462
34.		<u> </u>		
35.			TOTAL LIABILITIES AND OTHER CREDITS	\$ 8,399,024
36.	Deferred Charges	204,035		
37.		<u> </u>		
38.	TOTAL ASSETS	\$ 8,399,024		
		<u> </u>		

Line No.	A	B	C	D	E	F
	3/31/2020 Per Books	Pro Forma Changes	Pro Forma Present	Proposed Increase	Pro Forma Proposed	
1.	Operating Revenues					
2.	Service Revenues - Water	\$ 2,790,125	\$ 29,018 [a]	\$ 2,819,143	\$ 1,080,300 [k]	\$ 3,899,443
3.	Service Revenues - Sewer	-	-	-	-	-
4.	Miscellaneous Revenues	56,138	-	56,138	-	56,138
5.						
6.	Total Operating Revenues	\$ 2,846,263	\$ 29,018	\$ 2,875,281	\$ 1,080,300	\$ 3,955,581
7.						
8.	Maintenance Expenses					
9.	Salaries and Wages	\$ 751,780	\$ 124,329 [c]	\$ 876,109	\$ -	\$ 876,109
10.	Purchase Water/Sewer	124,772	-	124,772	-	124,772
11.	Purchased Power	121,782	-	121,782	-	121,782
12.	Maintenance and Repair	182,342	118,057 [i]	300,399	-	300,399
13.	Maintenance Testing	37,939	-	37,939	-	37,939
14.	Meter Reading	-	-	-	-	-
15.	Chemicals	113,330	-	113,330	-	113,330
16.	Transportation	38,064	-	38,064	-	38,064
17.	Operating Exp. Charged to Plant	(65,701)	-	(65,701)	-	(65,701)
18.	Outside Services - Other	183,711	(24,359)	159,352	-	159,352
19.						
20.	Total	\$ 1,488,019	\$ 218,027	\$ 1,706,046	-	\$ 1,706,046
21.						
22.	General Expenses					
23.	Salaries and Wages	\$ 165,529	\$ 23,943 [c]	\$ 189,473	\$ -	\$ 189,473
24.	Office Supplies & Other Office Exp.	97,266	(1,171) [l]	96,095	-	96,095
25.	Regulatory Commission Exp.	49,159	48,569 [e]	97,728	-	97,728
26.	Pension & Other Benefits	231,250	18,922 [c] [l]	250,172	-	250,172
27.	Rent	35,517	-	35,517	-	35,517
29.	Insurance	77,049	-	77,049	-	77,049
30.	Office Utilities	41,709	(31) [l]	41,678	-	41,678
31.	Uncollectible Accounts	65,664	683 [b]	66,347	25,424 [b]	91,771
32.	Miscellaneous	37,623	(276) [l]	37,347	-	37,347
33.						
34.	Total	\$ 800,767	\$ 90,638	\$ 891,405	\$ 25,424	\$ 916,830
35.						
36.	Depreciation	\$ 418,692	\$ 56,692 [f]	\$ 475,384	\$ -	\$ 475,384
37.	Amortization of PAA	(3,660)	3,660 [f]	-	-	-
38.	Taxes Other Than Income	238,690	22,388 [g]	261,078	2,113 [g]	263,191
39.	Expense Reduction Related to Clinton Sewer Operations	(147,351)	-	(147,351)	-	(147,351)
40.	Income Taxes - Federal	(20,890) [h]	(73,475) [h]	(94,365)	209,781 [h]	115,416
41.	Income Taxes - State	(4,145) [h]	(14,578) [h]	(18,723)	53,804 [h]	35,081
42.	Amortization of CIAC	(9,505)	(679) [f]	(10,184)	-	(10,184)
43.						
44.	Total	\$ 471,830	\$ (5,991)	\$ 465,839	\$ 265,699	\$ 731,538
45.						
46.	Total Operating Expenses	\$ 2,760,617	\$ 302,674	\$ 3,063,291	\$ 291,123	\$ 3,354,414
47.						
48.	Net Operating Income	\$ 85,646	\$ (273,656)	\$ (188,010)	\$ 789,178	\$ 601,168
49.						
50.	Other Income	\$ (144)	\$ 144 [m]	\$ -	\$ -	\$ -
51.	Interest During Construction	(6,316)	-	(6,316)	-	(6,316)
52.	Interest on Debt	160,572	6,411 [j]	166,983	-	166,983
53.						
54.	Net Income	\$ (68,465)	\$ (280,211)	\$ (348,676)	\$ 789,178	\$ 440,501

Line No.

1. [a] Test year revenues are recalculated using current rates on Schedule E. Customer and usage decline are included in proforma revenues. The TCJA surcharge is no longer in effect.
2. [b] Adjusted based on the percentage of uncollectible accounts to revenues in the test year applied to pro forma proposed revenues. Support can be found on w/p [a].
3. [c] Salaries, Wages and Benefits are adjusted to annualize as of April 1, 2020. Support for this change can be found on w/p [b].
4. [d] This note intentionally left blank
5. [e] Regulatory commission expense has been adjusted. Support for this change can be found on w/p [d].
6. [f] Depreciation and Amortization Expense are annualized. Amortization of PAA is removed. Support for this change can be found on w/p [f].
7. [g] Taxes Other than Income is adjusted for annualized payroll taxes and pro forma PSC assessments. Support can be found on w/p [e].
8. [h] Income taxes are computed on taxable income at current rates. Support for this change can be found on w/p [g].
9. [i] Support for this change can be found on w/p [j].
10. [j] Support for this change can be found on w/p [h].
11. [k] Revenues are annualized at proposed rates using test year consumption and billing determinates. Refer to Sch. D for the calculation of the revenue requirement.
12. [l] Support for this change can be found on w/p [k].
13. [m] Other income has been removed for rate making purposes.

A	B	C	D	E	F	
Line No.	3/31/2020 Per Books	Pro Forma Changes	As Adjusted	Proposed Increase	Effect of Proposed Increase	
1.	Net Operating Income	\$ 85,646	\$ (273,656)	\$ (188,010)	\$ 789,178	\$ 601,168
2.						
3.	Gross Plant In Service	\$ 13,384,685	\$ 461,724 [a]	\$ 13,846,410	\$ -	\$ 13,846,410
4.	Accumulated Depreciation	(6,388,934)	(475,384) [a]	(6,864,318)	-	(6,864,318)
5.	Net Plant In Service	\$ 6,995,752	\$ (13,660)	\$ 6,982,092	-	\$ 6,982,092
6.	Cash Working Capital	315,935	53,282 [b]	369,217	-	369,217
7.	Contributions In Aid of Construction	(269,718)	10,184 [a]	(259,534)	-	(259,534)
8.	Advances in Aid of Construction	-	-	-	-	-
9.	Accumulated Deferred Income Taxes	(710,462)	-	(710,462)	-	(710,462)
10.	Customer Deposits	(57,340)	-	(57,340)	-	(57,340)
11.						
12.	Total Rate Base	\$ 6,274,166	\$ 49,806	\$ 6,323,972	\$ -	\$ 6,323,972
13.						
14.	<u>Explanation of Adjustments to Rate Base</u>					
15.						
16.	[a] Gross plant in service and Accumulated Depreciation and Amortization adjustments per w/p [c].					
17.	[b] Working capital is calculated based on pro forma maintenance expenses, general expenses, and taxes other than income per w/p [i].					

WATER SERVICE CORPORATION OF KENTUCKY

Schedule D

Case No. 2020-00160

Revenue Requirement

Test Year Ended 3/31/2020

A	B	
Line No.	Item	
		Operating Ratio Method
		(d)
1.	Total Operating Expenses	\$ 3,063,291
2.	Less: Federal & State Income Taxes	113,088
3.		<hr/>
4.	Operating Expenses Net of Income Taxes	\$ 3,176,379
5.	Divide by: Operating Ratio	88%
6.		<hr/>
7.	Revenue to Cover Operating Ratio	\$ 3,609,522
8.	Less: Operating Expenses Net of Income Taxes	\$ (3,176,379)
9.		<hr/>
10.	Net Operating Income After Income Taxes	\$ 433,143
11.	Less: Pro Forma Net Income	348,676
12.		<hr/>
13.	Net Operating Income Adjustment	\$ 781,819
14.	Multiplied by Gross-up Factor	1.381778306
15.		<hr/>
16.	Revenue Requirement	\$ 1,080,300
17.		<hr/> <hr/>
18.	Percentage Increase/Decrease	38.32%
		<hr/> <hr/>

WATER SERVICE CORPORATION OF KENTUCKY

Case No. 2020-00160

Revenues at Present Rates

Test Year Ended 3/31/2020

Schedule E

Exhibit AD-4

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.		# of Bills	Rate	Flat Revenue	Tier 1 Gallons Consumed	Tier 1 Rate	Volumetric Tier 1 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	Billing Adjustments	Total Revenue
Water Service Corporation of Kentucky												
1.	5/8"	63,457	\$ 11.45	\$ 726,587	219,531,298	\$ 5.00	\$ 1,097,656	993,849	\$ 3.35	\$ 3,329	\$ -	\$ 1,827,573
2.	3/4"	6,076	\$ 11.45	\$ 69,567	18,391,688	\$ 5.00	\$ 91,958	379,665	\$ 3.35	\$ 1,272	\$ -	\$ 162,798
3.	1"	1,259	\$ 28.63	\$ 36,051	14,276,092	\$ 5.00	\$ 71,380	101,232	\$ 3.35	\$ 339	\$ -	\$ 107,770
4.	1.5"	418	\$ 57.25	\$ 23,941	10,109,730	\$ 5.00	\$ 50,549	2,461,608	\$ 3.35	\$ 8,246	\$ -	\$ 82,736
5.	2"	621	\$ 91.60	\$ 56,912	22,621,439	\$ 5.00	\$ 113,107	29,769,469	\$ 3.35	\$ 99,728	\$ -	\$ 269,747
6.	3"	94	\$ 171.75	\$ 16,224	3,935,234	\$ 5.00	\$ 19,676	20,470,316	\$ 3.35	\$ 68,576	\$ -	\$ 104,476
7.	4"	36	\$ 286.25	\$ 10,254	2,260,664	\$ 5.00	\$ 11,303	748,283	\$ 3.35	\$ 2,507	\$ -	\$ 24,064
8.	6"	36	\$ 572.50	\$ 20,508	3,041,732	\$ 5.00	\$ 15,209	42,453,778	\$ 3.35	\$ 142,220	\$ -	\$ 177,937
9.	Municipally Owned Hydrants	3,948	\$ 7.40	\$ 29,215	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 29,215
10.	Private Hydrants and Sprinkler	719	\$ 33.50	\$ 24,098	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 24,098
11.	Ambleside	2,622	\$ 3.33	\$ 8,730	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 8,730
12.	Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143
26.	WSCKY Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143

WATER SERVICE CORPORATION OF KENTUCKY

w/p [a]

Case No. 2020-00160

Uncollectible Accounts

Test Year Ended 3/31/2020

A		B
<u>Line</u>	<u>Description</u>	<u>Water</u>
1.	Test Year / Present Revenues	\$ 2,790,125
2.	Uncollectible Accounts	\$ 65,664
3.	Uncollectible % (Column B, Line 1 divided by Column B, Line 2)	2.35%
4.	Proposed Increase	\$ 1,080,300
5.	Adjustment	\$ 25,424

WATER SERVICE CORPORATION OF KENTUCKY

w/p [b]

Case No. 2020-00160

Summary of Payroll & Benefits Adjustments

Test Year Ended 3/31/2020

	A	B	C
<u>Line</u>	<u>Description</u>	<u>Water</u>	<u>Sewer</u>
1.	Salaries - Operations & Regional Management	\$ 124,329	\$ -
2.	Salaries - Shared Services	23,943	-
3.	Payroll Taxes	22,017	-
4.	Benefits	21,126	-
5.	Totals	<u>\$ 191,415</u>	<u>\$ -</u>

WATER SERVICE CORPORATION OF KENTUCKY

w/p [c]

Case No. 2020-00160

Plant in Service Adjustments

Test Year Ended 3/31/2020

<u>Line</u>	<u>A</u> <u>Description</u>	<u>B</u> <u>3/31/20 Test</u> <u>Year</u>	<u>C</u> <u>Computers</u>	<u>D</u> <u>Transportatio</u> <u>n</u>	<u>E</u> <u>GL Capital</u>	<u>F</u> <u>Pro Forma</u> <u>Change</u>	<u>G</u> <u>As Adjusted</u>
1.	Gross Plant in Service	\$ 13,384,685	\$ 360,571	\$ -	\$ 101,153	\$ 461,724	\$ 13,846,410
2.	Accumulated Depreciation	(6,388,934)	(63,166)	(97,203)	(315,015)	(475,384)	(6,864,318)
3.	Total	<u>\$ 6,995,752</u>	<u>\$ 297,405</u>	<u>\$ (97,203)</u>	<u>\$ (213,861)</u>	<u>\$ (13,660)</u>	<u>\$ 6,982,092</u>

WATER SERVICE CORPORATION OF KENTUCKY

w/p [d]

Case No. 2020-00160

Rate Case Expense

Test Year Ended 3/31/2020

	A	B	C	D	E
Line	Description				Amount
1.	Legal Fees				\$ 143,375
2.					
3.	Consulting Fees:				
4.	Baryenbruch & Company, LLC (Allocations)				\$ 26,550
6.					
7.	Customer Notices:				
8.	Postage	6,955	=	customers x \$0.41	\$ 5,703
9.	Stock	6,955	=	notices x (.085)	\$ 1,182
10.					
11.	Newspaper Publications (2)				\$ 2,683
12.					
13.				# of Trips/	
14.		Personnel	Cost	Nights	
15.	Travel				
16.	Airfare	5	\$ 500	2	\$ 5,000
17.	Hotel/Meals	5	\$ 200	2	\$ 2,000
18.	Rental Car		\$ 400		\$ 400
19.					
20.	Total Cost of Current Case				\$ 186,893
21.					
22.	Unamortized Rate Case Expense				\$ 57,427
23.					
24.	Total Rate Case Expense				\$ 244,321
25.					
26.	Amortized Over 2.5 years				2.5
27.					
28.	Amortization Expense per year				\$ 97,728

WATER SERVICE CORPORATION OF KENTUCKY

w/p [e]

Case No. 2020-00160

Calculation of Taxes Other Than Income Taxes

Test Year Ended 3/31/2020

A	B	C	D
No.	Description		Water
1.			
2.	<u>Pro Forma Present</u>		
3.	Payroll Tax Increase		\$ 22,017
4.			
5.	<i>Utility/Commission Tax Increase</i>		
6.	Computation of Gross Receipts Tax Rate		
7.	Gross Receipts	\$ 2,529,229]
8.	Tax Liability	\$ 4,947]
9.	Gross Receipts Tax Rate	0.196%	
10.			
11.	Pro-Forma Present Intrastate Gross Revenue	\$ 2,875,281	
12.	Pro Forma Present Utility / Commission Tax	\$ 5,624	
13.	Per Books - TYE 3/31/2020	\$ 5,252	
14.	Utility Commission Tax Increase Adjustment		\$ 372
15.			
16.	Total Pro Forma Present Adjustment		\$ 22,388
17.			
18.	<u>Pro Forma Proposed</u>		
19.	<i>Utility/Commission Tax Increase</i>		
20.	Pro-Forma Proposed Intrastate Gross Revenue		\$ 3,955,581
22.	Gross Receipts Tax Rate		0.196%
23.			
24.	Pro Forma Utility / Commission Tax		\$ 7,737
25.	Pro Forma Present Utility / Commission Tax		\$ 5,624
26.	Total Pro Forma Proposed Adjustment		\$ 2,113

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Depreciation Expense
Test Year Ended 3/31/2020

w/p [f]

Line No.	Account ID	Account Description	Test Year Ended 3/31/2020	Pro Forma Amount	Depreciation/Amortization Rate	Depreciation/Amortization Expense
1.	1020	Organization	\$ 164,394	\$ -	4.00%	\$ 6,576
2.	1025	Franchises	-	-	4.00%	-
3.	1030	Land & land rights pump	-	-		-
4.	1035	Land & land rights water tr.	-	-		-
5.	1040	Land & land rights trans.	-	-		-
6.	1045	Land & land rights gen. plt.	22,261	-		-
7.	1050	Struct & improv. src. supply	128,090	857	2.67%	3,439
8.	1055	Struct & improv. wtr. trt. plt.	522,991	6,057	2.67%	14,108
9.	1060	Struct & improv. trans. dist.	1,017	119	2.67%	30
10.	1065	Struct & improv. gen. plt.	129,603	-	2.67%	3,456
11.	1080	Wells & springs	477,485	50	3.33%	15,918
12.	1085	Infiltration gallery	-	-	3.33%	-
13.	1090	Supply mains	9,760	12	1.60%	156
14.	1095	Power generation equip.	-	-	4.00%	-
15.	1100	Electric pump equip. src. plt.	36,039	3,123	5.00%	1,958
16.	1105	Electric pump equip. wtp.	820,475	13,262	5.00%	41,687
17.	1110	Electric pump equip. trans.	13,333	614	5.00%	697
18.	1115	Water treatment equip.	1,183,477	5,760	3.64%	43,245
19.	1120	Dist. resv. & standpipes	545,181	1,764	2.22%	12,154
20.	1125	Trans. & distr. mains	3,577,807	16,410	1.60%	57,507
21.	1130	Service lines	1,081,296	22,929	2.50%	27,606
22.	1135	Meters	752,512	2,063	2.25%	16,978
23.	1140	Meter installations	700,046	11,007	2.22%	15,801
24.	1145	Hydrants	442,070	3,129	1.90%	8,459
25.	1150	Backflow prevention devic.	129	15	2.50%	4
26.	1160	Other plt. & misc. equip. src. su.	-	-	2.86%	-
27.	1165	OTH PLT&MISC EQUIP WTP	-	-	2.86%	-
28.	1175	Office struct & improv.	236,291	1,016	2.67%	6,328
29.	1180	Office furn. & equip.	127,638	764	4.22%	5,421
30.	1185	Stores equipment	1,810	211	5.00%	101
31.	1190	Tool shop & misc. equip.	344,340	7,311	5.43%	19,090
32.	1195	Laboratory equipment	103,173	2,938	5.71%	6,063
33.	1200	Power operated equip.	17,508	1,743	7.20%	1,386
34.	1205	Communication equip.	53,850	-	9.00%	4,847
35.	1210	Misc. equipment	-	-	2.86%	-
36.	1215	Water plant allocated	69,976	-	2.86%	1,999
37.	1220	Other tangible plt. water	-	-	2.86%	-
38.						
39.		Totals	\$ 11,562,552	\$ 101,153		\$ 315,015
40.						
43.		<u>Vehicles & Computers</u>				
44.		Vehicles	\$ 756,025	\$ -	w/p [m]	\$ 97,203
45.		Computers	\$ 1,066,026	\$ 360,571	w/p [l]	\$ 63,166
46.						
47.		Total Depreciation				\$ 475,384
48.						
49.	3350	CIAC-METERS	\$ (83,141)	\$ -	2.25%	\$ (1,871)
50.	3430	CIAC-OTHER TANGIBLE PLT	(104,819)	-	2.86%	(2,995)
51.	3435	CIAC-WATER-TAP	(207,741)	-	2.50%	(5,194)
52.	3440	CIAC-WTR MGMT FEE	(1,240)	-	2.50%	(31)
53.	3455	CIAC-WTR PLT MTR FEE	(3,751)	-	2.50%	(94)
54.						
55.		Total CIAC	\$ (400,692)	\$ -		\$ (10,184)
56.						
57.	3225	ADV-IN-AID OF CONST-WATER	-	\$ (37,443)	0.00%	\$ -
58.						
61.		Total Amortization				\$ (10,184)

WATER SERVICE CORPORATION OF KENTUCKY

w/p [g]

Case No. 2020-00160

Calculation of State and Federal Income Tax

Test Year Ended 3/31/2020

Line No.	Description	B 3/31/2020 Test Year	C Pro Forma Present	D Pro Forma Proposed
1.	<u>State Income Taxes</u>			
2.				
3.	Total Revenue	\$ 2,846,263	\$ 2,875,281	\$ 3,955,581
4.				
5.	Maintenance Expense	1,488,019	1,706,046	1,706,046
6.	General Expense	800,767	891,405	916,830
7.	Depreciation & Amortization	409,187	465,200	465,200
8.	Taxes Other Than Income	238,690	261,078	263,191
9.	Income from Management Services	(147,351)	(147,351)	(147,351)
10.	Interest Expense	160,572	166,983	166,983
11.				
12.	Taxable Income	\$ (103,621)	\$ (468,081)	\$ 584,682
13.	State Tax Rate			
14.	\$0 to \$50,000 @ 4.0%	(4,145)	(18,723)	-
15.	\$50,001 to \$100,000 @ 5.0%	-	-	-
16.	over \$100,000 @ 6.0%	-	-	35,081
17.				
18.	Total State Income Taxes	\$ (4,145)	\$ (18,723)	\$ 35,081
19.				
20.	<u>Federal Taxes</u>			
21.				
22.	Taxable Income before taxes	\$ (103,621)	\$ (468,081)	\$ 584,682
23.				
24.	Less: State I/T	(4,145)	(18,723)	35,081
25.				
26.	Federal Taxable Income	(99,476)	(449,358)	549,601
27.	Federal Tax Rate	21%	21%	21%
28.				
29.	Total Federal Taxes	\$ (20,890)	\$ (94,365)	\$ 115,416

UTILITIES, INC. AND SUBSIDIARIES
Capital Structure at March 31, 2020

w/p [h]
Page 1 of 2

Line No.	Description	A	B	C	D
			March 31, 2020	Annual Interest Expense	Capital Structure
1.	<u>COMMON SHAREHOLDERS' EQUITY:</u>				
2.	Common shares, \$.10 par value; authorized and				
3.	issued 1,000 shares		\$ 110		
4.	Paid-in capital		223,265,034		
5.	Retained earnings		75,682,482		
6.					
7.	Total Common Shareholder's Equity		<u>\$ 298,947,626</u>		<u>48.60%</u>
8.					
9.	<u>LONG-TERM DEBT:</u>				
10.	Collateral trust notes -				
11.	6.58%, \$9,000,000 due in annual installments		\$ 143,308,547	\$ 9,517,639	
12.	beginning in 2017 through 2035				
13.					
14.	Collateral trust notes -				
15.	4.37%, beginning in 2018 through 2033				
16.	beginning in 2018 through 2035		\$ 99,530,037	\$ 4,404,812	
17.					
18.	Toronto Dominion Bank Line of Credit				
19.	3.05% Libor Rate as of 03/30/2020				
20.	beginning in 10/2015 through 10/2020		\$ 73,295,233	\$ 2,318,630	
21.					
22.	Total Debt		<u>\$ 316,133,817</u>	\$ 16,241,080	<u>51.40%</u>
23.					
24.	TOTAL CAPITALIZATION		<u>\$ 615,081,443</u>		<u>100.00%</u>
25.					
26.	COST OF DEBT		<u>5.14%</u>		
27.					

WATER SERVICE CORPORATION OF KENTUCKY
Pro Forma Interest Expense
Calculation of Income Taxes
Test Year Ended 3/31/2020

	A	B
Line No. Description		Water
1. Pro Forma Present Rate Base		\$ 6,323,972
2.		
3. Debt Ratio		51.40%
4.		
5. Embedded Cost of Debt		5.14%
6.		
7. Pro Forma Interest Expense		<u>\$ 166,983</u>

WATER SERVICE CORPORATION OF KENTUCKY

w/p [i]

Case No. 2020-00160

Calculation of Working Capital

Test Year Ended 3/31/2020

Line No.	A	B	C
Description			Water
1.	Test Year		
2.	Maintenance Expenses		\$ 1,488,019
3.	General Expenses		800,767
4.	Taxes Other Than Income		238,690
5.			
6.	Total		\$ 2,527,476
7.			
8.	Working Capital	45/360	\$ 315,935
9.			
10.	Pro Forma Proposed		
11.	Maintenance Expenses		\$ 1,706,046
12.	General Expenses		916,830
13.	Taxes Other Than Income		263,191
14.			
15.	Total		\$ 2,886,067
16.			
17.	Working Capital	45/360	\$ 360,758

Line	A	B	C	D	E	F	G	H	I	J	
Asset Number	Description	Cost Obj	A/D Obj	Depr Obj	Start Date	Life (Months)	Cost	Amortization	Current/Deferred		
1.	1009459	CURRENS COMPANY INC	2960	3110	6355	11/24/2015	60	\$ 4,380	\$ 876	Current	
2.	1010702	DEF CHGS-TANK MAINT&REP	2960	3110	6355	9/13/2017	60	3,500	700	Current	
3.	1010890	#1 TANK CLEANING	2960	3110	6355	12/29/2017	60	2,500	500	Current	
4.	1010891	#2 TANK CLEANING	2960	3110	6355	12/29/2017	60	2,500	500	Current	
5.	1011476	DEF CHGS-TANK MAINT&REP	2960	3110	6355	12/3/2018	60	6,000	1,200	Current	
6.	1012200	DEF CHGS-TANK MAINT&REP	2960	3110	6355	11/7/2019	60	4,635	927	Current	
7.	1012201	DEF CHGS-TANK MAINT&REP	2960	3110	6355	11/7/2019	60	4,635	927	Current	
8.	1012243	CLEAR WELL INSPECTION	2960	3110	6355	12/12/2019	60	4,635	927	Current	
9.	5000727	CLINTON KY TANK PAINTING	2960	3110	6355	11/23/2015	120	122,821	12,282	Current	
10.	1010852	DEF CHGS-MULTI YR TESTING	3005	3160	6355	12/11/2017	36	1,000	333	Current	
11.	1010977	DEF CHGS-MULTI YR TESTING	3005	3160	6355	3/7/2018	36	1,886	629	Current	
12.	1011208	2ND QT. UCMR4 SAMPLES	3005	3160	6355	7/10/2018	36	1,886	629	Current	
13.	1011247	DEF CHGS-MULTI YR TESTING	3005	3160	6355	8/29/2018	36	2,906	969	Current	
14.	1011267	DEF CHGS-MULTI YR TESTING	3005	3160	6355	8/7/2018	36	1,020	340	Current	
15.	1011389	DEF CHGS-MULTI YR TESTING	3005	3160	6355	10/2/2018	36	1,020	340	Current	
16.	1011394	DEF CHGS-MULTI YR TESTING	3005	3160	6355	10/17/2018	36	1,020	340	Current	
17.	1011448	DEF CHGS-MULTI YR TESTING	3005	3160	6355	11/5/2018	36	1,886	629	Current	
18.	KY12-1	Interior Tank #1 (Middlesboro)	2960	3110	6355	6/30/2020	120	410,237	41,024	Pro Forma	
19.	KY12-2	Interior Tank #2 (Middlesboro)	2960	3110	6355	6/30/2020	120	431,994	43,199	Pro Forma	
20.	KY12-3	Interior Grubbs Tank (Clinton)	2960	3110	6355	6/30/2020	120	147,976	14,798	Pro Forma	
21.	KY12-4	Interior Tank 15K (Middlesboro)	2960	3110	6355	6/30/2020	120	50,087	5,009	Pro Forma	
22.	KY12-5	Exterior/Interior Tank 30K (Clinto	2960	3110	6355	6/30/2020	120	22,597	2,260	Pro Forma	
23.	Total								\$ 1,231,122	\$ 129,337	
24.								Per Books Deferred Maintenance Amortization	\$	21,687	
25.								Adjustment	\$	107,650	

Line	Account Description	Asset	Activity	OMS Asset/Description	Completion			Total Cost
					Start Date	Date	Units	
1.	6310 WATER-OTHER MAINT EXP	Wells & Intake Pumps	Inspect/Clean Annually, per checklis	Clinton - East Well	10/01/19	11/30/19	1 \$ 500	\$ 500
2.	6310 WATER-OTHER MAINT EXP	Wells & Intake Pumps	Inspect/Clean Annually, per checklis	Clinton - West Well	10/01/19	11/30/19	1 500	500
3.	6310 WATER-OTHER MAINT EXP	Generator	Inspect Annually	Generator at WTP	10/01/19	11/30/19	1 1,050	1,050
4.	6310 WATER-OTHER MAINT EXP	Generator	Inspect Annually	Raw Water Pump Station Generator	10/01/19	11/30/19	1 1,050	1,050
5.	6310 WATER-OTHER MAINT EXP	Generator	Inspect Annually	Back Up Generator WTP	10/01/19	11/30/19	1 1,000	1,000
6.	6310 WATER-OTHER MAINT EXP	Hydrants	Annual Maintenance	Middlesboro	10/01/19	11/30/19	366 59	21,503
7.	6310 WATER-OTHER MAINT EXP	Hydrants	Annual Maintenance	Middlesboro	10/01/20	11/30/20	366 39	14,091
8.	6310 WATER-OTHER MAINT EXP	Hydrants	Annual Maintenance	Clinton	03/01/20	04/30/20	56 39	2,156
9.	6310 WATER-OTHER MAINT EXP	Sludge Ponds	Cleaning	N/A	08/01/19	08/31/19	1 19,500	19,500
10.	6345 SEWER-OTHER MAINT EXP	Generator	Inspect Annually	Generator at Clinton LS	12/01/19	12/31/19	1 1,050	1,050
11.	6345 SEWER-OTHER MAINT EXP	WWTP	Meter Testing	WWTP Meter	11/01/19	11/30/19	1 1,200	1,200
12.	6345 SEWER-OTHER MAINT EXP	WWTP	Sampler Testing	Automatic Samplers	11/01/19	11/30/19	1 3,000	3,000
13.	6310 WATER-OTHER MAINT EXP	WTP	Meter Testing	Clinton Meter Testing	11/01/19	11/30/19	2 600	1,200
14.	6310 WATER-OTHER MAINT EXP	WTP	Meter Testing	Middlesboro Meter Testing	05/01/19	05/31/19	2 750	1,500
15.							Totals \$	69,300
16.							Per Books - Other Maintenance \$	58,893
17.							Adjustment \$	10,407

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Removal of Employee Expense Reports
Test Year Ended 3/31/2020

w/p [k]

Line No.	Obj Act	Account Description	102		345		700		800		860		Total													
			3/31/2020	TYE	Removed	3/31/2020	TYE	Removed	3/31/2020	TYE	Removed	3/31/2020	TYE	Removed	3/31/2020	TYE	Removed									
1.	6185	TRAVEL LODGING	\$	312	\$	-	\$	4,455	\$	-	\$	412	\$	-	\$	5,593	\$	(18)								
2.	6200	TRAVEL MEALS		76		(6)		1,599		(24)		137		-		1,933		(75)								
3.	5895	SHIPPING CHARGES		6		-		939		-		-		-		945		-								
4.	5820	TRAINING EXPENSE		470		-		1,077		-		292		-		17,894		-								
5.	5900	OTHER OFFICE EXPENSES		3		-		98		(69)		-		-		-		-								
6.	5965	OFFICE MAINTENANCE		-		-		364		-		-		-		-		-								
7.	5880	OFFICE SUPPLY STORES		7		-		135		-		105		-		-		-								
8.	6070	MISC REG MATTERS COMM E		-		-		50		-		-		-		-		-								
9.	6195	TRAVEL TRANSPORTATION		100		-		1,459		-		181		(107)		439		-								
10.	6190	TRAVEL AIRFARE		480		-		3,680		-		316		-		15,141		-								
11.	6207	TRAVEL OTHER		47		-		200		-		147		(23)		-		-								
12.	5945	OFFICE TELECOM		153		-		10		-		302		(31)		-		-								
13.	6385	UNIFORMS		-		-		404		-		23		-		-		-								
14.	6285	WATER-MAINT SUPPLIES		-		-		547		-		146		-		-		-								
15.	6215	FUEL		1		-		6		-		-		-		-		-								
16.	5870	HOLIDAY EVENTS/PICNICS		14		(14)		450		(450)		638		(638)		-		-								
17.	6320	SEWER-MAINT SUPPLIES		-		-		23		-		-		-		-		-								
18.	5860	CLEANING SUPPLIES		9		-		123		-		8		-		-		-								
19.	5805	LICENSE FEES		5		-		50		-		8		-		-		-								
20.	6290	WATER-MAINT REPAIRS		-		-		130		-		-		-		-		-								
21.	5875	KITCHEN SUPPLIES		-		-		166		-		-		-		-		-								
22.	6255	TEST-WATER		-		-		6		-		-		-		-		-								
23.	6360	COMMUNICATION EXPENSE		-		-		16		-		-		-		-		-								
24.	6310	WATER-OTHER MAINT EXP		-		-		96		-		-		-		-		-								
25.	6090	RENT		-		-		88		-		-		-		-		-								
26.	6260	TEST-EQUIP/CHEMICAL		-		-		21		-		-		-		-		-								
27.	5660	OTHER EMP BENEFITS		99		(96)		-		-		14		(14)		2,045		(2,045)								
28.	5810	MEMBERSHIPS		27		-		-		-		394		-		-		-								
29.	5690	TUITION		-		-		-		-		27		-		-		-								
30.	6205	TRAVEL ENTERTAINMENT		42		(19)		-		-		59		(33)		-		-								
31.	5825	OTHER MISC EXPENSE		8		(1)		-		-		108		-		-		-								
32.	6220	AUTO REPAIR/TIRES		-		-		-		-		7		-		-		-								
33.	5655	HEALTH INS CLAIMS		46		-		-		-		-		-		-		-								
34.	5650	HEALTH COSTS & OTHER		5		-		-		-		-		-		-		-								
35.	6050	OTHER OUTSIDE SERVICES		5		-		-		-		-		-		-		-								
36.			\$	1,913	\$	(136)	\$	16,191	\$	(543)	\$	3,311	\$	(909)	\$	35,080	\$	(2,045)	\$	1,593	\$	(50)	\$	58,088	\$	(3,683)

WATER SERVICE CORPORATION OF KENTUCKY

w/p [1]

Case No. 2020-00160

Computer Depreciation Calculation

Test Year Ended 3/31/2020

Line	A Asset Number	B Asset Description	C Per Book Cost	D Per Book Accumulated Depreciation	E Restated Acc Depr - 10/31/2020 (PSC Life)	F Per Book NBV	G Restablished NBV	H Pro-Forma Monthly Depreciation	I 2020 Annualized Pro-Forma Depreciation Expense
967.		Total Allocated to WSC of KY	\$ 3,237	\$ 3,237	\$ 2,242	\$ -	\$ 995	\$ 12	\$ 144
968.									
969.	700.1590	Computer System Costs							
971.		Account Total	\$ 33,316	\$ 3,836	\$ 2,098	\$ 29,479	\$ 31,218	\$ 123	\$ 1,481
972.		Allocated to WSC of KY %	21.82%	21.82%	21.82%	21.82%	21.82%	21.82%	21.82%
973.		Total Allocated to WSC of KY	\$ 7,271	\$ 837	\$ 458	\$ 6,434	\$ 6,813	\$ 27	\$ 323
974.									
975.									
976.		Totals - WSC of Kentucky computers							
977.		Total Computers	\$ 1,426,597	\$ 834,320	\$ 426,339	\$ 592,276	\$ 1,000,258	\$ 5,264	\$ 63,166

WATER SERVICE CORPORATION OF KENTUCKY

w/p [m]

Case No. 2020-00160

Vehicle Depreciation Calculation

Test Year Ended 3/31/2020

	A	B	C	D	E
		Percent			
<u>Line</u>	Plant	Net Salvage	Service Life	Rate	Depreciation Expense
1.	\$ 756,025	10%	7	12.86%	\$ 97,203

WATER SERVICE CORPORATION OF KENTUCKY

w/p [n]

Case No. 2020-00160

Schedule of Pro-forma GL Capital

Test Year Ended 3/31/2020

	A	B	C
			4/1/2020-10/31/2020
Line No.	Account	Account Description	Net Pro Forma GL Capital
1.	1020	ORGANIZATION	\$ -
2.	1040	LAND & LAND RIGHTS TRAN	-
3.	1050	STRUCT & IMPRV SRC SUPP	857
4.	1055	STRUCT & IMPRV WTR TRT	6,057
5.	1060	STRUCT & IMPRV TRANS DI	119
6.	1080	WELLS & SPRINGS	50
7.	1090	SUPPLY MAINS	12
8.	1100	ELECTRIC PUMP EQUIP SRC	3,123
9.	1105	ELECTRIC PUMP EQUIP WTP	13,262
10.	1110	ELECTRIC PUMP EQUIP TRA	614
11.	1115	WATER TREATMENT EQPT	5,760
12.	1120	DIST RESV & STANDPIPES	1,764
13.	1125	TRANS & DISTR MAINS	16,410
14.	1130	SERVICE LINES	22,929
15.	1135	METERS	2,063
16.	1140	METER INSTALLATIONS	11,007
17.	1145	HYDRANTS	3,129
18.	1150	BACKFLOW PREVENTION DEV	15
19.	1175	OFFICE STRUCT & IMPRV	1,016
20.	1180	OFFICE FURN & EQPT	764
21.	1185	STORES EQUIPMENT	211
22.	1190	TOOL SHOP & MISC EQPT	7,311
23.	1195	LABORATORY EQUIPMENT	2,938
24.	1200	POWER OPERATED EQUIP	1,743
25.	Total		<u>\$ 101,153</u>

WATER SERVICE CORPORATION OF KENTUCKY
 Case No. 2020-00160
 Allocation of Corporate Costs
 Test Year Ended 3/31/2020

w/p [o]

A	B	C	D	E	F	G	H	I	J	K	L	
Tier 1 Allocation												
Line	Corix Cost Centers	TTM Q1 2020 Actuals	Tribus Allocation %	Amount Allocated to Tribus	Tier 1 Amount to Be Allocated	Tier 1 Allocation % Contract Utilities	2020 Tier 1 Allocation % Contract Utilities	Amount Allocated to Contract Utilities	Tier 1 Allocated % Alaska	2020 Tier 1 Allocated % Alaska	Amount Allocated to Alaska	TTM Q1 2020 Net Amount Allocated to WSC
1.	7501 - Corp Communications											\$ 134,751
2.	8000 - Corporate Functions (CAN)											1,747,936
3.	8000 - Corporate Functions (Vancouver rent)											115,892
4.	8000 - Corporate Functions (US)											(0)
5.	8020 - Finance (CAN)											1,322,900
6.	8020 - Finance (US)											(0)
7.	8030 - IT Governance											829,588
8.	8040 - HR (CAN)											382,382
9.	8040 - HR (US)											(56)
10.	8060 - Legal (CAN)											284,326
11.	8060 - Legal (US)											-
12.	8080 - Treasury											140,857
13.	8090 - HSE (CAN)											61,528
14.	8090 - HSE (US)											100,342
15.	9000 - Transition & Recovery											271,254
16.	8200 - Strategy											81,027
17.	8022 - Internal Audit											16,167
18.	8050 - IEAM (CAN)											27,468
19.	8050 - IEAM (US)											-
20.	8002 - COO REG											-
21.	9100 - Transformation											346,721
22.	FSW Board Fees											-
23.	Doyon Board Fees											-
24.	Total											\$ 5,863,085

WATER SERVICE CORPORATION OF KENTUCKY
 Case No. 2020-00160
 Allocation of Corporate Costs
 Test Year Ended 3/31/2020

A	B	C	D	E	F	G	H	I	J	K	L
Tier 2 Allocation											
Line	Corix Cost Centers	<u>TTM Q1 2020 Net Amount Allocated to WSC</u>	<u>Less: Excluded Costs¹</u>	<u>Net Amount to be Allocated</u>	<u>Tier 2 Allocation % to WSCK</u>	<u>TTM Q1 2020 Net Amount Allocated to WSCK</u>					
1.	7501 - Corp Communications	\$ 134,751	\$ 23,256	\$ 111,495	2.33%	\$ 2,602					
2.	8000 - Corporate Functions (CAN)	1,747,936	40,296	1,707,640	2.33%	39,852					
3.	8000 - Corporate Functions (Vancouver r	115,892	6,277	109,615	2.33%	2,558					
4.	8000 - Corporate Functions (US)	(0)	-	(0)	2.33%	(0)					
5.	8020 - Finance (CAN)	1,322,900	16,630	1,306,270	2.33%	30,485					
6.	8020 - Finance (US)	(0)	-	(0)	2.33%	(0)					
7.	8030 - IT Governance	829,588	-	829,588	2.33%	19,361					
8.	8040 - HR (CAN)	382,382	84,103	298,279	2.33%	6,961					
9.	8040 - HR (US)	(56)	-	(56)	2.33%	(1)					
10.	8060 - Legal (CAN)	284,326	6,794	277,532	2.33%	6,477					
11.	8060 - Legal (US)	-	-	-	2.33%	-					
12.	8080 - Treasury	140,857	-	140,857	2.33%	3,287					
13.	8090 - HSE (CAN)	61,528	565	60,963	2.33%	1,423					
14.	8090 - HSE (US)	100,342	-	100,342	2.33%	2,342					
15.	9000 - Transition & Recovery	271,254	271,255	(1)	2.33%	(0)					
16.	8200 - Strategy	81,027	-	81,027	2.33%	1,891					
17.	8022 - Internal Audit	16,167	-	16,167	2.33%	377					
18.	8050 - IEAM (CAN)	27,468	-	27,468	2.33%	641					
19.	8050 - IEAM (US)	-	-	-	2.33%	-					
20.	8002 - COO REG	-	-	-	2.33%	-					
21.	9100 - Transformation	346,721	346,730	(9)	2.33%	(0)					
22.	FSW Board Fees	-	-	-	2.33%	-					
23.	Doyon Board Fees	-	-	-	2.33%	-					
24.	Total	<u>\$ 5,863,085</u>	<u>\$ 795,907</u>	<u>\$ 5,067,178</u>		<u>\$ 118,256</u>					
						WSCK Allocated Corp Costs (Per Books - TYE 3/31/2020)	\$ 142,615				
						Pro Forma Corporate Costs	<u><u>\$ (24,359)</u></u>				

Notes:

1 - Includes cost related to customer outreach & awareness, corporate donations, business development, transition and transformation, and Canadian-only operations.

Purpose:

To include pro-forma costs allocated to WSCK from Corix Infrastructure, Inc. ("Corix").

The Company receives these services from Corix and costs are allocated based on a 2-tier system. The first tier allocates to Corix's direct subsidiaries including the Shared Services subsidiary, Water Service Corporation ("WSC"), WSC then allocates these costs to the regulated subsidiaries under it's umbrella, which includes WSCK, using ERC's. This Tier 2 allocation methodology is consistent with the allocation of other corporate and Shared Services costs to WSCK by WSC.

Method:

WSCK compiled the year-to-date actual activity by Corix that is allocated to its subsidiaries, by department, in order to flow the costs through the Tier 1 and Tier 2 allocation method

After allocating for Tier 1, which produces the WSC costs to be allocated in Tier 2, certain costs related to activities for which WSCK is not requesting recovery; such as business development, corporate donations, customer outreach, and other activities were remc

Application

Exhibit 5

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation)	
of Kentucky for a General Adjustment)	Case No. 2020-00160
in Existing Rates)	

DIRECT TESTIMONY OF STEVEN M. LUBERTOZZI

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WATER SERVICE CORPORATION OF KENTUCKY

CASE NO. 2020-00160

Direct Testimony of Steven Lubertozi

1 **INTRODUCTION AND QUALIFICATIONS**

2 **Q1. Please state your name, present position and business address.**

3 A1. My name is Steven Lubertozi. I am the President of Water Service Corporation of
4 Kentucky (“WSCK” or “Company”). My business address is 500 W Monroe Street,
5 Chicago, IL 60661.

6 **Q2. What are the duties of your current position?**

7 A2. As President of WSCK, I am responsible for all aspects of the Company’s business,
8 culminating in the ongoing provision of safe drinking water and environmentally
9 responsible wastewater service to all our customers.

10 **Q3. Please describe your professional background.**

11 A3. I graduated from Indiana University in 1990, and I am a Certified Public Accountant. I
12 earned my Master of Business Administration from Northwestern University’s Kellogg
13 School of Management. I am a member of the American Institute of Certified Public
14 Accountants. I have been employed by Utilities, Inc. since June of 2001.

15 **Q4. Have you testified previously before the Public Service Commission of Kentucky?**

16 A4. Yes. I have provided written and oral testimony before public utilities commissions
17 throughout the United States, including the Public Service Commission of Kentucky
18 (“Commission”), on topics ranging from cost of equity, capital structure, cost of debt,
19 acquisition adjustments, divestment strategies, appropriate levels of operations and
20 maintenance expense, parent company allocations, affiliate transactions, income taxes

1 and most every aspect of utility operations. The other state commissions where I have
2 presented testimony include Florida, Illinois, Indiana, Maryland, Nevada, New Jersey,
3 New Mexico, North Carolina and South Carolina.

4 **Q5. What is the purpose of your testimony in this proceeding?**

5 A5. My testimony will provide an overview of the reasons for the rate increase requested by
6 WSCK, and introduce the other witnesses who will testify in support of our requested
7 rate increase.

8 **Q6. Why is WSCK requesting rate relief at this time?**

9 A6. Under present rates, WSCK is not able to cover its operating expenses and earn a
10 reasonable return on its system investments. The utility's current operating income
11 statement for twelve months ended March 31, 2020, is shown in Schedule B of
12 Petitioner's Exhibit RG-1. The current rates for WSCK's systems do not reflect rising
13 operational costs and capital investments in infrastructure which have been realized since
14 WSCK's water rates were last established. Without rate relief, WSCK may not be able to
15 meet its obligations as they come due.

16
17 **ALLOCATIONS**

18 **Q7. Are costs allocated to WSCK from Water Service Corp. ("WSC")?**

19 A7. Yes, costs are allocated to WSCK are from Utilities, Inc.'s ("UI") shared services
20 organization, WSC.

21 **Q8. Please describe WSC and the type of services it provides to WSCK.**

22 A8. WSC is a wholly owned subsidiary of UI. WSC manages the operation of all of UI's
23 water and wastewater systems, including WSCK. WSC provides management,

1 administration, engineering, accounting, billing, customer relations, data processing, and
2 regulatory services for its subsidiaries. WSC's expenses and rate base items are assigned
3 directly to a utility, when applicable, or distributed to the various companies pursuant to a
4 formula. The formula is the number of Equivalent Residential Connections ("ERCs") for
5 the specific subsidiary divided by the total number of ERCs served by WSC. Expenses
6 specific to the Mid-Atlantic and Midwest Regions and state-cost centers are allocated to
7 WSCK using the same methodology. The distribution of expenses and rate base is
8 automatically calculated by WSC's billing and accounting information system
9 (commonly referred to as Project Phoenix) on a monthly basis.

10 **Q9. How does WSCK and WSC account for these transactions, and does WSC charge a**
11 **fee for these services?**

12 A9. These allocated costs are accounted for via intercompany transactions, and services
13 provided by WSC to WSCK do not include any markup for profit.

14 **Q10. Are the services that WSC provides to WSCK directly related to providing water**
15 **service?**

16 A10. Yes. For example, WSC provides accounts payable ("AP") and accounts receivable
17 ("AR") services to WSCK. If the AP function of WSC was not providing services to
18 WSCK, the vendors that provide critical services (e.g., purchased power and chemicals)
19 would not be paid for their services, and would be unwilling and/or unable to provide
20 service. Without their services WSCK would be unable to provide water service to its
21 customers.

22 **Q11. How do the services that WSC provides benefit the ratepayers of WSCK?**

1 A11. There are many benefits, but one primary example is that all of WSCK's operators are
2 employed by WSC, and without these operators, WSCK would not be able to function.
3 In addition, the customer service function that WSC provides to WSCK is used directly
4 by WSCK's customers.

5 **Q12. How do WSCK customers use the customer service function that WSC provides?**

6 A12. WSCK customers call WSC customer service representatives to inquire about their bills,
7 payment options, consumption questions, and other billing related issues.

8 **Q13. If WSC did not provide customer service functionality to WSCK, do you know who
9 would provide these services?**

10 A13. No, I do not. These services would nevertheless have to be provided in order for WSCK
11 to operate as a water utility.

12 **Q14. Do you have any other examples of services that WSC provides that benefit the
13 ratepayers of WSCK?**

14 A14. Another example would be the accounting services that WSC provides. Without these
15 accounting services, WSCK would not be able to pay vendors, accept customer
16 payments, pay income taxes, pay property taxes, pay gross receipts taxes, or file an
17 annual report, which are vital to WSCK's operations and its customers.

18 **Q15. If WSC did not provide any services to WSCK, how would WSCK continue to
19 operate?**

20 A15. If WSC did not provide any services to WSCK, WSCK would be required to obtain and
21 provide management, administration, engineering, accounting, billing, customer
22 relations, data processing, and regulatory services through its in-house operations or
23 third-party vendors.

1 **Q16. Does WSCK review the monthly expenses allocated to WSCK from WSC?**

2 A16. Yes, WSCK receives a monthly report of the expenses being allocated or billed to
3 WSCK. Then WSCK's State Manager, who is assigned exclusively to WSCK operations,
4 reviews the allocated expenses received from WSC's accounting department and requests
5 further information regarding the nature, level, and reasonableness of any expense that he
6 determines may not be appropriate for allocation to WSCK. Additionally, for the
7 purposes of this rate case, WSCK evaluated all costs originating from employee expense
8 reports that are allocated from WSC to WSCK and removed certain expenses regardless
9 of WSCK's position that these expenses were prudently incurred.

10 **Q17. Is this adjustment similar to the adjustment that WSCK made in its last rate case?**

11 A17. Yes it is, and similar to last case WSCK assessed expense reports and removed certain
12 expenses.

13 **INTRODUCTION OF WITNESSES**

14 **Q18. Would you please introduce all the Company's other witnesses?**

15 A18. Yes, testimony on behalf of WSCK will also be presented by Robert Guttormsen,
16 Stephen Vaughn, Patrick Baryenbruch, Shawn Elicegui, Perry Brown, and Andrew
17 Dickson.

18 1. Robert Guttormsen, Financial Planning & Analysis Manager, will sponsor the
19 Petitioner's application and provide details regarding pro forma adjustments made
20 to the Company's rate filing, including revenue, expenses and capital investment.
21 Mr. Guttormsen will also address the Company's request for a Qualified
22 Infrastructure Program.

- 1 2. Stephen Vaughn, State Manager, will describe our service territories, our water
2 operations, justification for certain pro forma operating costs as they pertain to
3 essential projects and justification for certain tariff changes.
- 4 3. Perry Brown, Senior Financial Analyst, will discuss WSCK's overall salaries and
5 how they compare to other similarly situated regulated utilities.
- 6 4. Andrew Dickson, Senior Financial Analyst, will discuss rate design, tariff
7 changes and our proposed leak adjustment policy.
- 8 5. Shawn Elicegui, Executive Vice President of Risk Management of the Corix
9 Group of Companies, will discuss Corix cost allocations and the Cost Allocation
10 Manual.
- 11 6. Patrick Baryenbruch, President of the consulting firm Baryenbruch & Company,
12 LLC will discuss services WSCK receives from the service company of its parent
13 organization.

14 **Q19. Would you please describe why the Company retained Mr. Baryenbruch?**

15 A19. Yes. The Company engaged Mr. Baryenbruch to conduct an evaluation of the necessity
16 of services provided to WSCK from its ultimate parent company, Corix, and the
17 reasonableness of those charges.

18 **Q20. Can you please elaborate on the types of services being provided to WSCK?**

19 A20. Yes. As described more fully in Mr. Baryenbruch's testimony and Mr. Elicegui's
20 testimony, costs from two affiliates are allocated to WSCK, and these affiliates are
21 referred to as Corix Corporate Services (CCS) and WSC Shared Services (WSC). The
22 types of services being provided, include but not limited to the following: accounting,
23 executive, engineering, finance, operating, legal, billing, customer care and billing,

1 customer relations, construction, human resources, information technology,
2 cybersecurity, governance and corporate communications.

3 **Q21. Is there a new level of allocated costs and services being provided to WSCK that the**
4 **Commission hasn't previously reviewed or considered for recovery?**

5 A21. Yes, there are some allocated costs and services provided to WSCK that the Commission
6 hasn't previously evaluated for prudence. For example, in WSCK's most recent rate case
7 Case No. 2018-00208 the Commission reviewed the prudence of costs related to:

- Accounting;
- Accounts Payable & Receivable;
- Customer Care & Billing;
- Business Administration;
- Executive functions;
- Finance
- Human Resources;
- Payroll;
- Information Technology;
- Legal;
- Operations and Safety;
- Regulatory Accounting and
- Tax.

8 In this case WSCK is seeking recovery of costs and services from WSC and CCS, and in
9 all prior WSCK rate cases the Commission only reviewed for prudence of cost and
10 services WSC. This two-tier allocation process is described more fully in Mr.
11 Bareybruch's testimony, Mr. Elicegui's testimony, and in the Corix Group of
12 Companies Confidential Cost Allocation Manual ("CAM").

13 **Q22. What level of expense of these new services and costs are included in this rate case?**

14 A22. In this proceeding, the Company is seeking approval from the Commission to recover
15 approximately \$118,000 in incremental costs which are allocated through a two-tier
16 process described in the (CAM).

- 1 **Q23. Is there any overlap or redundant services between CCS and WSC?**
- 2 A23. There is neither overlap nor redundancy in the service provided or the costs allocated.
- 3 **Q24. Does this conclude your prepared direct testimony?**
- 4 A24. Yes, it does.

AFFIDAVIT

The undersigned, Steven M Lubertozzi, being duly sworn, deposes and says that he is the President for the Water Service Corporation of Kentucky, within Utilities, Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.



Steven M. Lubertozzi, Affiant

NOTARY CERTIFICATE

STATE OF _____

COUNTY OF _____

Subscribed, acknowledged and sworn to before me by _____ on

this _____ day of _____, 2020.

My commission expires: _____.

NOTARY PUBLIC

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation
of Kentucky for a General Adjustment
in Existing Rates

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)
)

Case No. 2020-00160

DIRECT TESTIMONY OF ROBERT GUTTORMSEN

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I. INTRODUCTION AND QUALIFICATIONS

1 **Q1. Please state your name and business address.**

2 A1. My name is Rob Guttormsen. I am the Financial Planning & Analysis Manager of Water
3 Service Corporation of Kentucky (“WSCK” or “Company” or “Petitioner”). My business
4 address is 500 W Monroe Street, Chicago, IL 60661.

5 **Q2. What is your educational and professional background?**

6 A2. I graduated from the University of Wisconsin - Whitewater with a Bachelor of Business
7 Administration degree in Accounting. I began my employment with WSCK’s parent
8 company, Utilities, Inc. in December of 2011 as Regulatory Staff Accountant and
9 transitioned to financial planning and analysis in 2013. I have managed the financial
10 operations for WSCK for nearly 3 years.

11 **Q3. Please describe your job responsibilities with UI.**

12 A3. As the Financial Planning & Analysis (“FP&A”) Manager, I am responsible for all aspects
13 of the daily management of the business unit’s accounting and finance operations, as well
14 as reporting monthly and quarterly consolidated results. I develop and prepare WSCK’s
15 annual budget, monthly forecasts, and regulatory model along with all its sister companies
16 in Illinois, Indiana, Maryland, Pennsylvania, New Jersey, and Virginia. My duties include
17 the management of the regulatory accounting process, which involves planning, directing,
18 managing and organizing rate filings for WSCK and sister companies in the Midwest
19 business unit. I directly influence the professional growth and performance of an
20 experienced staff consisting of three analysts by ensuring accountability through coaching
21 and mentoring.

1 **Q4. Have you previously testified before the Kentucky Public Service Commission or**
2 **any other State Commission.?**

3 A4. Yes, I provided written and oral testimony in WSCK's most recent rate case. Additionally,
4 I have provided written and/or oral testimony before the Maryland, Pennsylvania, Virginia,
5 and Illinois Commissions.

6 **Q5. What is the purpose of your testimony?**

7 A5. The purpose of my testimony is to present WSCK's revenue requirement to the Public
8 Service Commission (the "Commission" or "PSC") and facilitate the Commission's accord
9 of the various elements, schedules, and adjustments which constitute the Application
10 submitted before it. WSCK wishes to contribute to the transparency of the rate setting
11 process throughout the course of this proceeding and recognizes the importance of the
12 PSC's mission of applying Kentucky's laws and regulations to balance the interests of the
13 public good, investors, and the Company's customers in regulating business and economic
14 concerns within its jurisdiction.

15 **Q6. What subjects will you discuss in your testimony?**

16 A6. I will address the overall revenue required for WSCK to earn a reasonable return on its
17 investment in Kentucky utilizing the operating margin methodology the PSC has endorsed
18 in the Company's past general rate case dockets, as well as, develop the narrative
19 surrounding the level of operating and maintenance, depreciation, interest, and tax
20 expenses WSCK's shareholder should recover from rate payers over the course of the rate
21 year. I will also itemize and explain rate base adjustments that Petitioner requests the
22 Commission to consider when setting rates recovering the extent of interest and
23 depreciation included in the Company's claim.

1 WSCK's management and operations team strives to control costs and uncover efficiencies
2 where possible by reviewing operational conditions which drive direct charges reflected
3 on WSCK's profit and loss statement on a monthly basis. The Company also deploys a
4 capital projects review team comprised of finance, operations, and engineering
5 backgrounds to review each capital project for reasonableness, usefulness, and financial
6 prudence before construction begins to ensure that both WSCK's customers' and
7 shareholders' funds are wisely utilized. Nevertheless, costs inevitably rise and usage
8 declines over time; not all capital additions can be scheduled to align with rate effective
9 periods as unpredictable circumstances can lead to emergency additions and infrastructure
10 gradually wears out and needs replacement.

11 These relentless economic and operational factors exert pressure on WSCK's opportunity
12 to earn a just and reasonable return and ultimately necessitates rate relief. Current rates are
13 predicated on costs that are approximately three years past while the investment in
14 WSCK's proposed net rate base will likely exceed the level being billed in current rates by
15 over \$250,000 by the conclusion of the year in which rates established in the proceeding
16 take effect. It is important that the revenue requirement is carefully established in this
17 proceeding to reflect the financial outlook in the rate effective period.

18 **Q7. What types of adjustments are addressed in your testimony?**

19 A7. Specific adjustments addressed in my testimony before this Commission include:

20 Income Statement:

- 21 a. Bad Debt
- 22 b. Salaries, Benefits, and Payroll Taxes
- 23 c. Tank Maintenance

- 1 d. Regulatory Expense
- 2 e. Utility Commission and Federal & State Income Taxes
- 3 f. Allocated Expenses
- 4 g. Depreciation & Amortization
- 5 h. Interest and Taxes

6 Rate Base

- 7 a. Projects
- 8 b. General Ledger Additions
- 9 c. Accumulated Depreciation
- 10 d. Working Capital
- 11 e. Accumulated Amortization

12 I will also provide an overview of Petitioner’s revenue adjustments; however, Company
13 witness Dickson itemizes pro forma revenue adjustments and sponsors detailed exhibits
14 and calculations in support. Witness Dickson also presents WSCK’s rate design, certain
15 tariff changes, and the Company’s proposed tariffs.

16 **Q8. What Exhibits do you sponsor in support of Petitioner’s Application?**

17 A8. Petitioner’s Exhibit RG-1. This exhibit contains the following pro forma financial
18 schedules:

- 19 Schedule A – Balance Sheet
- 20 Schedule B – Income Statement
- 21 Schedule C – Rate Base
- 22 Schedule D – Revenue Requirement

1 Petitioner's Exhibit RG-2. This exhibit contains a support bridge for the pro forma changes
2 included in Petitioner's Exhibit RG-1.

3 I will also sponsor any and all official application exhibits filed by WSCK in this
4 proceeding which are not sponsored by any other of the Company's witnesses.

5 **Q9. Were the Exhibits itemized above prepared either by you and/or under your**
6 **supervision?**

7 A9. Yes, and I am incorporating these Exhibits into my testimony by reference and the exhibits
8 were prepared either by me or under my direct supervision.

II. RELIEF REQUESTED

1 **Q10. What test year is WSCK using to request rate relief?**

2 A10. WSCK is requesting rate relief using a test year of twelve months ended March 31, 2020.
3 As it has in past rate cases; the Company is proposing adjustments to expenses and rate
4 base grounded upon known and measurable post-test year changes, items that can be
5 reasonably predicted to occur in the rate effective year, or both so that it can continue to
6 provide safe, reliable and efficient water utility services to its customers while earning a
7 reasonable operating margin for its investors.

8 **Q11. When is the company requesting that the proposed rates take effect?**

9 A11. Water Service Corporation of Kentucky requests that proposed rates take effect on July 1,
10 2020.

11 **Q12. Please provide an overview of the revenue requirement.**

12 A12. First, WSCK has not had a rate increase since February 11, 2019. Although the date of the
13 most recent increase in base rates may not signal that WSCK is due for a further rate
14 increase, stakeholders must consider that current rates are predicated on a long-ago,
15 obsolete test year. In fact, the test year is so outdated that WSCK is operating at a book
16 loss for the trailing twelve months ended March 31, 2020. Current rates do not produce
17 financial resources necessary to recover prudently incurred expenses and a negative return
18 on investment puts the Company's ability to continue as a viable going concern at risk.
19 Required incremental revenues represent an overall increase over present annualized levels
20 of \$1,080,300 per annum, representing an approximate 38% increase. The requested
21 increase includes an allowance which will afford WSCK the opportunity to earn a 12%
22 return on pro forma operating expenses. The proposed operating margin percentage is

1 identical to that authorized by the PSC in the Company's past four base rate increase
2 dockets.

3 **Q13. Please explain why the increase sought by WSCK in this proceeding is in the public**
4 **interest.**

5 A13. Some utility companies under the jurisdiction of various Commissions across the United
6 States refer to a "regulatory compact" to describe the relationship between the regulator
7 and the utility. Under the regulatory compact, the regulator issues a certificate of public
8 convenience and necessity, granting the utility a franchised area in which to serve a subset
9 of monopolized residents for the sale and distribution of utility service. In return, the
10 company is obligated to provide utility service demanded by those customers at a price set
11 to recover operating costs plus a "reasonable" return on investment.

12 The commonly understood "regulatory compact" as described above is limited in that it
13 lacks the fundamental element which forms a complete basis of the regulatory charter; the
14 people who drive public interest. People in the communities we serve, people staffed at
15 the Commissions with whom we partner to solve problems in pursuit of a higher level of
16 service to the community, and people who run Kentucky's plant in all weather conditions,
17 holidays, and after hours. The folks employed under the Corix Group of Companies'
18 umbrella-from executives to administrative personnel to part-time meter readers-
19 understand the "regulatory compact" to be more than an exchange of utility service for
20 money or a legal relationship between the Company and government. Recognizing that
21 utility stakeholders always represent diverse interests and divergent viewpoints, we view
22 the framework within which we operate as a dynamic, cross-functional co-op between our

1 communities, the Commonwealth's regulatory body, and WSCK, where each participant
2 owns a level of accountability to each other and mutual commitment to the public good.

3 We appreciate the obligations that come with delivering a resource required for life which
4 our customers have no other source. WSCK's employees appreciate our obligation to
5 provide safe, reliable service, and that another of our principal responsibilities is to protect
6 the environment; keeping a far-reaching frame of reference to sustainability within the
7 context of daily operations.

8 All aspects of the business are regularly reexamined through a lens of innovation while we
9 anticipate the needs of our customers, implement best practices, and mitigate uncertainty.

10 Rate affordability is a top priority across the organization. WSCK explores all available
11 cost savings opportunities aimed to curb encumbering utility bills. We identify with people
12 in our communities who struggle to make ends meet and expect to earn the opportunity to
13 be fairly compensated based on performance by elevating processes and implementing best
14 practices which are in the public interest. Following is a small sample of how WSCK has
15 demonstrated its focus on the public interest:

16 ❖ Asset Management, GIS & OMS

17 WSCK and Corix are committed to implementing 21st century technology to enable
18 real-time asset management and condition tracking with an eye towards cost
19 containment. This is a whole new approach in water industry through digital mapping
20 and cataloging assets in data bases that enables WSCK to proactively manage condition
21 of infrastructure through preventative maintenance rather than react to plant failures.

22 Although WSCK is not proposing to include direct costs related to its asset
23 management goals in this proceeding, in the not too distant future, the planned

1 implementation of a robust Asset Management Plan (“AMP”) will enable WSCK to
2 avoid ill-timed capital expenditures and expensive repairs. Overall, this program will
3 make it possible for WSCK to satisfy and exceed a level of performance at the lowest
4 feasible cost expected by both the Commission and customers. A robust AMP will also
5 enable WSCK to continue to beat state and national water loss averages, which protect
6 public health by reducing potential entry points for disease-causing pathogens. These
7 planned programs are in the public interest.

8 ❖ Rate Affordability

9 WSCK is proposing “life-line” rates in its Application in an effort to alleviate the
10 impact of the proposed rate increase on our most vulnerable customers. The abstract
11 of the program is to enable customers struggling economically to qualify for a lower
12 rate that is applied to a “life-line” level of usage. Company witness Dickson discusses
13 this special rate in more detail.

14 WSCK is also proposing a new leak adjustment policy aimed at significantly reducing
15 our customers’ risk of a surprise bill in the event of a hidden leak in customer owned
16 distribution infrastructure. Life-line rates for at-risk customers and customer focused
17 policies are in the public interest.

18 ❖ Customer Experience

19 Corix recognizes the need for modern ways to interact with customers in the age of the
20 “Internet of Things”. The Company went live with a new platform targeting customer
21 engagement in March of 2019. The Smart Energy Water (“SEW”) (Smart Energy
22 Water), branded as “MyUtilityConnect”, is a “Best in Class” customer engagement
23 cloud computing platform that provides our customers with enhanced tools and

1 improved communication with our Company. The platform is designed to offer
2 convenience and control to our customers to access their account data anytime,
3 anywhere, and on any device (phone, tablet, computer) all while keeping things simple
4 and user-friendly. MyUtilityConnect is directly integrated with WSCK's Customer
5 Care & Billing system ("CC&B") and our payment vendor, First Billing Service
6 ("FBS") to provide direct, real time updates and payments to customer accounts. And,
7 because CC&B is directly integrated with OMS, real time payments will cancel
8 severance work orders in OMS, which in turn will avoid what is known as a "truck
9 roll". Truck rolls are service call outs where an operator physically mobilizes to the
10 customer's location, only to arrive at the location and find out that the work order is no
11 longer needed. Truck rolls cost time and money that could otherwise be used to
12 optimize plant operations. MyUtilityConnect has an "Alerts" module customers can
13 use to view current and planned alerts for their home along with detailed information
14 on the alert overlaid on a map. Customers can opt-in to receive alert notifications not
15 only by phone, but by email, text and push notifications, offering multiple ways for
16 customers to stay informed. This technology is a game changer for how we engage
17 with our customers and is in the public interest.

18 ❖ Business Intelligence

19 1. Adaptive Insights - The Company went live with Adaptive Insights in 2018.
20 Adaptive Insights modernizes the planning, modeling, budgeting, and forecasting
21 functions enabling WSCK's financial management team to make better decisions,
22 faster. The platform provides everything the Company needs for continuous and
23 comprehensive financial planning, reporting, and analysis. We can produce

1 accurate budgets quickly and easily and collaborate across the enterprise from
2 anywhere - by web, mobile, and Excel.

3 The platform also takes workforce planning to the next level with a powerful
4 solution. Management can deliver dynamic headcount and skills-based plans that
5 drive better business results and strengthen collaboration with human resources
6 and other business partners to optimize workforce plans to achieve strategic goals.

7 2. Meter to Cash (“MTC”) - MTC is a business intelligence solution for daily use
8 by WSCK’s Billing and Customer Service operation and financial team. It is a
9 tool to measure performance, compliance and drive operational efficiency. MTC
10 provides over 100 dashboards which provide meaningful insights into billing,
11 financial, field and customer service data from CC&B. It provides access to
12 graphical and drill down operational reports from each leg of the meter-to-cash
13 cycle. It is used to reveal exceptions and omissions in “to-do’s”, billing, field
14 work, collections, adjustments, payments, and more. MTC also pinpoints gaps in
15 configuration and staffing imbalances. Summary reporting provides a monthly
16 view of process efficiency and quality. Trend reports provide long-term and year
17 over year perspectives.

18 3. FUSION - FUSION is WSCK’s internally branded implementation of Oracle
19 Cloud. It is a multi-functional platform which integrates payroll, time entry,
20 recruiting, onboarding, performance management, benefits administration,
21 human capital management, health and safety incident tracking, accounting,
22 procurement, expense management, payment processing, vendor management
23 and project management systems into a single, integrated platform. This modern
24 system uses the latest cloud and security technology to offer users instant access
25 to this functionality from an office computer or a tablet in the field. The modern
26 capabilities of this platform will replace Massanutten’s aging ERP system, Oracle

1 - JD Edwards, and provides a platform to mature the business by replacing manual
2 processes with best-in-class, automated workflows and offer managers instant
3 reporting and real-time vision into the status of both workforce and financial
4 information. Fusion is a foundational platform that will offer future integration
5 opportunities into our OMS Asset Management platform that will deliver
6 additional operational efficiencies for employees completing work orders and
7 service requests to customers.

8 These business intelligence tools are essential for managers to provide a high level of
9 planning, troubleshooting, process improvement, and strategy services to WSCK and
10 are in the public interest.

11 ❖ Operational Excellence & Cost Containment

12 WSCK has a demonstrated history of providing outstanding water quality and
13 containing costs where possible. The Company has won water treatment awards from
14 the AWWA and water tasting contests hosted by the Kentucky Rural Water
15 Association. Informal customer feedback on water quality has also been very positive
16 at our annual customer meetings.

17 WSCK continues to focus on cost containment even as it operates in a highly fixed cost
18 business environment. The Company completed its plate settlers project in 2015,
19 increasing efficiency in the water treatment process and increasing capacity while
20 saving rate payers on chemical costs. Our water loss control program helps to identify
21 real or physical losses of water from the water system and apparent losses, the water
22 that is consumed but not accounted for. Real losses represent costs to water system
23 through the additional energy and chemical usage required to treat lost water. Apparent
24 losses represent a loss of revenue because the water is consumed but not accounted for

1 and thus not billed. WSCK’s water loss controls reduce the need for costly upgrades
2 and expansions and increased demand. By reducing the amount of water lost, the
3 recovered water can be sold to consumers, generate revenue and meet water demands.
4 WSCK moderates rate case expense burden borne by rate payers in its request for rate
5 relief. The Company expects to save customers significant rate case expense in this
6 proceeding through:

- 7 1. Elimination of the cost of an external rate of return expert by filing
8 operating margin rate cases, this saves rate payers approximately
9 \$50,000 in rate case expense. Legal expenses related to review of
10 testimony, discovery, and hearing prep related to that expert are also
11 reduced; and
- 12 2. Internal preparation of WSCK’s financial exhibits, salary analysis, rate
13 design, as well as related testimony and discovery responses saves rate
14 payers \$50,000 in rate case expenses at a minimum.

15 WSCK’s operational cost containment initiatives and value-added approach to the
16 regulatory rate setting process create “win-win” scenarios and are in the public interest.

III. REVENUES: PRO FORMA CHANGES

1 **Q14. Please explain how test year revenues were adjusted.**

2 A14. Pro forma changes were made to annualize test year revenues at current rates.

3 **Q15. Please summarize the pro forma changes made to water service revenues.**

4 A15. The test year total level of water service revenues was increased by a total of \$29,018 to
5 remove the impact of non-repeating refunds for the federal income tax rate decrease driven
6 by the TCJA which occurred in the test period, along with the inclusion of pro forma
7 changes in customer and usage levels which are discussed in detail in Witness Dickson's
8 testimony.

IV. OPERATING EXPENSES: PRO FORMA CHANGES

SUPPORT BRIDGES FOR ALL PRO FORMA CHANGES TO OPERATING EXPENSE CAN BE FOUND IN PETITIONER'S EXHIBIT RG-2.

1 **Q16. Please explain how test year operating expenses were adjusted.**

2 A16. Pro forma adjustments were made to the test year operating expenses based on known and
3 measurable changes to test year expenses.

4 **Q17. Please explain the pro forma change made to uncollectible accounts.**

5 A17. Uncollectible accounts were adjusted based on the percentage of uncollectible accounts to
6 revenues in the test year applied to annualized and pro forma proposed incremental
7 revenues which results in an uncollectible percentage of 2.35%. WSCK then incorporates
8 this rate into the calculation of the overall gross-up factor used to develop WSCK's revenue
9 requirement on Schedule D.

10 **Q18. Please explain the pro forma change made to salaries and wages expense.**

11 A18. Salaries and Wage expense has been adjusted for projected salaries, taxes, and benefits for
12 employees. The changes in employee salaries, taxes, and benefits resulted in an increase
13 of \$191,415 to test-year expense. Salaries, benefits, and payroll taxes were calculated
14 using the same methodologies used in the Company's past rate cases. The Company
15 utilized employee's 2020 known-and-measurable pay rates in its calculation of annualized
16 salary expense. The most current state and federal payroll tax assumptions, as well as test-
17 year benefit expenses incurred at the various cost centers where employee salaries are
18 booked, were used to calculate insurance and payroll taxes on a per-employee basis. The
19 Company used its 3% employee-match corporate-contribution rate as well as the non-
20 elective annual contribution of 4% for employee 401K expenses on a per-employee basis.

1 Annualized levels of overtime and related salaries expense by employee are included in in
2 the Company's claim.

3 **Q19. Did WSCK perform an analysis of salary and wage reasonableness as previously**
4 **performed in the prior rate case?**

5 A19. Yes, WSCK recognizes that it is imperative to validate the reasonableness of salary
6 expense before the Commission, so it performed comparative salary analysis on two fronts.
7 First, the Company completed an analysis that compares WSCK salary expense per
8 customer to similar utility company's salary expense per customer in Kentucky, in the same
9 manner as what the WSCK presented before the PSC in the past two WSCK base rate cases.
10 Second, the Company further demonstrated the reasonableness of its salary expense by
11 providing a comparison of WSCK's salary levels to market cost of services available by
12 outside service providers. That analysis is included in Witness Baryenbruch's direct
13 testimony and exhibits.

14 **Q20. Please list the additional operation's staffing, since WSCK's last base rate case.**

15 A20. Below is a listing of new positions since WSCK's last base rate case, along with their salary
16 allocation weights to WSCK.

- 17 1. Vice President of Regulatory Affairs & Business Development – 13.67%
- 18 2. Business Development Manager – 13.67%
- 19 3. Director of Engineering & Asset Management– 13.67%
- 20 4. Midwest Project Manager – 21.82%

21 **Q21. Have there been any positions which WSCK is no longer proposing to recover from**
22 **rate payers?**

1 A21. Yes. In an effort to streamline operations, the Midwest business unit reorganized its
2 operations and moved from Regional Managers/Area Managers to a State Level Manager
3 framework where supervisors at the state level are responsible for overseeing daily
4 operations in their state. Due to this change, the Midwest Regional Manager position's
5 payroll and benefits costs are not included in WSCK's revenue requirement in this
6 proceeding.

7 **Q22. Please explain the role and benefit of the Vice President of Regulatory Affairs &**
8 **Business Development position.**

9 A22. The Vice President of Regulatory Affairs & Business Development ("VP-BD"), in direct
10 partnership with the President, is responsible for high level strategic planning, facilitation,
11 and execution of the Midwest business unit's growth initiatives. The VP-BD directs,
12 prepares, and presents business case proposals to other Executive business partners within
13 the Corix Group of Companies and is directly responsible for developing and influencing
14 the execution of the overall organization's growth strategy and motivating leadership and
15 other stakeholders to take ownership of business development.

16 The position advises the President on legislative, policy and regulatory changes
17 advantageous to the Company's goals and seeks partners to implement these changes. The
18 VP-BD identifies, establishes, and maintains crucial relationships at local, state and federal
19 levels supporting relationship building with other members of the team.

20 Overall, business development in the Midwest business unit directly benefits Kentucky rate
21 payers as it allows the Company to further scale operations and reduce risk. As businesses
22 grow, they enjoy incremental financial health and over the long-term, growth generally
23 leads to better financing opportunities and access to capital. Growth in Kentucky means a

1 larger pool of customers to share costs and investment; growth elsewhere in the Midwest
2 business unit leads to reduced allocated costs for WSKC rate payers. The VP-BD is
3 expected to join the Midwest team by the date of WSKC's hearing in this proceeding.

4 **Q23. Please explain the role and benefit of the Business Development Manager position.**

5 A23. Under direct supervision of the Vice President of Regulatory Affairs & Business
6 Development, the Business Development Manager is responsible for identifying, pursuing
7 and evaluating water and wastewater acquisition opportunities. The position manages
8 community relationships; implementing and coordinating the programs necessary to
9 manage water and wastewater systems acquisitions, mergers, and consolidations. This
10 includes the development and execution of an overall strategy, individual project plans,
11 general business analysis, regulatory support, and other project management
12 responsibilities related to the operation of the water and wastewater systems. The benefits
13 of the Business Development Manager position are similar to those that come with the VP-
14 BD. The Business Development Manager has been filled and is actively employed with
15 the Company.

16 **Q24. Please explain the role and benefit of the Director of Engineering & Asset Management**
17 **position.**

18 A24. The Director of Engineering & Asset Management is responsible for all water and
19 wastewater utility construction projects from initial contract negotiations through warranty
20 termination while leading the development and implementation of the asset management
21 plan and capital investment plan. The Director of Engineering & Asset Management
22 manages the following activities regarding capital planning and asset management:

- 1 a. Identify, manage and select consulting engineering services and construction
2 inspectors;
- 3 b. Obtain engineering proposals, monitor project budgets, construction activities and
4 coordinate timing with operations;
- 5 c. Ensure the success of projects, while remaining in-line with time and budget
6 parameters;
- 7 d. Develop and present business cases to support projects utilizing the information
8 from various sources including the input from Operations, Regulatory and
9 Finance;
- 10 e. Lead the development and implementation of the capital plan, including the
11 development of the justification and scope for each project and managing tasks
12 from planning and modeling through final commissioning;
- 13 f. Evaluate the operation of the treatment, distribution and collection systems to
14 provide a high level of efficiency. Seek methods to increase operational
15 efficiencies. Educate and instruct operation staff on the strategies to implement
16 to enhance efficiency.

17 The Director of Engineering & Asset Management position is instrumental to ensuring
18 optimal project planning, compliance, and overall asset management which directly
19 benefits WSCK. The Director of Engineering & Asset Management position has been
20 filled and is actively employed with the Company.

21 **Q25. Please explain the role and benefit of the Midwest Project Manager position.**

22 A25. Under direct supervision of the Director of Engineering & Asset Management, the Midwest
23 Project Manager is responsible for all water and wastewater utility construction projects in

1 Kentucky, Illinois, and Indiana from initial contract negotiations through warranty
2 termination. Additional job duties include:

- 3 a. Creates and maintains activity and progress reports for internal and external
4 customers;
- 5 b. Hires, directs, evaluates and disciplines Construction Inspectors;
- 6 c. Obtains engineering proposals, monitors project budgets, construction activity and
7 coordinates timing with operations;
- 8 d. Ensures the success of projects, while remaining in line with time and budget
9 parameters;
- 10 e. Coordinates all daily activities and personnel for each project.

11 The benefits of the Midwest Project Manager position are similar to those that come with
12 the Director of Engineering & Asset Management. The Midwest Project Manager is
13 expected to join the Midwest team by the date of WSCK's hearing in this proceeding.

14 **Q26. Please explain the pro forma change made to maintenance and repair expense.**

15 A26. Test-year maintenance and repair expense has been adjusted based on actual and projected
16 deferred maintenance projects for which the Company has bids. Deferred Maintenance is
17 discussed more fully in witness Vaughn's testimony; however, the largest drivers of pro
18 forma maintenance expense are two tank painting projects that will be undertaken in
19 Middlesboro for which WSCK has projected costs of approximately \$842,000. These two
20 deferred projects will be amortized over 10 years and will result in an increase of
21 approximately \$84,000 over test-year expense maintenance expenses. WSCK also
22 included an incremental adjustment of approximately \$10,000 in order to cover costs
23 associated with preventative maintenance on assets such as wells and intake pumps,

1 hydrants, generators, meters, and other assets in order to reduce consequential premature
2 replacements and reduce risk of asset failure.

3 **Q27. Please explain the pro forma change made to regulatory expense.**

4 A27. The test year level of regulatory expense was increased to reflect the anticipated costs of
5 this proceeding based on past experience and expert estimates.

6 The unamortized portion of the balance of the prior rate case as of the anticipated effective
7 date of the new order, December 1, 2020 or the end of the expected suspension period, of
8 \$57,427 has been included in the Company's pro forma rate-case expense as this will allow
9 WSCK to fully recover prudently expended costs in relation to Case 2018-00208. The total
10 cost of the new case will total \$186,893. The costs associated with the current case are
11 summarized below:

	A	B
<u>Line</u>	<u>Category</u>	<u>Estimated Cost</u>
1.	Legal	\$ 143,375
2.	Consulting	26,550
3.	Travel	7,400
4.	Administration	9,568
5.	Total:	<u>\$ 186,893</u>

12 The summation of the unamortized rate case expense from 2018-00208 and the expected
13 cost of the current case equals \$244,321. This balance will be amortized over a 30-month
14 period, which will create an annual amortization expense of \$97,728.

15 The amortization period proposed by WSCK in this case is designed to match revenues
16 with expenses which is called the matching principle. United States Generally Accepted
17 Accounting Principles dictate that under accrual accounting (utilized by WSCK) that the

1 matching principle instructs that an expense should be reported in the same period in which
 2 the corresponding revenue is earned. By recognizing costs in the period they are incurred,
 3 a business can see how much money was spent to generate revenue, reducing "noise" from
 4 timing mismatch between when costs are incurred and when revenue is realized. As shown
 5 in the table below, utilizing thirty months to amortize rate case expense is a realistic
 6 estimate of the time that will elapse between the current rate proceeding and WSCK's next
 7 rate case based on WSCK's long established and consistent case history dating back to
 8 2008 and spanning a dozen years. Leaving large balances of unamortized rate case expense
 9 at the onset of new rates only distorts WSCK's earnings over time, violates the matching
 10 principle, and ignores the concept of the time value of money. It is important for WSCK's
 11 shareholder to be allowed to timely recover rate case expense over the expected life of the
 12 regulatory asset in order to afford WSCK's shareholder the opportunity to earn the PSC's
 13 authorized operating margin percentage.

	A	B	C	D	E
<u>Line</u>	<u>Case</u>	<u>Filing</u>	<u>Rate Effective</u>	<u>Months Between Effective Rates</u>	<u>Years Between Effective Rates</u>
1.	2008-00563	3/5/2009	11/9/2009		
2.	2010-00476	1/24/2011	11/23/2011	24	2.0
3.	2013-00237	9/27/2013	7/24/2014	32	2.7
4.	2015-00382	11/30/2015	5/31/2016	22	1.8
5.	2018-00208	7/5/2018	2/11/2019	32	2.7
6.	2018-00208	6/1/2020	12/1/2020 [1]	21	1.8
7.	Average Months Between Effective Dates			28	2.3

[1] Projected

1 **Q28. Please explain the pro forma change made to Utility Commission and Federal and**
2 **State Income Taxes.**

3 A28. Similar to Bad Debt expense, WSCK's Utility Commission tax assumption is calculated as
4 percentage of annualized revenues at present rates then applied to proposed revenue. The
5 resulting factor is then incorporated into the gross up percentage which is applied to the
6 proposed increase to arrive at Petitioner's revenue requirement.

7 Pro forma Federal and State income taxes were both calculated on proposed taxable income
8 at the current rates of 21% and 6% respectively and incorporated in the gross up percentage
9 in an equal manner.

10 **Q29. Please explain the reduction to Other Outside Services expense.**

11 A29. Test year Other Outside Services Expense exclusively consists exclusively of newly
12 presented Corix cost allocations referenced in Company Witness Lubertozi's direct
13 testimony. WSCK reduced the test year per book level of Corix costs by \$24,359 in order
14 to remove certain costs which the Company is not seeking recovery for. Further narrative
15 regarding the nature of the costs and services provided to WSCK by Corix and
16 reasonableness analysis are deliberated in Witness Elicegui's and Witness Baryenbruch's
17 testimonies and exhibits respectively.

18 **Q30. Please explain the pro forma change made to office supplies and other office**
19 **expense.**

20 A30. The test-year balance for office supplies and other office expense included items from
21 employee expense reports at various levels of the organization. WSCK removed these
22 costs from the test-year balance for ratemaking purposes. Company Witness Lubertozi

1 discusses the removal of costs related to employee expense reports. This change resulted
2 in a decrease of \$1,171 to test-year expense.

3 **Q31. Please explain the pro forma change made to Other Employee Benefits.**

4 A31. Outside of the adjustment described in the discussion of pro forma changes to salary
5 expenses above, the test-year balance for benefits included items from employee expense
6 reports at various levels of the organization. WSK removed these costs from the test year
7 balance for ratemaking purposes. Company Witness Lubertozi discusses the removal of
8 costs related to employee expense reports. This change resulted in a decrease of \$2,204 to
9 the test-year balance.

10 **Q32. Please explain the pro forma change made to office utilities expense.**

11 A32. The test-year balance for office utilities expense included items from employee expense
12 reports at various levels of the organization. WSK removed these costs from the test-
13 year balance for rate making purposes. Company Witness Lubertozi discusses the
14 removal of costs related to employee expense reports. This change resulted in a decrease
15 of \$31 to the test-year balance.

16 **Q33. Please explain the pro forma change made to miscellaneous expense.**

17 A33. The test-year balance for miscellaneous expense included items from employee expense
18 reports at various levels of the organization. WSK removed these costs from the test-
19 year balance for rate making purposes. Company Witness Lubertozi discusses the
20 removal of costs related to employee expense reports. This change resulted in a decrease
21 of \$276 to the test-year balance.

22 **Q34. Please explain the pro forma change to depreciation expense.**

1 A34. Depreciation expense was annualized based on gross depreciable plant at the end of the
2 test year plus pro forma additions. The depreciation rates WSCK utilized are equal to those
3 recommended in the Commission’s Final Order on Reconsideration in Case No. 2018-
4 00208. With regard to pro forma depreciation expense on computer assets in this
5 proceeding: Petitioner is seeking approval to reestablish computer asset net book values
6 using the Commission’s recommended depreciation rates for this class of asset.

7 **Q35. Please summarize the PSC’s decision regarding WSCK’s proposed depreciation**
8 **rates in Case No. 2018-00208.**

9 A35. In its order issued February 11, 2019, the PSC ruled that WSCK’s proposed depreciation
10 study was inappropriate and denied it for the following reasons:

- 11 - WSCK did not identify specific characteristics that it had in common with utilities in
12 the proxy group;
- 13 - The study presented by the Company’s depreciation expert does not identify the
14 specific methods of determining the service lives, salvage values, and depreciation rates
15 for each member of the proxy group;
- 16 - No utility in Kentucky was included in the proxy group.

17 The PSC ruled that in lieu of a traditional depreciation study that examines WSCK’s
18 actual property schedules of plant additions and retirements to calculate either an
19 actuarial or simulated plant balance method for determining useful lives, it desired to
20 maintain consistent application of depreciation practices where such traditional studies
21 are not performed.

22 **Q36. In WSCK’s view are the depreciation rates that the Commission recommended**
23 **reasonable given the nature of the assets on WSCK’s books?**

1 A36. First, let me begin by emphasizing that it is not the Company's prerogative or intent to
2 relitigate WSCK's depreciation rates. The Company did not appeal the PSC's
3 recommended rates; nevertheless, WSCK's perspective is that the rates the Commission
4 deemed appropriate for short-lived computer assets are not reasonable and it does not make
5 sense to rely on the NARUC Study dated August 15, 1979 to establish useful lives for an
6 entire class of assets that did not exist when the study was produced.

7 **Q37. What is the impact of using the Commission's recommended rates to recover a**
8 **return on and of WSCK's investment in technology infrastructure?**

9 A37. The recommended midpoint for WSCK's computer assets in the PSC's prior order
10 stemming from the 40-year-old NARUC study is 22.5-years. Over 80% of the Company's
11 investment in computer plant depreciates over 8 years on the Company's books, another
12 10% depreciates over 3 years. If a ratemaking adjustment is not made to either reestablish
13 computer net book values using the PSC's recommended depreciation rates or to compute
14 the Company's depreciation expense included in its revenue requirement using book lives,
15 shareholders are not afforded the opportunity to earn the Commission's authorized
16 operating margin of 12% due to the mismatch in useful lives between Kentucky rate
17 making and the Company's books. It is impossible for WSCK to change the book life of
18 allocated computer assets because 99.8% of the organization's investment in computer
19 infrastructure is held at the Shared Services cost center (WSC) and used by all of the
20 operating companies across the United States to administer safe, reliable utility service for
21 nearly 300,000 customers.

22 Furthermore, applying the mid-point useful life suggested by the 1979 NARUC study to
23 present day computer assets and technology in practice is illogical. Any reasonable person

1 familiar with the modern state of very rapid change in the technology sector would think it
2 ridiculous to expect any existing level of technology to be used and useful in 22.5 years.
3 Depreciation, although a non-cash item, represents a very real cost to WSCK's shareholder
4 and no reasonable investor would continue to invest in technology assets if they were
5 forced to recover those investments over 22.5 years. The Commission has recognized this
6 principle in several prior cases, in which service lives of computers and software were set
7 at a level significantly less than 22.5 years.¹

¹ See, e.g., *E. Daviess Water Dist.*, Case No. 2013-00366; *Rattlesnake Ridge Water Dist.*, Case No. 2013-00338; *Lake Village Water Ass'n*, Case No. 2003-00401.

V. NET ORIGINAL COST RATE BASE

1 **Q38. Is all of the property that is included in WSCK's rate base used and useful for**
2 **service to the public?**

3 A38. All of the utility's booked property included in rate base, is used and useful. WSCK
4 implores the PSC to allow it to prove on or before the evidentiary hearing that all pro forma
5 projects and other capital are either:

6 • in service and used and useful to Kentucky rate payers, or;
7 • that substantial evidence, agreements, and or contracts are in place for the Commission
8 to ascertain with reasonable certainty that:

9 1. pro forma costs are known and measurable, and;

10 2. infrastructure will be in service in the rate effective period in order for it to
11 facilitate quality utility service to WSCK's customers.

12 **Q39. Please describe the adjustments being made to the rate base.**

13 A39. As shown on Schedule C of Petitioner's Exhibit RG-1, the Company is proposing a number
14 of adjustments to its rate base, resulting in a net increase in rate base of \$49,806. The
15 specific adjustments are discussed in greater detail below.

16 **Q40. Please explain the adjustment to gross plant in service.**

17 A40. The adjustment to gross plant in service reflects the total of two adjustments. First, an
18 adjustment was made to include post-test year plant additions up to the estimated date of
19 the evidentiary hearing or from April 1, 2020 to October 31, 2020. Second, an adjustment
20 was made to include computer project through December 31, 2020. The total change will
21 result in an increase of \$461,724 to gross plant in service.

22 **Q41. Please explain the adjustment to accumulated depreciation.**

1 A41. The accumulated depreciation balance was adjusted to include an annual level of post-test
2 year roll-forward accumulated depreciation incorporating incremental capital additions and
3 computer projects into the pro forma balance expected by March 31, 2021. The total
4 change will result in an increase of \$475,384 to accumulated depreciation.

5 **Q42. Please explain the cash working capital calculation.**

6 A42. Working capital has been calculated based on pro forma expenses. This results in an
7 increase of \$53,282 to rate base. Working capital is calculated using 1/8th of maintenance
8 expense, general expenses and taxes other than income presented on Schedule B of Exhibit
9 RG-1.

10 **Q43. Please explain the adjustment to Contributions in Aid of Construction (“CIAC”).**

11 A43. The Company included a \$10,184 pro forma adjustment as a reduction to net CIAC (less
12 negative). This adjustment represents a pro forma annual roll-forward level of accumulated
13 amortization of CIAC through March 31, 2021, similar to accumulated depreciation.

VI. RATE DESIGN

1 **Q44. What rates are WSCK proposing?**

2 A44. The proposed charges for WSCK customers have been included in Company Witness
3 Dickson's Exhibits. As previously discussed in this testimony, in an effort to increase rate
4 affordability to its most at-risk subset of customers, WSCK has put forth a life-line rate for
5 the Commission to consider, as well as, a new leak adjustment policy.

6 **Q45. Are there any other tariff changes which WSCK is proposing?**

7 A45. Yes, WSCK is seeking establishment of a QIP rider in its tariff for the PSC to consider.
8 WSCK's QIP is unique in that it presents its QIP under the operating margin methodology
9 that the Commission has recommended since 2008. WSCK implores the Commission to
10 consider allowing it to recover a return on and of prudently incurred expenses driven by
11 Qualifying Infrastructure using the long standing approved operating margin of 12%. In
12 WSCK's view, the fact that the Commission suggests the operating margin due to the
13 Company's size should not preclude it from participating in mechanisms designed to allow
14 the utility the opportunity to earn a fair and reasonable return on its investment in qualifying
15 plant. Since most of WSCK's costs are fixed, Petitioner proposes to recover the QIP
16 through a flat monthly charge in an effort to match revenue and cost streams.

17 **Q46. Why is WSCK proposing to implement a QIP rider?**

18 A46. Much of WSCK's water infrastructure is nearing the end of its useful life. WSCK must
19 continually assess the condition of its infrastructure and take a proactive approach to
20 remediating any aging infrastructure issues that it identifies, to avoid the potential for asset
21 failure and its consequences, such as service interruptions and water loss. Implementation
22 of the QIP rider will better position WSCK to invest in the ongoing infrastructure

1 improvements necessary to enable the Company to continue to provide safe, adequate, and
2 reliable water service to its customers.

3 **Q47. Why is WSCK electing to implement a QIP rider, rather than recover the costs of**
4 **plant replacements in its next rate case?**

5 A47. All else equal, the QIP rider extends the period between the rate cases that otherwise would
6 be necessary for WSCK to recover the costs of its continuous investment in aging
7 infrastructure by reducing the lag associated with recovering capital costs for QIP through
8 the general rate case process. This, in turn, mitigates the cost to customers associated with
9 rate case filings. Additionally, the QIP rider mitigates the rate increases that may be
10 associated with the utility's continuous investment in aging infrastructure by permitting
11 customers to pay for QIP via more gradual rate increases over time.

12 **Q48. Will WSCK be required to attract additional capital to finance QIP construction?**

13 A48. No. WSCK believes that its available cash balances together with the funds expected to
14 be generated from operations and funds available under the Company's existing revolving
15 credit facility will be sufficient to finance capital requirements, including QIP investment,
16 for the foreseeable future. Therefore, WSCK does not expect that its implementation of
17 the QIP rider will adversely affect its cost of debt.

18 **Q49. Has the Petitioner caused notice to its customers regarding proposed rates and**
19 **charges recommended by Company Witness Dickson?**

20 A49. Yes, the Company has mailed notices detailing the proposed rate increase included in
21 Petitioner's Application on June 1, 2020. Notices mailed to the Company's customers and
22 an Affidavit certifying the mailing took place is included in Exhibit 3.

23 **Q50. Does this conclude your prepared direct testimony?**

1 A50. Yes.

AFFIDAVIT

The undersigned, Robert Guttormsen, being duly sworn, deposes and says that he is the Financial Planning and Analysis Manager of Utilities, Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Robert Guttormsen, Affiant

NOTARY CERTIFICATE

STATE OF ILLINOIS

COUNTY OF COOK

Subscribed, acknowledged and sworn to before me by _____ on
this ___ 1st ___ day of _____ June _____, 2020.

My commission expires: _____.

NOTARY PUBLIC

Line No.	A	B	C	D	E	F
		3/31/2020 Per Books	Pro Forma Changes	Pro Forma Present	Proposed Increase	Pro Forma Proposed
1.	Operating Revenues					
2.	Service Revenues - Water	\$ 2,790,125	\$ 29,018 [a]	\$ 2,819,143	\$ 1,080,300 [k]	\$ 3,899,443
3.	Service Revenues - Sewer	-	-	-	-	-
4.	Miscellaneous Revenues	56,138	-	56,138	-	56,138
5.						
6.	Total Operating Revenues	\$ 2,846,263	\$ 29,018	\$ 2,875,281	\$ 1,080,300	\$ 3,955,581
7.						
8.	Maintenance Expenses					
9.	Salaries and Wages	\$ 751,780	\$ 124,329 [c]	\$ 876,109	\$ -	\$ 876,109
10.	Purchase Water/Sewer	124,772	-	124,772	-	124,772
11.	Purchased Power	121,782	-	121,782	-	121,782
12.	Maintenance and Repair	182,342	118,057 [i]	300,399	-	300,399
13.	Maintenance Testing	37,939	-	37,939	-	37,939
14.	Meter Reading	-	-	-	-	-
15.	Chemicals	113,330	-	113,330	-	113,330
16.	Transportation	38,064	-	38,064	-	38,064
17.	Operating Exp. Charged to Plant	(65,701)	- [d]	(65,701)	-	(65,701)
18.	Outside Services - Other	183,711	(24,359)	159,352	-	159,352
19.						
20.	Total	\$ 1,488,019	\$ 218,027	\$ 1,706,046	-	\$ 1,706,046
21.						
22.	General Expenses					
23.	Salaries and Wages	\$ 165,529	\$ 23,943 [c]	\$ 189,473	\$ -	\$ 189,473
24.	Office Supplies & Other Office Exp.	97,266	(1,171) [l]	96,095	-	96,095
25.	Regulatory Commission Exp.	49,159	48,569 [e]	97,728	-	97,728
26.	Pension & Other Benefits	231,250	18,922 [c] [l]	250,172	-	250,172
27.	Rent	35,517	-	35,517	-	35,517
29.	Insurance	77,049	-	77,049	-	77,049
30.	Office Utilities	41,709	(31) [l]	41,678	-	41,678
31.	Uncollectible Accounts	65,664	683 [b]	66,347	25,424 [b]	91,771
32.	Miscellaneous	37,623	(276) [l]	37,347	-	37,347
33.						
34.	Total	\$ 800,767	\$ 90,638	\$ 891,405	\$ 25,424	\$ 916,830
35.						
36.	Depreciation	\$ 418,692	\$ 56,692 [f]	\$ 475,384	\$ -	\$ 475,384
37.	Amortization of PAA	(3,660)	3,660 [f]	-	-	-
38.	Taxes Other Than Income	238,690	22,388 [g]	261,078	2,113 [g]	263,191
39.	Expense Reduction Related to Clinton Sewer Operations	(147,351)	-	(147,351)	-	(147,351)
40.	Income Taxes - Federal	(20,890) [h]	(73,475) [h]	(94,365)	209,781 [h]	115,416
41.	Income Taxes - State	(4,145) [h]	(14,578) [h]	(18,723)	53,804 [h]	35,081
42.	Amortization of CIAC	(9,505)	(679) [f]	(10,184)	-	(10,184)
43.						
44.	Total	\$ 471,830	\$ (5,991)	\$ 465,839	\$ 265,699	\$ 731,538
45.						
46.	Total Operating Expenses	\$ 2,760,617	\$ 302,674	\$ 3,063,291	\$ 291,123	\$ 3,354,414
47.						
48.	Net Operating Income	\$ 85,646	\$ (273,656)	\$ (188,010)	\$ 789,178	\$ 601,168
49.						
50.	Other Income	\$ (144)	\$ 144 [m]	\$ -	\$ -	\$ -
51.	Interest During Construction	(6,316)	-	(6,316)	-	(6,316)
52.	Interest on Debt	160,572	6,411 [j]	166,983	-	166,983
53.						
54.	Net Income	\$ (68,465)	\$ (280,211)	\$ (348,676)	\$ 789,178	\$ 440,501

Line No.

1. [a] Test year revenues are recalculated using current rates on Schedule E. Customer and usage decline are included in proforma revenues. The TCJA surcharge is no longer in effect.
2. [b] Adjusted based on the percentage of uncollectible accounts to revenues in the test year applied to pro forma proposed revenues. Support can be found on w/p [a].
3. [c] Salaries, Wages and Benefits are adjusted to annualize as of April 1, 2020. Support for this change can be found on w/p [b].
4. [d] This note intentionally left blank
5. [e] Regulatory commission expense has been adjusted. Support for this change can be found on w/p [d].
6. [f] Depreciation and Amortization Expense are annualized. Amortization of PAA is removed. Support for this change can be found on w/p [f].
7. [g] Taxes Other than Income is adjusted for annualized payroll taxes and pro forma PSC assessments. Support can be found on w/p [e].
8. [h] Income taxes are computed on taxable income at current rates. Support for this change can be found on w/p [g].
9. [i] Support for this change can be found on w/p [j].
10. [j] Support for this change can be found on w/p [h].
11. [k] Revenues are annualized at proposed rates using test year consumption and billing determinates. Refer to Sch. D for the calculation of the revenue requirement.
12. [l] Support for this change can be found on w/p [k].
13. [m] Other income has been removed for rate making purposes.

Line No.	A	B	C	D	E	F
		3/31/2020 Per Books	Pro Forma Changes	As Adjusted	Proposed Increase	Effect of Proposed Increase
1.	Net Operating Income	\$ 85,646	\$ (273,656)	\$ (188,010)	\$ 789,178	\$ 601,168
2.						
3.	Gross Plant In Service	\$ 13,384,685	\$ 461,724 [a]	\$ 13,846,410	\$ -	\$ 13,846,410
4.	Accumulated Depreciation	(6,388,934)	(475,384) [a]	(6,864,318)	-	(6,864,318)
5.	Net Plant In Service	\$ 6,995,752	\$ (13,660)	\$ 6,982,092	-	\$ 6,982,092
6.	Cash Working Capital	315,935	53,282 [b]	369,217	-	369,217
7.	Contributions In Aid of Construction	(269,718)	10,184 [a]	(259,534)	-	(259,534)
8.	Advances in Aid of Construction	-	-	-	-	-
9.	Accumulated Deferred Income Taxes	(710,462)	-	(710,462)	-	(710,462)
10.	Customer Deposits	(57,340)	-	(57,340)	-	(57,340)
11.						
12.	Total Rate Base	\$ 6,274,166	\$ 49,806	\$ 6,323,972	\$ -	\$ 6,323,972

14. Explanation of Adjustments to Rate Base

15.

16. [a] Gross plant in service and Accumulated Depreciation and Amortization adjustments per w/p [c].

17. [b] Working capital is calculated based on pro forma maintenance expenses, general expenses, and taxes other than income per w/p [i].

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Revenue Requirement
Test Year Ended 3/31/2020

A	B
Line No.	Item
	Operating Ratio Method
	(d)
1.	Total Operating Expenses \$ 3,063,291
2.	Less: Federal & State Income Taxes 113,088
3.	
4.	Operating Expenses Net of Income Taxes \$ 3,176,379
5.	Divide by: Operating Ratio 88%
6.	
7.	Revenue to Cover Operating Ratio \$ 3,609,522
8.	Less: Operating Expenses Net of Income Taxes \$ (3,176,379)
9.	
10.	Net Operating Income After Income Taxes \$ 433,143
11.	Less: Pro Forma Net Income 348,676
12.	
13.	Net Operating Income Adjustment \$ 781,819
14.	Multiplied by Gross-up Factor 1.381778306
15.	
16.	Revenue Requirement \$ 1,080,300
17.	
18.	Percentage Increase/Decrease 38.32%

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Summary of Operating Expense Pro Forma Changes
Test Year Ended 3/31/2020

Petitioner's Exhibit RAG-2

A	B
<u>Line</u> <u>Description</u>	<u>Amount</u>
1. Test Year - Total Operating Expense (Per Books)	\$ 2,760,617
2.	
3. <i>General & Maintenance Expense Change:</i>	
4. Salaries and Wages	\$ 148,272
5. Maintenance and Repair	118,057
6. Operating Exp. Charged to Plant	-
7. Office Supplies & Other Office Expense	(1,171)
8. Regulatory Commission Expense	48,569
9. Pension & Other Benefits	18,922
10. Uncollectible Accounts	26,107
11. Office Utilities	(31)
12. Miscellaneous	(276)
13. Outside Services	(24,359)
14. <i>General & Maintenance Expense Change Total</i>	<u>\$ 334,089</u>
15.	
16. <i>Depreciation and Amortization Change:</i>	
17. Depreciation	\$ 56,692
18. Amortization of PAA	3,660
19. Amortization of CIAC	(679)
20. <i>Depreciation and Amortization Change Total</i>	<u>\$ 59,674</u>
21.	
22. <i>Tax Change:</i>	
23. Taxes Other Than Income	\$ 24,502
24. Income Taxes - Federal	136,306
25. Income Taxes - State	39,226
26. <i>Tax Change Total</i>	<u>\$ 200,034</u>
27.	
28. Pro Forma Proposed - Total Operating Expense	<u><u>\$ 3,354,414</u></u>

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation
of Kentucky for a General Adjustment
in Existing Rates

)
)
)

Case No. 2020-00160

DIRECT TESTIMONY OF ANDREW DICKSON

WATER SERVICE CORPORATION OF KENTUCKY

CASE NO. 2020-00160

Direct Testimony of Andrew Dickson

INTRODUCTION AND QUALIFICATIONS

Q1. Please state your name and business address.

A1. My name is Andrew Dickson. My business address is 500 West Monroe St., Suite 3600, Chicago, IL, 60661.

Q2. What is your educational and professional background?

A2. I am a senior financial analyst with Utilities Inc., where I have been employed since June of 2019. I am a Certified Business Economist, as designated by the National Association for Business Economics (NABE), and hold a Master of Science in Applied Economics, in addition to a Bachelor of Arts in Economics and a Bachelor of Science in Biological Sciences from the University of Cincinnati. After my graduation from college I joined Raftelis Financial Consultants as a cost of service and rate design consultant for water, wastewater, and electric utilities.

Q3. Please describe your job responsibilities with Utilities Inc, (“UI”).

A3. As a senior financial analyst for Utilities, Inc. my responsibilities include: financial analysis of Utilities Inc.’s Midwest and Mid-Atlantic subsidiaries, preparation of annual budgets and forecasts, usage projection and forecasting, and the preparation and submission of regulatory filings.

Q4. Have you previously testified before the Public Service Commission of Kentucky?

A4. No.

Q5. What is the purpose of your testimony?

A5. The purpose of my testimony is to detail the analytical support for our proforma adjustments to bills and volumes and the ultimate rate design created to recover the revenue requirement of Water Service Corporation of Kentucky. My testimony will go through the analyses performed to forecast bills and volumes, their resulting impact on our pro forma present revenues, and the methodology for development of our proposed, opt-in low-income rate.

Q6. Are you sponsoring any Exhibits?

A6. Yes.

Petitioner's Exhibit AD-1. This exhibit details the historical year's volumetric and billing units and how they produce the observed service revenues. This revenue proof is the foundation on which we make pro forma adjustments.

Petitioner's Exhibit AD-2. This exhibit contains an analysis of the annual changes in equivalent residential connections (ERCs) in our Kentucky service areas, looking into both a compound annual growth rate and the trailing 12-month changes in ERCs.

Petitioner's Exhibit AD-3. This exhibit contains an analysis of the annual changes in usage per ERC in our Kentucky service areas, looking into both a compound annual growth rate and the trailing 12-month changes in usage per ERC.

Petitioner's Exhibit AD-4. This exhibit illustrates the revenues we expect should there be no change to rates. Pro forma adjustments to volumes and bills are incorporated.

Petitioner's Exhibit AD-5. This exhibit runs through the creation of the rates we have designed to recover our new revenue requirements. Assumptions and factors involved with the opt-in, low-income rate are detailed here.

Petitioner's Exhibit AD-6. Existing and proposed rates are summarized in this exhibit.

Petitioner's Exhibit AD-7. The recovery of revenues by our proposed rates and billing units is detailed in this exhibit.

Petitioner's Exhibit AD-8. The average bills for each of our meter sizes are documented in this exhibit, including sample bills for customers who may be eligible for our opt-in, low-income rate.

Petitioner's Exhibit AD-9. Tariff pages proposed to be added to WSCK's tariff regarding the hidden leak adjustment policy.

Q7. Were the Exhibits that you are sponsoring prepared by you and/or under your supervision?

A7. Yes.

Q8. How has WSCKY determined pro forma present revenues?

A8. We start with a revenue proof to illustrate the robust nature of our foundational billing information. Exhibit AD-1 details the billing information we have for our historical test year, and the resulting revenues that would be produced by those same units. The revenue we have calculated in this manner is within 0.05% of the service revenues from our trial balance, thus validating our billed volumes and bill counts as representative of the historical test year. Exhibit AD-2 and AD-3 contain the analyses performed to

identify necessary proforma adjustments to our equivalent residential connection (ERC) counts and volumes per ERC to meet our expectations for the system going forward. Namely, we expect an approximate loss of 0.50% of our ERCs each year, after assaying the compound annual growth rate in ERCs over the last nine years, and a loss of approximately 0.44% of the volume used by each ERC. While usage per ERC adequately measures the change for each ERC, it provides an incomplete portrayal of the demands placed on the system in the absence of updated ERC counts. When combined, these two adjustments demonstrate the impact of the change in the number of ERCs and the micro-level changes in usage per ERC. While WSCK has not experienced serious declines in usage by each ERC, there is ongoing decline in the number of customers that we serve, thus decreasing the total volumes sold over time. These have been incorporated into our revenue expectations for the future in Exhibit AD-4. We are expecting approximately \$2,819,143 in revenues from the provision of water service in WSCK's service areas, should rates remain unchanged.

Q9. How does WSCK propose to recover the revenue requirement it has proposed?

A9. To recover our new revenue requirement, WSCK has a few changes that must be made to its rates. Exhibit AD-5 goes through the calculations made to update rates. First, we made the decision to maintain the same fixed revenue recovery that we have historically experienced, which is accomplished through across-the-board increases in our base charges. This leaves approximately \$2,485,691 to be recovered through volumetric rates. To increase the affordability for our customers, we have designed an opt-in, low-income rate such that residences whose income falls below the poverty line can take advantage of a lower rate. We have built the rate based on data from the

American Community Survey. Approximately 36% of our customers are assumed to live below the poverty line. We have found that the median income in our service areas in Kentucky to be approximately \$25,455, and for the median household size to be between two and three persons. To develop our rate ratio, we have used the poverty line for a household of three and juxtaposed it with this median household income, resulting in a low-income rate design based on a rate that is 78.51% of the tier 1 rate. To mitigate rate shock, we have maintained the 69% ratio that the tier 2 rate has to the tier 1 rate, resulting in the following volumetric rates:

<u>Description</u>	<u>Present Rates</u>	<u>Proposed Rates</u>
Volumetric Rates Per 1000 Gallons		
<u>All WSKC Service Areas</u>		
Low Income Rate	N/A	\$ 5.926
Tier 1 - First 100,000 gallons	\$ 5.000	\$ 7.548
Tier 2 - Over 100,000 gallons	\$ 3.350	\$ 5.208
Wholesale Rate	N/A	\$2.214

To avoid the handling of sensitive personal information, WSKC will seek the assistance of a 3rd party income verifier, who will inform us of the eligibility of customers for the low-income rate. As an opt-in rate, customers will complete an application with our 3rd party income verifier, who will inform the utility as customers are identified as eligible. Once identified, residences will be able to pay the lower rate for the first 3,000 gallons they use in any given month. With such a rate, we can curtail the impact of our necessary rate increase on those customers least able to afford it. WSKC will cover any costs associated with the income verification outside of the revenue requirement, and will maintain a customer's status as eligible for 12 months. After 12 months, a new verification of income will be needed to maintain eligibility.

We have also added a wholesale rate to our tariff. While WSCK has not sold wholesale water in recent history, WSCK does have an interconnect with Pineville. We have defined the rate at which water moving through the interconnect will be charged as the marginal cost of each kilogallon of water by documenting the electric costs, purchased water costs, and chemical costs incurred in a given year by WSCK. We find that the average cost for each additional kilogallon of water we supply to the system to be approximately \$2.214, which is the rate we will charge should the interconnect be used. As the interconnect has not been used for several years and is not expected to be used, this rate has no impact on our revenue requirement or recovery. Our proposed rates are summarized in exhibit AD-6.

Q10. How will these new rates impact customers?

A10. The application of new rates on our proforma present billing units is illustrated in exhibit AD-7. We expect to collect \$1,413,752 from flat charges, \$883,491 from our low-income rate, \$1,095,045 from our tier 1 rate, and the remaining \$507,155 from our tier 2 rate. Exhibit AD-8 goes through how average bills will change with our rates. Typical low-income bills have also been provided, to illustrate the benefits that those eligible are likely to experience. For customers who use closest to the volume limit of 3,000 gallons, the positive effects are the most profound.

Q11. Does WSCK propose any changes to its leak adjustment policy?

A11. Yes. WSCK is concerned with the burden that a hidden leak may cause a given customer. For this reason, we have taken note of the policies of other investor-owned utilities in the state and propose a change. WSCK is proposing that customers be responsible for only 25% of the rate which would have been applied to volumes

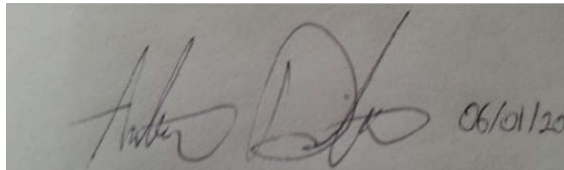
ascribed to a hidden underground leak. We define such a leak as a leak in the customer service line between the meter and the premises. We propose customers must provide a plumber's statement or list of materials showing that the leak has been repaired, which we will verify and then adjust bills. We will adjust bills by comparing the billing period in question with the past six billing periods. Our goal is to treat our customers in an equitable fashion by enabling a degree of forgiveness for water losses not directly caused by the customer's usage characteristics. This hidden leak adjustment is detailed in our tariff, which I have included as Exhibit AD-9.

Q12. Does this complete your testimony?

A12. Yes.

AFFIDAVIT

The undersigned, Andrew Dickson, being duly sworn, deposes and says that he is the Senior Financial Analyst of Utilities, Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.



Andrew Dickson, Affiant

NOTARY CERTIFICATE

STATE OF ILLINOIS

COUNTY OF COOK

Subscribed, acknowledged and sworn to before me by _____ on
this _____ day of _____, 2020.

My commission expires: _____.

NOTARY PUBLIC

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Revenues at Present Rates
Test Year Ended 3/31/2020

Schedule E
Exhibit AD-1

Line No.	A	B	C	D	E			F			G			H			I			J			K	K	L
					Rates Before 6/17/19			Rates as of 6/18/2019			Rates Before 6/17/19			Rates as of 6/18/2019			Rates Before 6/17/19			Rates as of 6/18/2019					
					Flat Revenue	Tier 1 Gallons Consumed	Tier 1 Rate	Volumetric Tier 1 Revenue	Tier 1 Gallons Consumed	Tier 1 Rate	Volumetric Tier 1 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	TCJA Surcharge	Billing Adjustments			
MIDDLESBORO AND CLINTON																									
1.	5/8"	63,997	\$ 11.45	\$ 732,767	60,829,327	\$ 5.05	\$ 307,188	160,763,796	\$ 5.00	\$ 803,819	296,061	\$ 3.45	\$ 1,021	707,122	\$ 3.35	\$ 2,369	\$ (27,295)	\$ (1,713)	\$ 1,818,157						
2.	3/4"	6,189	\$ 11.45	\$ 70,866	5,580,450	\$ 5.05	\$ 28,181	12,983,972	\$ 5.00	\$ 64,920	232,270	\$ 3.45	\$ 801	150,961	\$ 3.35	\$ 506	\$ (2,400)	\$ 3,875	\$ 166,750						
3.	1"	1,272	\$ 28.63	\$ 36,409	4,213,992	\$ 5.05	\$ 21,281	10,196,180	\$ 5.00	\$ 50,981	102,183	\$ 3.45	\$ 353	-	\$ 3.35	\$ -	\$ (1,785)	\$ (19)	\$ 107,220						
4.	1.5"	425	\$ 57.25	\$ 24,324	2,812,018	\$ 5.05	\$ 14,201	7,392,662	\$ 5.00	\$ 36,963	545,620	\$ 3.45	\$ 1,882	1,939,107	\$ 3.35	\$ 6,496	\$ (1,562)	\$ 47	\$ 82,351						
5.	2"	642	\$ 91.60	\$ 58,768	6,183,937	\$ 5.05	\$ 31,229	16,649,962	\$ 5.00	\$ 83,250	8,018,125	\$ 3.45	\$ 27,663	22,030,937	\$ 3.35	\$ 73,804	\$ (6,417)	\$ -	\$ 268,295						
6.	3"	92	\$ 171.75	\$ 15,881	1,026,669	\$ 5.05	\$ 5,185	2,945,524	\$ 5.00	\$ 14,728	4,517,145	\$ 3.45	\$ 15,584	16,145,427	\$ 3.35	\$ 54,087	\$ (2,971)	\$ -	\$ 102,494						
7.	4"	36	\$ 286.25	\$ 10,305	664,006	\$ 5.05	\$ 3,353	1,617,890	\$ 5.00	\$ 8,089	318,672	\$ 3.45	\$ 1,099	436,639	\$ 3.35	\$ 1,463	\$ (373)	\$ -	\$ 23,937						
8.	6"	36	\$ 572.50	\$ 20,610	901,790	\$ 5.05	\$ 4,554	2,168,510	\$ 5.00	\$ 10,843	12,985,817	\$ 3.45	\$ 44,801	29,866,684	\$ 3.35	\$ 100,053	\$ (5,703)	\$ -	\$ 175,158						
9.	Municipally Owned Hydrants	3,827	\$ 7.40	\$ 28,319	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ 28,319						
10.	Private Hydrants and Sprinkler:	719	\$ 33.50	\$ 24,098	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ 24,098						
11.	Ambleside	2,622	\$ 3.33	\$ 8,730	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ 8,730						
12.	Total	79,857		\$ 1,031,077	82,212,188		\$ 415,172	214,718,496		\$ 1,073,592	27,015,893		\$ 93,205	71,276,878		\$ 238,778	\$ (48,505)	\$ 2,191	\$ 2,805,509						

WATER SERVICE CORPORATION OF KENTUCKY

Case No. 2020-00160

Annual Change in ERCs

Test Year Ended 3/31/2020

Exhibit AD-2

	2012	2013	2014	2015	2016	2017	2018	2019	2020
ERCs	88,951	88,599	87,914	87,606	86,461	86,587	85,627	85,338	85,061

*Through March of the Displayed Year

CAGR	Avg TTM	Avg TTM - Max/Mir	TTM 1	TTM 2	TTM 3	TTM 4	TTM 5	TTM 6	TTM 7	TTM 8
-0.50%	-0.56%	-0.55%	-0.40%	-0.77%	-0.35%	-1.31%	0.15%	-1.11%	-0.34%	-0.32%

WATER SERVICE CORPORATION OF KENTUCKY

Case No. 2020-00160

Annual Change in Usage per ERC

Test Year Ended 3/31/2020

Exhibit AD-3

	2012	2013	2014	2015	2016	2017	2018	2019	2020	
per ERC	58,019	57,923	57,494	55,215	57,674	56,766	59,580	59,951	55,776	
CAGR	Avg TTM	Avg TTM - Max/Min	TTM 1	TTM 2	TTM 3	TTM 4	TTM 5	TTM 6	TTM 7	TTM 8
-0.44%	-0.42%	-0.23%	-0.16%	-0.74%	-3.96%	4.45%	-1.57%	4.96%	0.62%	-6.96%

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Revenues at Present Rates
Test Year Ended 3/31/2020

Schedule E
Exhibit AD-4

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.		# of Bills	Rate	Flat Revenue	Tier 1 Gallons Consumed	Tier 1 Rate	Volumetric Tier 1 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	Billing Adjustments	Total Revenue
Water Service Corporation of Kentucky												
1.	5/8"	63,457	\$ 11.45	\$ 726,587	219,531,298	\$ 5.00	\$ 1,097,656	993,849	\$ 3.35	\$ 3,329	\$ -	\$ 1,827,573
2.	3/4"	6,076	\$ 11.45	\$ 69,567	18,391,688	\$ 5.00	\$ 91,958	379,665	\$ 3.35	\$ 1,272	\$ -	\$ 162,798
3.	1"	1,259	\$ 28.63	\$ 36,051	14,276,092	\$ 5.00	\$ 71,380	101,232	\$ 3.35	\$ 339	\$ -	\$ 107,770
4.	1.5"	418	\$ 57.25	\$ 23,941	10,109,730	\$ 5.00	\$ 50,549	2,461,608	\$ 3.35	\$ 8,246	\$ -	\$ 82,736
5.	2"	621	\$ 91.60	\$ 56,912	22,621,439	\$ 5.00	\$ 113,107	29,769,469	\$ 3.35	\$ 99,728	\$ -	\$ 269,747
6.	3"	94	\$ 171.75	\$ 16,224	3,935,234	\$ 5.00	\$ 19,676	20,470,316	\$ 3.35	\$ 68,576	\$ -	\$ 104,476
7.	4"	36	\$ 286.25	\$ 10,254	2,260,664	\$ 5.00	\$ 11,303	748,283	\$ 3.35	\$ 2,507	\$ -	\$ 24,064
8.	6"	36	\$ 572.50	\$ 20,508	3,041,732	\$ 5.00	\$ 15,209	42,453,778	\$ 3.35	\$ 142,220	\$ -	\$ 177,937
9.	Municipally Owned Hydrants	3,948	\$ 7.40	\$ 29,215	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 29,215
10.	Private Hydrants and Sprinkler	719	\$ 33.50	\$ 24,098	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 24,098
11.	Ambleside	2,622	\$ 3.33	\$ 8,730	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 8,730
12.	Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143
26.	WSCKY Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143

Total Service Revenue Requirement \$3,899,443

Base Rate Rate Design and Recovery

Description	Existing Base Rates	Overall System Increase	Proposed Base Rates	Proforma Bills	Proposed Base Revenues
5/8"	\$11.45	38.32%	\$15.84	63,457	\$1,005,016
3/4"	11.45	38.32%	15.84	6,076	96,226
1"	28.63	38.32%	39.60	1,259	49,865
1.5"	57.25	38.32%	79.19	418	33,115
2"	91.60	38.32%	126.70	621	78,720
3"	171.75	38.32%	237.56	94	22,441
4"	286.25	38.32%	395.94	36	14,183
6"	572.50	38.32%	791.88	36	28,367
Municipally Owned Hydrants	7.40	38.32%	10.24	3,948	40,411
Private Hydrants and Sprinklers	33.50	38.32%	46.34	719	33,332
Ambleside	3.33	38.32%	4.61	2,622	12,076
				79,287	\$1,413,752

Volumetric Revenue Requirement \$2,485,691

Non-Residential Volumes

Meter Size	Tier 1	Tier 2
5/8"	21,913,658	442,851
3/4"	2,935,228	379,665
1"	11,197,442	101,232
1.5"	10,091,595	2,461,608
2"	22,216,536	29,769,469
3"	3,935,234	20,470,316
4"	2,260,664	748,283
6"	3,041,732	42,453,778
Non-Residential Volumes	77,592,090	96,827,202

Residential Billing Data

Meter Size	Residential Bills	Residential Volumes (gal)		Avg. Usage	Overall Class Avg. Usage
		Tier 1	Tier 2		
5/8"	57,910	199,473,653	556,173	3,454	3,445
3/4"	5,333	15,601,626	-	2,926	
1"	336	3,107,564	-	9,249	
1.5"	12	18,305	-	1,525	
2"	24	408,706	-	17,029	
Total	63,615	218,609,854	556,173		

Service Area-Specific Bills

Meter Size	Middlesboro	Clinton
5/8"	57,659	251
3/4"	12	5,321
1"	252	84
1.5"	12	-
2"	12	12
Total	57,947	5,668

Proforma-Adjusted Residential Billing Data

Meter Size	Residential Bills	Residential Volumes (gal)		Avg. Usage	Overall Class Avg. Usage
		Tier 1	Tier 2		
5/8"	57,623	197,617,640	550,998	3,439	3,430
3/4"	5,306	15,456,460	-	2,913	
1"	334	3,078,650	-	9,208	
1.5"	12	18,134	-	1,519	
2"	24	404,903	-	16,955	
Total	63,300	216,575,788	550,998		

Service Area-Specific Bills

Meter Size	Middlesboro	Clinton
5/8"	57,374	250
3/4"	12	5,294
1"	251	84
1.5"	12	-
2"	12	12
Total	57,660	5,640

American Community Survey Data (2018)

Description	Middlesboro	Clinton
Median Household Income	\$24,556	\$34,651
% Below Poverty Line	38.30%	17.30%
Average Household Size	2.30	2.51

Weighted WSKY American Community Survey Metrics (2018)

Description	WSCKY
Weighted Median Household Income	\$25,455
Weighted % Below Poverty Line	36.43%
Weighted Avg. Household Size	2.32
Poverty line for a 3-person household	\$19,985
Low Income Rate Ratio	78.51%

Rate Design

Low Income Eligible Bills	49,697	bills
Allowed low income consumption	3,000	gallons
Low Income Eligible Usage	149,089,841	gallons
Total Tier 1 Residential Usage	216,575,788	gallons
Less:		
Low Income Usage	149,089,841	gallons
Regular Residential Tier 1 Usage	67,485,946	gallons
Low Income Tier 1 usage Equivalent	117,050,101	gallon equivalents
Add: Non-Residential Tier 1 Usage	77,592,090	gallons
Tier 2 rate Ratio	69.00%	
Tier 2 Usage	97,378,200	gallons
Tier 1 Usage Equivalents	67,190,958	gallons
Total Tier 1 Usage Equivalents	329,319,095	gallon equivalents
Total Revenue Requirement	\$3,899,443	
Less:		
Base Charge Revenue	\$1,413,752	
Volume Revenue Requirement	\$2,485,691	
Tier 1 Usage Equivalents	329,319,095	
Tier 1 Rate	\$7.55	
Low Income Rate	\$5.93	
Tier 2 Rate	\$5.21	

Wholesale Rate Design

Electric Expense	107,989
Purchased Water Expense	124,772
Operator Salaries	520,988
Chemicals Expense	113,330
Variable Expenses	\$867,078
Total Water Sold	391,546,078 gallons
Marginal Cost per Kgal (Wholesale F	\$2.21 per Kgal

WATER SERVICE CORPORATION OF KENTUCKY

Case No. 2020-00160

Exhibit AD-6

Present vs Proposed rates

Test Year Ended 3/31/2020

Line No.	Description	Present Rates	Proposed Rates
Base Service Charges Per Month			
<u>All Service Territories</u>			
1.	5/8-Inch	\$ 10.00	\$ 15.84
2.	3/4-Inch	10.00	15.84
3.	1-Inch	17.50	39.60
4.	1 1/2-Inch	30.00	79.19
5.	2-Inch	45.00	126.70
6.	3-Inch	85.00	237.56
7.	4-Inch	130.00	395.94
8.	6-Inch	255.00	791.88
Volumetric Rates Per 1000 Gallons			
<u>Middlesboro</u>			
9.	Low Income Rate	N/A	\$ 5.926
10.	Tier 1 - First 100,000 gallons	\$ 5.000	\$ 7.548
11.	Tier 2 - Over 100,000 gallons	\$ 3.350	\$ 5.208
12.	Wholesale Rate	N/A	\$2.214
Miscellaneous Charges Per Month			
13.	Municipally Owned Hydrants	\$ 7.40	\$ 10.24
14.	Private Hydrants	33.50	46.34
15.	Ambleside Private Fire Surcharge	3.33	4.61
16.	Sprinkler Systems	33.50	46.34

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Revenues at Present Rates
Test Year Ended 3/31/2020

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.	# of Bills	Rate	Flat Revenue	Tier 1 Gallons Consumed	Tier 1 Rate	Volumetric Tier 1 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	Billing Adjustments	Total Revenue	
Water Service Corporation of Kentucky												
1.	5/8"	63,457	\$ 11.45	\$ 726,587	219,531,298	\$ 5.00	\$ 1,097,656	993,849	\$ 3.35	\$ 3,329	\$ -	\$ 1,827,573
2.	3/4"	6,076	\$ 11.45	\$ 69,567	18,391,688	\$ 5.00	\$ 91,958	379,665	\$ 3.35	\$ 1,272	\$ -	\$ 162,798
3.	1"	1,259	\$ 28.63	\$ 36,051	14,276,092	\$ 5.00	\$ 71,380	101,232	\$ 3.35	\$ 339	\$ -	\$ 107,770
4.	1.5"	418	\$ 57.25	\$ 23,941	10,109,730	\$ 5.00	\$ 50,549	2,461,608	\$ 3.35	\$ 8,246	\$ -	\$ 82,736
5.	2"	621	\$ 91.60	\$ 56,912	22,621,439	\$ 5.00	\$ 113,107	29,769,469	\$ 3.35	\$ 99,728	\$ -	\$ 269,747
6.	3"	94	\$ 171.75	\$ 16,224	3,935,234	\$ 5.00	\$ 19,676	20,470,316	\$ 3.35	\$ 68,576	\$ -	\$ 104,476
7.	4"	36	\$ 286.25	\$ 10,254	2,260,664	\$ 5.00	\$ 11,303	748,283	\$ 3.35	\$ 2,507	\$ -	\$ 24,064
8.	6"	36	\$ 572.50	\$ 20,508	3,041,732	\$ 5.00	\$ 15,209	42,453,778	\$ 3.35	\$ 142,220	\$ -	\$ 177,937
9.	Municipally Owned Hydrants	3,948	\$ 7.40	\$ 29,215	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 29,215
10.	Private Hydrants and Sprinklers	719	\$ 33.50	\$ 24,098	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 24,098
11.	Ambleside	2,622	\$ 3.33	\$ 8,730	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 8,730
12.	Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143
26.	WSCKY Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143
			% Flat	36%					% Vol	64%		100%

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Calculation of Average Bill Increase
Test Year Ended 3/31/2020

Exhibit AD-8

	A	B	C	D	E	F	G	H	I	J
Line No.		# of Bills	Tier 1 Present Gallonage	Tier 2 Present Gallonage	Pro Forma Revenue	Current Avg Bill	Proposed Revenue	Proposed Avg Bill	Dollar Increase	% Increase
1.	5/8" and 3/4" Meter	69,533	237,922,986	1,373,514	\$ 1,990,371	\$ 28.66	\$ 2,663,811	\$ 41.81	\$ 13.16	45.91%
2.	1" Meter	1,259	14,276,092	101,232	\$ 107,770	\$ 85.72	\$ 156,871	\$ 125.78	\$ 40.06	46.74%
3.	1.5" Meter	418	10,109,730	2,461,608	\$ 82,736	\$ 207.56	\$ 122,198	\$ 306.09	\$ 98.53	47.47%
4.	2" Meter	621	22,621,439	29,769,469	\$ 269,747	\$ 513.22	\$ 404,417	\$ 763.18	\$ 249.96	48.70%
5.	3" Meter	94	3,935,234	20,470,316	\$ 104,476	\$ 1,202.26	\$ 158,756	\$ 1,817.12	\$ 614.86	51.14%
6.	4" Meter	36	2,260,664	748,283	\$ 24,064	\$ 706.24	\$ 35,144	\$ 1,029.96	\$ 323.72	45.84%
7.	6" Meter	36	3,041,732	42,453,778	\$ 177,937	\$ 4,992.20	\$ 272,429	\$ 7,640.46	\$ 2,648.27	53.05%
8.	Municipally Owned Hydrants	3,948			\$ 29,215	\$ 7.40	\$ 40,411	\$ 10.24	\$ 2.84	38.32%
9.	Private Hydrants	719			\$ 24,098	\$ 33.50	\$ 33,332	\$ 46.34	\$ 12.84	38.32%
10.	Ambleside Private Fire Surchar	2,622			\$ 8,730	\$ 3.33	\$ 12,076	\$ 4.61	\$ 1.28	38.32%
	Low Income Customers		Average Gallonage	Low Income Gallonage	Tier 1 Gallonage	Current Avg Bill		Proposed Avg Bill	Dollar Increase	% Increase
11.	5/8" and 3/4" Meter		3,395	3,000	395	\$ 28.42		36.59	8.17	28.75%
12.	1" Meter		9,208	3,000	6,208	\$ 74.67		104.24	29.57	39.60%
13.	1.5" Meter		1,519	1,519	-	\$ 64.84		88.19	23.34	36.00%
14.	2" Meter		16,955	3,000	13,955	\$ 176.37		249.81	73.44	41.64%

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Calculation of Average Bill Increase
Test Year Ended 3/31/2020

Exhibit 6
Exhibit AD-8

	A	B	C	D	E	F	G	H	I	J
Line No.		# of Bills	Tier 1 Present Gallonage	Tier 2 Present Gallonage	Pro Forma Revenue	Current Avg Bill	Proposed Revenue	Proposed Avg Bill	Dollar Increase	% Increase
1.	5/8" and 3/4" Meter	69,533	237,922,986	1,373,514	\$ 1,990,371	\$ 28.66	\$ 2,663,811	\$ 41.81	\$ 13.16	45.91%
2.	1" Meter	1,259	14,276,092	101,232	\$ 107,770	\$ 85.72	\$ 156,871	\$ 125.78	\$ 40.06	46.74%
3.	1.5" Meter	418	10,109,730	2,461,608	\$ 82,736	\$ 207.56	\$ 122,198	\$ 306.09	\$ 98.53	47.47%
4.	2" Meter	621	22,621,439	29,769,469	\$ 269,747	\$ 513.22	\$ 404,417	\$ 763.18	\$ 249.96	48.70%
5.	3" Meter	94	3,935,234	20,470,316	\$ 104,476	\$ 1,202.26	\$ 158,756	\$ 1,817.12	\$ 614.86	51.14%
6.	4" Meter	36	2,260,664	748,283	\$ 24,064	\$ 706.24	\$ 35,144	\$ 1,029.96	\$ 323.72	45.84%
7.	6" Meter	36	3,041,732	42,453,778	\$ 177,937	\$ 4,992.20	\$ 272,429	\$ 7,640.46	\$ 2,648.27	53.05%
8.	Municipally Owned Hydrants	3,948			\$ 29,215	\$ 7.40	\$ 40,411	\$ 10.24	\$ 2.84	38.32%
9.	Private Hydrants	719			\$ 24,098	\$ 33.50	\$ 33,332	\$ 46.34	\$ 12.84	38.32%
10.	Ambleside Private Fire Surcharge	2,622			\$ 8,730	\$ 3.33	\$ 12,076	\$ 4.61	\$ 1.28	38.32%
	Low Income Customers		Average Gallonage	Low Income Gallonage	Tier 1 Gallonage	Current Avg Bill		Proposed Avg Bill	Dollar Increase	% Increase
11.	5/8" and 3/4" Meter		3,395	3,000	395	\$ 28.42		36.59	8.17	28.75%
12.	1" Meter		9,208	3,000	6,208	\$ 74.67		104.24	29.57	39.60%
13.	1.5" Meter		1,519	1,519	-	\$ 64.84		88.19	23.34	36.00%
14.	2" Meter		16,955	3,000	13,955	\$ 176.37		249.81	73.44	41.64%

AREA Middlesboro and Clinton and adjacent_____

PSC KY NO. 4_____

SHEET NO. 22_____

Water Service Corporation of Kentucky
(NAME OF UTILITY)

CANCELLING PSC KY NO. 3_____

SHEET NO.22_____

quantity of service rendered.

- (f) The use of water by the same customer in different premises or localities will not be combined, and each installation shall stand by itself.

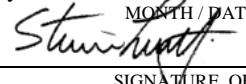
18. TERMS OF PAYMENT:

- (a) Special charges shall be payable upon demand.
- (b) Bills for metered service shall be rendered monthly and are due and payable when rendered.
- (c) Bills for private fire service shall be rendered monthly in advance and are due and payable when rendered.
- (d) If a bill is not paid within ten days after its due date, the Company may discontinue the water service. The Company will give at least five (5) days notice before termination for nonpayment and that service will not be terminated before 20 days after the mailing date of the original bill.
- (e) If a customer has two returned checks for non-sufficient funds, all subsequent bills must be paid in cash for a period of six months or until the credit score is returned to an acceptable level, whichever comes first.

- 19. (a) There shall be no abatement of the minimum rates due to the extended absence of the Customer without proper notice having been given to the Company. **No abatement**

DATE OF ISSUE June 1, 2020_____ MONTH / DATE / YEAR

DATE EFFECTIVE July 1, 2020_____ MONTH / DATE / YEAR

ISSUED BY  _____ SIGNATURE OF OFFICER

TITLE President, WSCK_____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____ DATED _____

AREA Middlesboro and Clinton and adjacent _____
 PSC KY NO. 4 _____
 SHEET NO. 22.1 _____
 CANCELLING PSC KY NO. 3 _____
 SHEET NO. 22.1 _____

Water Service Corporation of Kentucky
 (NAME OF UTILITY)

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- (b) Hidden Leak Adjustment Policy:
 - i. Policy is applicable to the entire service territory of Water Service Corporation of Kentucky.
 - ii. Policy is available for all customers.
 - iii. The rate at which water usage identified as the result of a hidden underground leak will be billed will be equal to twenty-five (25) percent of the applicable tariff.
 - iv. A hidden underground leak is defined as a leak in the customer service line between the meter and the premises. The customer must provide a plumber's statement or list of materials showing that the leak has been repaired. After verification of repairs by Water Service Corporation of Kentucky, the bill will be adjusted by comparing the usage during the leak billing period to the average usage for the past six billing periods. A reasonable estimate will be used in cases when six prior periods of information do not exist. The excess usage will be billed at the rate specified above. During the lifetime of a water service line, only two leak adjustments will be permitted. Each adjustment may cover a maximum of two billing periods. Before a third adjustment can be considered, the entire water service line from the meter box to the premises must be replaced. Plastic pipe for repair of underground water service lines must be certified to withstand a working pressure of 160 pounds per square inch or greater.

DATE OF ISSUE June 1, 2020 _____
MONTH / DATE / YEAR
 DATE EFFECTIVE July 1, 2020 _____
MONTH / DATE / YEAR
 ISSUED BY Stewart _____
SIGNATURE OF OFFICER
 TITLE President, WSKC _____
 BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
 IN CASE NO. _____ DATED _____

AREA Middlesboro and Clinton and adjacent _____

PSC KY NO. 4 _____

SHEET NO. 23 _____

Water Service Corporation of Kentucky _____
(NAME OF UTILITY)

CANCELLING PSC KY NO. 3 _____

SHEET NO.23 _____

~~shall be made for leaks or for water wasted by improper or damaged service pipes or fixtures belonging to the Customer.~~

- (c) If test results on a Customer's meter show an average error greater than two percent (2%) fast or slow, or if a Customer has been incorrectly billed for any other reason, except in an instance where a Company has filed a verified complaint with the appropriate law enforcement agency alleging fraud or theft by a Customer, the Company shall immediately determine the period during which the error has existed, and shall recompute and adjust the Customer's bill to either provide a refund to the Customer or collect an additional amount of revenue from the underbilled Customer. The account adjustment shall be performed according to 807 KAR 5:006 Section 10(2) with corrected billing or refund as directed therein.

20. BOILER AND ENGINE WATER SUPPLY:

The Company does not guarantee a sufficient or uniform pressure, or an uninterrupted supply of water, and Customers are cautioned to provide a sufficient storage of water where an absolutely uninterrupted supply must be assured; such as for steam boilers, hot water systems, gas engines, etc.

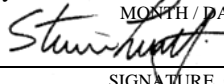
21. INTERRUPTIONS IN WATER SUPPLY:

The Company may at any time shut off the water in the mains in case of accident, or for the purpose of making connections, alterations, repairs, changes, or for other reasons, and may restrict the use of water to reserve a sufficient supply for the public fire service or other emergencies whenever the public welfare may require it.

22. LIABILITY OF COMPANY:

DATE OF ISSUE June 1, 2020 _____
MONTH / DATE / YEAR

DATE EFFECTIVE July 1, 2020 _____
MONTH / DATE / YEAR

ISSUED BY  _____
SIGNATURE OF OFFICER

TITLE President, WSCK _____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____ DATED _____

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation)
of Kentucky for a General Adjustment) Case No. 2020-00160
in Existing Rates)

DIRECT TESTIMONY OF PERRY BROWN

1 WATER SERVICE CORPORATION OF KENTUCKY

2 CASE NO. 2020-00XXX

3 **Direct Testimony of Perry Brown**

4 INTRODUCTION AND QUALIFICATIONS

5
6 **Q1. Please state your name and business address.**

7 A1. My name is Perry Brown. My business address is 500 W Monroe St. Suite 3600
8 Chicago, IL 60661.

9 **Q2. By whom are you employed and in what capacity?**

10 A2. I am employed by Water Service Corporation of Kentucky (“WSCK”) as a Senior
11 Financial Analyst in the Financial Planning and Analysis department.

12 **Q3. What is your educational and professional background?**

13 A3. I graduated from Northwood University in Midland, Michigan in 2013 with a Bachelor
14 of Business Administration with concentrations in Accounting and Finance. I received
15 my master’s degree in finance from Lewis University in May of 2020. I joined the
16 Company in January of 2014 as a Corporate Accountant and subsequently joined
17 WSCK’s finance team in March of 2016.

18 **Q4. Please describe your job responsibilities with Utilities Inc. (“UI”).**

19 A4. As a Senior Financial analyst my responsibilities include: financial analysis of
20 individual subsidiaries of UI, forecasting, budgeting, and modeling financial data for
21 WSCK, preparation and submission of testimony and exhibits to support rate
22 applications, and facilitation of regulatory audits.

1 **Q5. Have you previously testified before the Public Service Commission of Kentucky?**

2 A5. Yes, I testified before the Public Service Commission of Kentucky in Case No. 2018-
3 00208.

4 **Q6. What is the purpose of your testimony?**

5 A6. The purpose of my testimony is to sponsor analysis and opine on the reasonableness of
6 Water Service Corporation of Kentucky's level of salary expense included in its
7 application for this rate increase. I will provide a comparative salary analysis for
8 WSCK amongst 25 other similarly sized water utility companies operating within
9 Kentucky. This analysis is very similar to what was presented in the Company's prior
10 rate proceeding in Case Nos. 2015-00382 and 2018-00208.

11 **Q7. Are you sponsoring any Exhibits?**

12 A7. Yes.

13 Petitioner's Exhibit PB-1. This exhibit contains a salary adjustment as a result of
14 management fee reimbursement for City of Clinton, Kentucky.

15 Petitioner's Exhibit PB-2. This exhibit contains an analysis of the monthly cost of total
16 salaries and wages, pension and benefits, and payroll taxes per customer and provides the
17 salary comparison of similar water utility companies operating in Kentucky. Exhibit PB-2
18 also contains methodology used to project Salaries and Wages of the sampled companies
19 for years 2017 and 2018 based on the sampled companies' historical data.

20 **Q8. Were the Exhibits that you are sponsoring prepared by you and/or under your**
21 **supervision?**

1 A8. Yes, the Exhibits I am sponsoring were prepared by me and I am incorporating these
2 Exhibits into my testimony by reference.

3

4

Utility Comparative Analysis

5 **Q9. Did WSCK perform an analysis of salary and wage reasonableness as previously**
6 **performed in the prior rate case?**

7 A9. Yes. In an effort to reduce the rate-case expense the analysis was conducted internally
8 rather than hiring an outside consultant to perform the study. WSCK saved ratepayers
9 more than \$30,000 in rate-case expenses by preparing and supporting its salary levels
10 in-house, as it had done in the 2015 and 2018 dockets. WSCK sampled 25 water utility
11 companies, similar in size and operating within Kentucky, and used 2012-2018
12 historical data that was reported in Kentucky Annual Reports to project 2019 and 2020
13 salary levels.

14 **Q10. Were comparative salary data for the sampled Kentucky water/wastewater**
15 **companies available for 2019 and 2020?**

16 A10. No.

17 **Q11. Why was it necessary to forecast the 2019 and 2020 salary levels for the sample**
18 **companies?**

19 A11. WSCK is requesting to recover known-and-measurable salary expenses based on actual
20 hourly wages and annual salaries for current employee positions. It is necessary to
21 forecast 2019 and 2020 salary levels for the sampled companies to be comparable.

1 Thus, it would not be reasonable to compare WSCK's 2020 level of salary, benefits,
2 and payroll taxes with 2018 data from the sampled companies.

3 (The analysis is presented as Petitioner's Exhibit PB-2.)

4 **Q12. Please discuss your conclusions and findings from this salary and wage**
5 **reasonableness analysis.**

6 A12. The proposed level of total salaries and wages is reasonable and comparable to the
7 sampled water utilities in Kentucky. As presented in Petitioner's Exhibit PB-2, and in
8 the graph below, the monthly cost of total salaries and wages, pension and benefits, and
9 payroll taxes per customer is close to the average of similarly sized utility companies
10 and is well within one standard deviation of the sample size. This means the projected
11 WSCK direct labor costs per customer falls within 68% of the proxy group's cost per
12 customer.



13

<i>2020 Forecasted Salary Data</i>		Salaries & Wages					Statistics	
Company Name	Year End Customers	Employees	Officers, Directors	Pension & Benefits	Payroll Taxes	Total Salaries & Wages	Cost Per Customer	Customer (Monthly)
Minimum	4,734	\$ 270,015	\$ 6,423	\$ 28,178	\$ 19,699	\$ 423,263	\$ 69.95	\$ 5.83
Maximum	8,638	\$ 1,278,806	\$ 189,473	\$ 1,050,732	\$ 102,089	\$ 2,228,757	\$ 367.23	\$ 30.60
Average	6,324	\$ 638,549	\$ 34,097	\$ 377,624	\$ 50,768	\$ 1,101,038	\$ 175.36	\$ 14.61

<i>Per 2020 KY RC Filing</i>								
Year End Customers	Employees	Officers, Directors	Pension & Benefits	Payroll Taxes	Total Salaries & Wages	Cost Per Customer	Customer (Monthly)	
Water Service Corporation of Kentucky	7,088	\$ 771,587	\$ 189,473	\$ 252,377	\$ 85,035	\$ 1,298,471	\$ 183.19	\$ 15.27

WSCK vs. Average of Sample - B/(W)	(764)				\$ (197,433)	\$ (7.83)	\$ (0.65)
------------------------------------	-------	--	--	--	--------------	-----------	-----------

Standard Deviation 6.34

1

2

As indicated in the chart above year-end customers for WSCK is 764 greater or 12.08%

3

higher than the year-end average customer-count of the proxy companies; while the total

4

monthly cost per customer for WSCK is \$.65 or only 4.47% higher when compared to the

5

year-end average customer-count of the comparable companies. With the average cost

6

per customer equal to \$14.61 and the standard deviation of \$6.34, WSCK is well within

7

the reasonable salaries and wages range.

8

Q13. What assumptions were made in the model that were specific to WSCK?

9

A13. I prepared a financial model that factors in Direct Labor and Benefits reimbursed by

10

the city of Clinton, Kentucky. This reimbursement of fees effectively reduces Total

11

Salaries & Wages for WSCK.

12

Q14. Why is it appropriate to remove the Direct Labor and Benefits amount reimbursed

13

by the city of Clinton, Kentucky?

14

A14. It is appropriate because WSCK's customers never incur the cost of the Direct Labor

15

and Benefits due to the cost being reimbursed by the city of Clinton, Kentucky.

16

Q15. How did you choose a sample from a population of Kentucky companies?

1 A15. First, the population of water companies in Kentucky was analyzed by collecting data
 2 for all companies whose Annual Reports were available on Kentucky’s Commission
 3 website. A proxy group with similar customer characteristics was selected from the
 4 population. Next, the companies with ambiguous or missing data from their
 5 corresponding Annual Reports for any of the years beginning in the year 2012, and
 6 through the year 2018 were omitted from the proxy group.

Companies Removed From The Sample	Reason For Removal
1 Big Sandy Water District	Reported Zero For Payroll Taxes (2014 - 2018)
2 Butler County Water System Inc	Reported Zero For Payroll Taxes (2012 - 2018)
3 East Casey County Water District	Reported Zero For Officers & Directors (2012 - 2018)
4 East Laurel Water District	Missing Crucial Data For Every Year
5 Grayson County Water District	Missing Crucial Data For Every Year
6 Green-Taylor Water District	Reported Zero For Officers & Directors (2012 - 2018)
7 North Marshall Water District	Reported Zero For Payroll Taxes And Officers & Director (2012 - 2018)
8 North Mercer Water District	Reported Zero For Payroll Taxes (2012 - 2014)
9 Harrison County Water Association Inc	Reported Zero For Payroll Taxes (2017)
10 West Laurel Water Association Inc	Missing Crucial Data For Every Year
11 Wood Creek Water District	Reported Zero For Payroll Taxes, Officers & Director, And Pension & Benefits (2012 - 2018)

8 **Q16. Please explain the increase in WSCK’s salary costs per customer from 2019 and**
 9 **2020.**

10 A16. Increases in the per customer cost of payroll, benefits, and taxes were a direct result of
 11 a reduction of customers, changes in headcount, annual salary adjustments, and the
 12 reduction of offsetting capitalized time during the test year for WSCK. The Company
 13 has experienced a gradual but steady decrease in customers from 2012 through the end
 14 of the test year ended March 31, 2020. WSCK has lost over 400 equivalent residential
 15 customers since 2012. Company Witness Guttormsen discusses changes in staffing
 16 levels which partially contribute to the increase in payroll and benefit costs, along with
 17 annual merit increases. The Company has also had declining levels of operating
 18 expense charged to plant. In 2012 WSCK had an operating expense charged to plant of
 19 \$132, 210 compared to the \$65,701 included in the historical test year.

1 **Q17. Does this conclude your direct testimony?**

2 A17. Yes.

AFFIDAVIT

The undersigned, Perry Brown, being duly sworn, deposes and says that he is the Senior Financial Analyst of Utilities, Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.



Perry Brown, Affiant

NOTARY CERTIFICATE

STATE OF ILLINOIS

COUNTY OF COOK

Subscribed, acknowledged and sworn to before me by _____ on
this ___1st___ day of _____June_____, 2020.

My commission expires: _____.

NOTARY PUBLIC

Utilities, Inc.
Invoice for Management Services City of Clinton Wastewater
Dec-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	19,886.42	<u>596.59</u>
Sub Total Management Fee		<u>\$ 2,571.59</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,295.32	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	275.51	
Kentucky Utilities - Lagoon	207.27	
McCoy & McCoy Lab #1221519	795.75	
Billy Nelms JR	600.00	
Vaughn electric #0130411	151.80	
Clear Distributing #2957	665.00	
Sub Total Reimbursement of Costs		<u>\$ 9,415.65</u>
Total Fee for Month		<u>\$ 11,987.24</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	82.00	
Ronald G. Rushing	86.00	
		<u>174.00</u>

Paid by check number _____ on _____

PB-1

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	22,839.56	<u>685.19</u>
Sub Total Management Fee		<u>\$ 2,660.19</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,729.48	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	832.68	
Kentucky Utilities - Lagoon	162.65	
McCoy & McCoy Lab #1216546	890.25	
Billy Nelms JR	600.00	
Crosspoint #081-8422	926.00	
Crosspoint #081-8423	126.80	
Crosspoint	1,052.91	
Pipeline Products #003674	674.54	
Clear Distributing #2918	760.00	
G&C Supply Company #6482331	50.08	
Champion Plumbing #9850	1,075.00	
Sub Total Reimbursement of Costs		<u>\$ 14,305.39</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	13.00	36.18
John Turner	86.00	
Ronald G. Rushing	87.00	
		<u>186.00</u>

Total Fee for Month \$ 16,965.58

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-12

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	20,881.61	<u>626.45</u>
Sub Total Management Fee		<u>\$ 2,601.45</u>

Reimbursement of Costs

Direct Labor and Benefits		6,729.48
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		720.97
Kentucky Utilities - Lagoon		157.06
McCoy & McCoy Lab #1216546		416.50
Billy Nelms JR		600.00
Sub Total Reimbursement of Costs		<u>\$ 9,049.01</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	13.00	36.18
John Turner	86.00	
Ronald G. Rushing	87.00	
		<u>186.00</u>

Total Fee for Month \$ 11,650.46

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-12

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	24,054.46	<u>721.63</u>
Sub Total Management Fee		<u>\$ 2,696.63</u>

Reimbursement of Costs

Direct Labor and Benefits	6,729.48
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	155.61
Kentucky Utilities - Lagoon	833.54
McCoy & McCoy Lab #1214931	159.75
McCoy & McCoy Lab #1214932	167.50
G&C Supply #6477173	189.74
G&C Supply #6477189	78.16
Ray Farms #879482	500.00
USA Blue Book #769309	251.99
Clear Distributing #2874	665.00
Billy Nelms JR	600.00
Hach #7956446	<u>1,733.05</u>
Sub Total Reimbursement of Costs	<u>\$ 12,488.82</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	13.00	36.18
John Turner	86.00	
Ronald G. Rushing	87.00	
	<u>186.00</u>	

Total Fee for Month \$ 15,185.45

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-12

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	24,932.27	<u>747.97</u>
Sub Total Management Fee		<u>\$ 2,722.97</u>

Reimbursement of Costs

Direct Labor and Benefits	5,065.20
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	132.16
Kentucky Utilities - Lagoon	844.52
McCoy & McCoy Lab #1213404	238.00
G&C Supply #6473031	419.04
G&C Supply #6472973	275.60
Vaughn Electric Co #0129025	1,913.48
Champion Plumbing # 9538	337.50
Clear Distributing #2830	665.00
Billy Nelms JR	600.00
Sub Total Reimbursement of Costs	<u>\$ 10,915.50</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	91.00	
Ronald G. Rushing	42.00	
Steve Vaughn	<u>1.00</u>	
	<u>140.00</u>	

Total Fee for Month \$ 13,638.47

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	23,109.83	<u>693.29</u>
Sub Total Management Fee		<u>\$ 2,668.29</u>

Reimbursement of Costs		
Direct Labor and Benefits	4,124.52	
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard
Transportation Expense	275.00	John Turner
		<u>7.00</u> <u>36.18</u>
		92.00
		<u>114.00</u>
Kentucky Utilities - Lift Station	156.82	
Kentucky Utilities - Lagoon	871.33	
McCoy & McCoy Lab #1211838	238.00	
Clear Distributing # 2781	665.00	
Billy Nelms JR	600.00	
Ray Farms	500.00	
Sub Total Reimbursement of Costs	<u>\$ 7,580.67</u>	
Total Fee for Month		<u>\$ 10,248.96</u>

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	26,207.44	<u>786.22</u>
Sub Total Management Fee		<u>\$ 2,761.22</u>

Reimbursement of Costs				
Direct Labor and Benefits	4,124.52		Hours	Rate
Office Expenses (phone, computer, fax lines, etc)	150.00		James Leonard	28.00 36.18
Transportation Expense	275.00		John Turner	86.00
				<u>114.00</u>
Kentucky Utilities - Lift Station	179.19			
Kentucky Utilities - Lagoon	867.55			
McCoy & McCoy Lab #1210365	25.00			
McCoy & McCoy Lab #1210367	266.25			
Sub Total Reimbursement of Costs	<u>\$ 5,887.51</u>			
Total Fee for Month		<u>\$ 8,648.73</u>		

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	22,538.67	<u>676.16</u>
Sub Total Management Fee		<u>\$ 2,651.16</u>

Reimbursement of Costs		
Direct Labor and Benefits		4,015.98
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		190.94
Kentucky Utilities - Lagoon		851.23
Clear Distributing		665.00
McCoy & McCoy Lab #1208768		228.00
McCoy & McCoy Lab #1208766		25.00
Vaughn Electric Co. #0127235		261.80
Vaughn Electric Co. #0128027		310.43
Ray Farms #879471		500.00
Champion Plumbing		420.00
USA Blue Book #527565		268.86
Sub Total Reimbursement of Costs		<u>\$ 8,162.24</u>

	Hours	Rate
James Leonard	10.00	36.18
John Turner	92.00	
Bruce Haas	9.00	
	<u>111.00</u>	

Total Fee for Month \$ 10,813.40

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	20,095.71	<u>602.87</u>
Sub Total Management Fee		<u>\$ 2,577.87</u>
Reimbursement of Costs		
Direct Labor and Benefits		6,367.68
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		252.63
Kentucky Utilities - Lagoon		1,322.17
Clear Distributing #2695		665.00
McCoy & McCoy Lab #1205556		25.00
McCoy & McCoy Lab #1205442		950.00
McCoy & McCoy Lab #1207125		663.75
McCoy & McCoy Lab #1207128		106.50
Sub Total Reimbursement of Costs		<u>\$ 10,777.73</u>
Total Fee for Month		<u><u>\$ 13,355.60</u></u>

	<u>Hours</u>	<u>Rate</u>
Mike Pickard	88.00	36.18
John Turner	<u>88.00</u>	
	<u><u>176.00</u></u>	

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	19,693.08	<u>590.79</u>
Sub Total Management Fee		<u>\$ 2,565.79</u>

Reimbursement of Costs		
Direct Labor and Benefits		6,331.50
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		308.86
Kentucky Utilities - Lagoon		1,572.87
Clear Distributing #2652		665.00
Sub Total Reimbursement of Costs		<u>\$ 9,303.23</u>

	<u>Hours</u>	<u>Rate</u>
Mike Pickard	84.00	36.18
John Turner	<u>91.00</u>	
	<u>175.00</u>	

Total Fee for Month \$ 11,869.02

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-12

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	18,901.93	<u>567.06</u>
Sub Total Management Fee		<u>\$ 2,542.06</u>

Reimbursement of Costs		
Direct Labor and Benefits		6,403.86
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		283.68
Kentucky Utilities - Lagoon		1,461.04
McCoy & McCoy Lab #352255		53.25
Clear Distributing #2603		665.00
Champion Plumbing #8807		640.00
Lemons Enterprises #6376		960.00
CSS Pipe & Meter #5461		3,304.79
Rick's Electric Inc. #24419		1,686.50
Dynamo Chemical #1224		487.50
Sub Total Reimbursement of Costs		<u>\$ 16,370.62</u>

	<u>Hours</u>	<u>Rate</u>
Mike Pickard	89.00	36.18
John Turner	<u>88.00</u>	
	<u>177.00</u>	

Total Fee for Month \$ 18,912.68

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-12

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	23,664.23		<u>709.93</u>
Sub Total Management Fee		\$	<u>2,684.93</u>
Reimbursement of Costs			
Direct Labor and Benefits			5,282.28
Office Expenses (phone, computer, fax lines, etc)			150.00
Transportation Expense			275.00
Kentucky Utilities - Lift Station			392.39
Kentucky Utilities - Lagoon			832.41
McCoy & McCoy Lab #1201138			221.25
McCoy & McCoy Lab #1200132			221.25
Sub Total Reimbursement of Costs		\$	<u>7,374.58</u>
Total Fee for Month		\$	<u><u>10,059.51</u></u>

	<u>Hours</u>	<u>Rate</u>
Mike Pickard	86.00	36.18
John Turner	<u>60.00</u>	
	<u><u>146.00</u></u>	

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-13

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	19,510.88		<u>585.33</u>
Sub Total Management Fee		\$	<u>2,560.33</u>

Reimbursement of Costs			
Direct Labor and Benefits			6,078.24
Office Expenses (phone, computer, fax lines, etc)			150.00
Transportation Expense			275.00
Kentucky Utilities - Lift Station			298.66
Kentucky Utilities - Lagoon			504.53
McCoy & McCoy Lab #1241297			739.00
Clear Distributing #3462			950.00
G&C Supply Co. 6524556			263.73
G&C Supply Co. 6524656			365.70
Pipeline Products #08421			<u>403.66</u>
Sub Total Reimbursement of Costs		\$	<u>10,028.52</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	8.00	36.18
John Turner	71.00	
Ronald G. Rushing	89.00	
		<u>168.00</u>

Total Fee for Month \$ 12,588.85

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-13

Management Fee			
Flat Fee			\$ 1,975.00
Gross Systems Revenues 3%	19,858.23		<u>595.75</u>
Sub Total Management Fee			<u>\$ 2,570.75</u>

Reimbursement of Costs			
Direct Labor and Benefits		5,101.38	
Office Expenses (phone, computer, fax lines, etc)		150.00	
Transportation Expense		275.00	
Kentucky Utilities - Lift Station		202.72	
Kentucky Utilities - Lagoon		53.58	
McCoy & McCoy Lab #1216546		214.00	
Clear Distributing #3419		760.00	
G&C Supply Co. #6520127		69.07	
Cummins Crosspoint #081-26330		789.73	
Sub Total Reimbursement of Costs			<u>\$ 7,615.48</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	7.00	36.18
John Turner	68.00	
Ronald G. Rushing	60.00	
Bruce Haas	<u>6.00</u>	
	<u>141.00</u>	

Total Fee for Month \$ 10,186.23

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-13

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	19,456.56	<u>583.70</u>
Sub Total Management Fee		<u>\$ 2,558.70</u>

Reimbursement of Costs

Direct Labor and Benefits	5,318.46	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	235.06	
Kentucky Utilities - Lagoon	53.49	
McCoy & McCoy Lab #1216546	291.25	
Clear Distributing #3376	760.00	
G&C Supply Co. #6517757	63.64	
Vaughn Electric #0133920	359.00	
Clinton Hardware #0018396	170.73	
Sub Total Reimbursement of Costs		<u>\$ 7,676.63</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	3.00	36.18
John Turner	58.00	
Ronald G. Rushing	86.00	
		<u>147.00</u>

Total Fee for Month \$ 10,235.33

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-13

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	21,165.41		<u>634.96</u>
Sub Total Management Fee		\$	<u>2,609.96</u>

Reimbursement of Costs			
Direct Labor and Benefits		7,670.16	
Office Expenses (phone, computer, fax lines, etc)		150.00	
Transportation Expense		275.00	
Kentucky Utilities - Lift Station		191.31	
Kentucky Utilities - Lagoon		1,260.36	
McCoy & McCoy Lab #1236136		910.00	
Clear Distributing #3321		855.00	
G&C Supply #6514036		145.54	
Vaughn Electric #0133739		5,723.86	
Champion #10926		250.00	
Sub Total Reimbursement of Costs			<u>\$ 17,431.23</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	2.00	36.18
John Turner	106.00	
Ronald G. Rushing	104.00	
		<u>212.00</u>

Total Fee for Month \$ 20,041.19

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-13

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	17,984.51	<u>539.54</u>
Sub Total Management Fee		<u>\$ 2,514.54</u>

Reimbursement of Costs

Direct Labor and Benefits	6,657.12
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	277.09
Kentucky Utilities - Lagoon	401.08
McCoy & McCoy Lab #1234591	795.25
Ray Farms #879499	500.00
Ricks Electric #25347	230.00
Vaughn Electric #0133110	953.60

	<u>Hours</u>	<u>Rate</u>
James Leonard	4.00	36.18
John Turner	88.00	
Ronald G. Rushing	92.00	
	<u>184.00</u>	

Sub Total Reimbursement of Costs \$ 10,239.14

Total Fee for Month \$ 12,753.68

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-13

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	24,057.42	<u>721.72</u>
Sub Total Management Fee		<u>\$ 2,696.72</u>

Reimbursement of Costs		
Direct Labor and Benefits	5,897.34	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	222.51	
Kentucky Utilities - Lagoon	53.66	
McCoy & McCoy Lab #1232890	238.00	
Billy Nelms JR	600.00	
Clear Distributing #3268	760.00	
Vaughn Electric #0132634	319.47	
Vaughn Electric #0132616	437.79	
Sub Total Reimbursement of Costs		<u>\$ 8,953.77</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	4.00	36.18
John Turner	80.00	
Ronald G. Rushing	<u>79.00</u>	
	<u>163.00</u>	

Total Fee for Month \$ 11,650.49

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-13

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	21,956.15		<u>658.68</u>
Sub Total Management Fee		\$	<u>2,633.68</u>

Reimbursement of Costs			
Direct Labor and Benefits		8,972.64	
Office Expenses (phone, computer, fax lines, etc)		150.00	
Transportation Expense		275.00	
Kentucky Utilities - Lift Station		322.23	
Kentucky Utilities - Lagoon		53.33	
McCoy & McCoy Lab #1231252		238.00	
Billy Nelms JR		600.00	
Clear Distributing #3220		760.00	
Ray Farms #879494		500.00	
G&C Supply #6503562		344.21	
G&C Supply #6503260		55.84	
G&C Supply #6503354		1,629.95	
Sub Total Reimbursement of Costs		\$	<u>13,901.20</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	2.00	36.18
Bruce Haas	2.00	
John Turner	116.00	
Ronald G. Rushing	<u>128.00</u>	
	<u>248.00</u>	

Total Fee for Month \$ 16,534.88

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-13

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	20,348.53	<u>610.46</u>
Sub Total Management Fee		<u>\$ 2,585.46</u>

Reimbursement of Costs		
Direct Labor and Benefits		5,427.00
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		372.97
Kentucky Utilities - Lagoon		2,433.15
McCoy & McCoy Lab #1229722		963.25
Clear Distributing #3167		760.00
Billy Nelms JR		600.00
Ray Farms #897491		500.00
Rick's Electric #25233		383.00
Sub Total Reimbursement of Costs		<u>\$ 11,864.37</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	4.00	36.18
John Turner	71.00	
Ronald G. Rushing	<u>75.00</u>	
	<u>150.00</u>	

Total Fee for Month \$ 14,449.83

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-13

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	20,538.72	<u>616.16</u>
Sub Total Management Fee		<u>\$ 2,591.16</u>

Reimbursement of Costs

Direct Labor and Benefits		7,127.46
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		310.05
Kentucky Utilities - Lagoon		1,693.17
McCoy & McCoy Lab #1227981		1,131.25
Billy Nelms JR		600.00
Clear Distributing #3117		760.00
Sub Total Reimbursement of Costs		<u>\$ 12,046.93</u>

	<u>Hours</u>	<u>Rate</u>
JamesLeonard	4.00	36.18
John Turner	96.50	
Ronald G. Rushing	96.50	
	<u>197.00</u>	

Total Fee for Month \$ 14,638.09

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-13

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	19,873.06	<u>596.19</u>
Sub Total Management Fee		<u>\$ 2,571.19</u>

Reimbursement of Costs				
Direct Labor and Benefits	7,905.33		Hours	Rate
Office Expenses (phone, computer, fax lines, etc)	150.00		James Leonard	4.00 36.18
Transportation Expense	275.00		John Turner	107.00
			Ronald G. Rushing	<u>107.50</u>
				<u>218.50</u>
Kentucky Utilities - Lift Station	290.93			
Kentucky Utilities - Lagoon	815.14			
McCoy & McCoy LaB #1226204	759.75			
Billy Nelms JR	600.00			
Car Quest #97499	8.47			
Vaughn Electric #0131267	366.06			
Vaughn Electric #0131314	505.34			
G&C Supply Co. #6494626	205.68			
G&C Supply Co. #6494625	477.43			
Sub Total Reimbursement of Costs	<u>\$ 12,359.13</u>			
Total Fee for Month	<u>\$ 14,930.32</u>			

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-13

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	18,583.10	<u>557.49</u>
Sub Total Management Fee		<u>\$ 2,532.49</u>

Reimbursement of Costs		
Direct Labor and Benefits		6,250.10
Office Expenses (phone, computer, fax lines, etc)		150.00
Transportation Expense		275.00
Kentucky Utilities - Lift Station		290.00
Kentucky Utilities - Lagoon		476.94
McCoy & McCoy Lab #1224546		1,017.00
Billy Nelms JR		600.00
Champion Plumbing #10194		3,061.00
Clear Distributing #3049		760.00
D&D Septic Tank Service #003502		560.00
WM Enterprise #13092		1,117.65
G&C Supply Co #6491353		29.31
G&C Supply Co #6491496		158.18
Rick's Electric #25057		1,786.03
Sub Total Reimbursement of Costs		<u>\$ 16,531.21</u>

	Hours	Rate
James Leonard	7.00	36.18
John Turner	83.50	
Ronald G. Rushing	<u>82.25</u>	
	<u>172.75</u>	

Total Fee for Month \$ 19,063.70

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-13

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	18,588.10		<u>557.64</u>
Sub Total Management Fee		\$	<u>2,532.64</u>

Reimbursement of Costs			
Direct Labor and Benefits			9,623.88
Office Expenses (phone, computer, fax lines, etc)			150.00
Transportation Expense			275.00
Kentucky Utilities - Lift Station			445.75
Kentucky Utilities - Lagoon			587.69
McCoy & McCoy Lab #1223247			1,352.50
Billy Nelms JR			600.00
Champion Plumbing			200.00
Clear distributing #2998			665.00
Sub Total Reimbursement of Costs		\$	<u>13,899.82</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	131.00	
Ronald G. Rushing	<u>129.00</u>	
	<u>266.00</u>	

Total Fee for Month \$ 16,432.46

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-14

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	20,457.27		<u>613.72</u>
Sub Total Management Fee		\$	<u>2,588.72</u>
Reimbursement of Costs			
Direct Labor and Benefits			6,078.24
Office Expenses (phone, computer, fax lines, etc)			150.00
Transportation Expense			275.00
Kentucky Utilities - Lift Station			476.45
Kentucky Utilities - Lagoon			2,481.60
McCoy & McCoy Lab #1242880			1,146.25
Hach #8658314			11,990.60
Midwest Metering #0052422			1,300.00
Sub Total Reimbursement of Costs		\$	<u>23,898.14</u>
Total Fee for Month		\$	<u>26,486.86</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	5.00	36.18
John Turner	82.00	
Ronald G. Rushing	<u>81.00</u>	
	<u>168.00</u>	

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-14

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	22,719.34	<u>681.58</u>
Sub Total Management Fee		<u>\$ 2,656.58</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,078.24	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	366.05	
Kentucky Utilities - Lagoon	2,073.42	
McCoy & McCoy Lab #1224546	672.75	
Champion Plumbing #11525	350.00	
Clear Distributing #3519	950.00	
USA Bluebook #264083	51.40	
Clinton Hardware #19498	48.12	
G&C Supply Co. #6527980	690.29	
Sub Total Reimbursement of Costs		<u>\$ 11,705.27</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	5.00	36.18
John Turner	82.00	
Ronald G. Rushing	<u>81.00</u>	
	<u>168.00</u>	

Total Fee for Month \$ 14,361.85

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-14

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	20,520.75	<u>615.62</u>
Sub Total Management Fee		<u>\$ 2,590.62</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,512.40	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	453.85	
Kentucky Utilities - Lagoon	(586.63)	
McCoy & McCoy Lab #1246315	1,100.50	
Champion Plumbing #11574	600.00	
USA Bluebook #282073	355.94	
Clinton Hardware	48.12	
Sub Total Reimbursement of Costs		<u>\$ 8,909.18</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	7.00	36.18
John Turner	91.50	
Ronald G. Rushing	<u>81.50</u>	
	<u>180.00</u>	

Total Fee for Month		<u><u>\$ 11,499.80</u></u>
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Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-14

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	18,966.24	<u>568.99</u>
Sub Total Management Fee		<u>\$ 2,543.99</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,620.94	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	498.18	
Kentucky Utilities - Lagoon	1,265.88	
McCoy & McCoy Lab #1248102	1,146.25	
Champion Plumbing #11680	300.00	
Champion Plumbing #11727	300.00	
Clinton Hardware	9.64	
Clear Distributing #3625	855.00	
Sub Total Reimbursement of Costs		<u>\$ 11,420.89</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	9.00	36.18
John Turner	84.00	
Ronald G. Rushing	<u>90.00</u>	
	<u>183.00</u>	

Total Fee for Month \$ 13,964.88

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-14

Management Fee			
Flat Fee		\$	1,975.00
Gross Systems Revenues 3%	20,169.34		<u>605.08</u>
Sub Total Management Fee		\$	<u>2,580.08</u>
Reimbursement of Costs			
Direct Labor and Benefits		5,390.82	
Office Expenses (phone, computer, fax lines, etc)		150.00	
Transportation Expense		275.00	
Kentucky Utilities - Lift Station		365.47	
Kentucky Utilities - Lagoon		389.29	
McCoy & McCoy Lab #1249766		922.00	
Clinton Hardware		39.92	
Clear Distributing #3666		855.00	
Sub Total Reimbursement of Costs		\$	<u>8,387.50</u>
Total Fee for Month		\$	<u><u>10,967.58</u></u>

	Hours	Rate
James Leonard	7.00	36.18
John Turner	60.00	
Ronald G. Rushing	82.00	
Billy Nelms Jr.	9.00	
	<u>149.00</u>	

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-14

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	20,552.85	<u>616.59</u>
Sub Total Management Fee		<u>\$ 2,591.59</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,982.74	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	275.91	
Kentucky Utilities - Lagoon	1,572.24	
McCoy & McCoy Lab #1251612	930.00	
Clinton Hardware	30.21	
USA Bluebook #361708	300.30	
Ray Farms	500.00	
Hach Corp. #8870003	278.22	
Sub Total Reimbursement of Costs		<u>\$ 11,294.62</u>

	Hours	Rate
James Leonard	7.00	36.18
John Turner	94.00	
Ronald G. Rushing	92.00	
Billy Nelms Jr.	6.00	
	<u>193.00</u>	

Total Fee for Month \$ 13,886.21

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-14

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	18,410.20	<u>552.31</u>
Sub Total Management Fee		<u>\$ 2,527.31</u>

Reimbursement of Costs

Direct Labor and Benefits	6,295.32	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	195.11	
Kentucky Utilities - Lagoon	74.41	
Kentucky Utilities - Lift Station (Adjustment from Jan, Feb, Apr)	575.63	
McCoy & McCoy Lab #1253675	1,154.25	
Clear Distributing #3715	990.00	
Clinton Hardware	85.80	
Clinton Hardware	54.20	
Clinton Hardware (Included in Feb. and Mar)	(48.12)	
Car Quest #5184-95800	31.99	
G&C Supply Co. #6536588	109.98	
Sub Total Reimbursement of Costs		<u>\$ 9,943.57</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	9.00	36.18
John Turner	81.00	
Ronald G. Rushing	84.00	
Billy Nelms Jr.	6.00	
	<u>174.00</u>	

Total Fee for Month \$ 12,470.88

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-14

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	21,004.26	<u>630.13</u>
Sub Total Management Fee		<u>\$ 2,605.13</u>

Reimbursement of Costs

Direct Labor and Benefits	7,742.52	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	185.56	
Kentucky Utilities - Lagoon	895.10	
McCoy & McCoy Lab #1255388	597.25	
Clear Distributing #3772	990.00	
Clinton Hardware	19.19	
Ray Farms	500.00	
Jewel	7.40	
Sub Total Reimbursement of Costs		<u>\$ 11,362.02</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	97.00	
Ronald G. Rushing	102.00	
Billy Nelms Jr.	<u>9.00</u>	
	<u>214.00</u>	

Total Fee for Month \$ 13,967.15

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-14

Management Fee		
Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	21,185.77	<u>635.57</u>
Sub Total Management Fee		<u>\$ 2,610.57</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,295.32	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	185.81	
Kentucky Utilities - Lagoon	60.72	
McCoy & McCoy Lab #1257306	190.00	
Clear Distributing #3820	900.00	
Agri-Chem #004564	54.88	
Ray Farms	500.00	
Badger Meeting #1012589	1,944.03	
Sub Total Reimbursement of Costs	<u>\$ 10,555.76</u>	

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	82.00	
Ronald G. Rushing	79.00	
Billy Nelms Jr.	<u>7.00</u>	
	<u>174.00</u>	

Total Fee for Month \$ 13,166.33

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-14

Management Fee

Flat Fee		\$ 1,975.00
Gross Systems Revenues 3%	18,206.28	<u>546.19</u>
Sub Total Management Fee		<u>\$ 2,521.19</u>

Reimbursement of Costs

Direct Labor and Benefits	5,535.54
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	298.01
Kentucky Utilities - Lagoon	66.22
McCoy & McCoy Lab #1259190	231.25
Clear Distributing #3873	900.00
Clinton Hardware	7.77
Cummins Crosspoint	778.81
Sub Total Reimbursement of Costs	<u>\$ 8,242.60</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	4.00	36.18
John Turner	60.00	
Ronald G. Rushing	84.00	
Billy Nelms Jr.	<u>5.00</u>	
	<u>153.00</u>	

Total Fee for Month \$ 10,763.79

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-14

Management Fee		
Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	19,882.77	<u>596.48</u>
Sub Total Management Fee		<u>\$ 2,606.48</u>

Reimbursement of Costs		
Direct Labor and Benefits	5,029.02	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	267.69	
Kentucky Utilities - Lagoon	66.33	
McCoy & McCoy Lab #1260931	190.00	
Sub Total Reimbursement of Costs		<u>\$ 5,978.04</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	5.00	36.18
John Turner	64.00	
Ronald G. Rushing	64.00	
Billy Nelms Jr.	6.00	
	<u>139.00</u>	

Total Fee for Month \$ 8,584.52

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-14

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,567.44	<u>617.02</u>
Sub Total Management Fee		<u>\$ 2,627.02</u>

Reimbursement of Costs

Direct Labor and Benefits	6,367.68
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	290.98
Kentucky Utilities - Lagoon	550.41
McCoy & McCoy Lab #1262935	808.25
Clear Distributing #3916	900.00
L&L environmental #RH59038	875.00
Clinton Hardware #21499	16.62
Sub Total Reimbursement of Costs	<u>\$ 10,233.94</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	5.00	36.18
John Turner	75.00	
Ronald G. Rushing	89.00	
Billy Nelms Jr.	<u>7.00</u>	
	<u>176.00</u>	

Total Fee for Month \$ 12,860.96

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	19,570.34	<u>587.11</u>
Sub Total Management Fee		<u>\$ 2,597.11</u>

Reimbursement of Costs

Direct Labor and Benefits	6,295.32
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	290.06
Kentucky Utilities - Lagoon	829.55
McCoy & McCoy Lab #1264776	889.00
Clear Distributing #3957	900.00
USA Bluebook #539616	138.04
Clinton Hardware #21370	16.62
Hach #9211709	<u>2,114.00</u>
Sub Total Reimbursement of Costs	<u>\$ 11,897.59</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	82.00	
Ronald G. Rushing	80.00	
Billy Nelms Jr.	<u>6.00</u>	
	<u>174.00</u>	

Total Fee for Month \$ 14,494.70

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-15

Management Fee		
Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,775.73	<u>563.27</u>
Sub Total Management Fee		<u>\$ 2,573.27</u>

Reimbursement of Costs		
Direct Labor and Benefits	5,788.80	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	451.86	
Kentucky Utilities - Lagoon	782.87	
McCoy & McCoy Lab #1266785	589.00	
Clear Distributing #4005	450.00	
USA Bluebook #539616	102.23	
Clinton Hardware #21596	18.75	
Sub Total Reimbursement of Costs		<u>\$ 8,608.51</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	6.00	36.18
John Turner	66.00	
Ronald G. Rushing	82.00	
Billy Nelms Jr.	6.00	
	<u>160.00</u>	

Total Fee for Month \$ 11,181.78

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	31,659.23	<u>949.78</u>
Sub Total Management Fee		<u>\$ 2,959.78</u>

Reimbursement of Costs

Direct Labor and Benefits	6,331.50
Office Expenses (phone, computer, fax lines, etc)	150.00
Transportation Expense	275.00
Kentucky Utilities - Lift Station	679.23
Kentucky Utilities - Lagoon	(37.96)
McCoy & McCoy Lab #1269099	501.00
Clear Distributing #4050	900.00
Jim's Auto Parts #157510	116.60
Clinton Hardware #21635	33.47
Vaughn Electric #Cari-1425	5,758.80
Sub Total Reimbursement of Costs	<u>\$ 14,707.64</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	8.00	36.18
John Turner	32.00	
Ronald G. Rushing	127.00	
Billy Nelms Jr.	8.00	
	<u>175.00</u>	

Total Fee for Month \$ 17,667.42

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	46,399.26	<u>1,391.98</u>
Sub Total Management Fee		<u>\$ 3,401.98</u>

Reimbursement of Costs

Direct Labor and Benefits	4,015.98	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	490.45	
Kentucky Utilities - Lagoon	660.26	
McCoy & McCoy Lab #1271522	457.00	
USA Bluebook #608266	425.39	
Clinton Hardware #21081	10.80	
Vaughn Electric #Cari-1456	625.76	
Sub Total Reimbursement of Costs	<u>\$ 7,110.64</u>	

	Hours	Rate
James Leonard	8.00	36.18
Ronald G. Rushing	97.00	
Billy Nelms Jr.	6.00	
	<u>111.00</u>	

Total Fee for Month \$ 10,512.62

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-15

Management Fee		
Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	19,527.63	<u>585.83</u>
Sub Total Management Fee		<u>\$ 2,595.83</u>

Reimbursement of Costs		
Direct Labor and Benefits	5,716.44	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	216.35	
Kentucky Utilities - Lagoon	984.71	
McCoy & McCoy Lab #1273607	1,537.00	
WSCK #486599	500.00	
Clinton Hardware	10.80	
Clear Distributing #4089	<u>990.00</u>	
Sub Total Reimbursement of Costs		<u>\$ 10,380.30</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	4.00	36.18
Ronald G. Rushing	83.00	
John Turner	64.00	
Billy Nelms Jr.	<u>7.00</u>	
	<u>158.00</u>	

Total Fee for Month \$ 12,976.13

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,605.18	<u>618.16</u>
Sub Total Management Fee		<u>\$ 2,628.16</u>

Reimbursement of Costs

Direct Labor and Benefits	7,923.42	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	174.65	
Kentucky Utilities - Lagoon	1,620.67	
McCoy & McCoy Lab #1276545	889.00	
Ray Farms #500453	500.00	
Clear Distributing #4089	<u>1,170.00</u>	
Sub Total Reimbursement of Costs		<u>\$ 12,702.74</u>

	Hours	Rate
James Leonard	4.00	36.18
Ronald G. Rushing	106.00	
John Turner	104.00	
Billy Nelms Jr.	<u>5.00</u>	
	<u>219.00</u>	

Total Fee for Month \$ 15,330.90

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-15

Management Fee		
Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	22,651.71	<u>679.55</u>
Sub Total Management Fee		<u>\$ 2,689.55</u>

Reimbursement of Costs		
Direct Labor and Benefits	6,403.86	
Office Expenses (phone, computer, fax lines, etc)	150.00	
Transportation Expense	275.00	
Kentucky Utilities - Lift Station	252.53	
Kentucky Utilities - Lagoon	103.48	
McCoy & McCoy Lab #1279052	589.00	
Clinton Hardware #22476	4.23	
Clear Distributing #4182	<u>1,080.00</u>	
Sub Total Reimbursement of Costs		<u>\$ 8,858.10</u>

	<u>Hours</u>	<u>Rate</u>
James Leonard	12.00	36.18
Ronald G. Rushing	80.00	
John Turner	80.00	
Billy Nelms Jr.	<u>5.00</u>	
	<u>177.00</u>	

Total Fee for Month \$ 11,547.65

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-15

Management Fee	
Flat Fee	\$ 2,010.00
Gross Systems Revenues 3% 20,671.37	<u>620.14</u>
Sub Total Management Fee	<u>\$ 2,630.14</u>

Reimbursement of Costs			
Direct Labor and Benefits	8,212.86		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	<u>7.00</u> 36.18
Transportation Expense	275.00	Ronald G. Rushing	107.00
		John Turner	105.00
		Billy Nelms Jr.	<u>8.00</u>
Kentucky Utilities - Lift Station	252.48		<u>227.00</u>
Kentucky Utilities - Lagoon	714.87		
McCoy & McCoy Lab #1279052	530.00		
Clinton Hardware #21894	44.13		
Ray Farms	500.00		
Sub Total Reimbursement of Costs	<u>\$ 10,679.34</u>		
Total Fee for Month	<u>\$ 13,309.48</u>		

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	21,618.76	<u>648.56</u>
Sub Total Management Fee		<u>\$ 2,658.56</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	5,318.46		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	81.00
		John Turner	52.00
		Billy Nelms Jr.	<u>6.00</u>
			<u>147.00</u>
Kentucky Utilities - Lift Station	195.92		
Kentucky Utilities - Lagoon	218.54		
McCoy & McCoy Lab #1283700	589.00		
Clinton Hardware #21808	3.61		
Clear Distributing #4232	1,080.00		
G&C Supply #6593559	492.90		
Midwest Meter #0070797-IN	1,300.00		
Sub Total Reimbursement of Costs	<u>\$ 9,623.43</u>		

Total Fee for Month \$ 12,281.99

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	23,303.62	<u>699.11</u>
Sub Total Management Fee		<u>\$ 2,709.11</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	6,512.40		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	90.00
		John Turner	76.00
		Billy Nelms Jr.	<u>6.00</u>
			<u>180.00</u>
Kentucky Utilities - Lift Station	215.75		
Kentucky Utilities - Lagoon	72.11		
McCoy & McCoy Lab #1286074	245.00		
Clear Distributing #4280	1,080.00		
Ray Farms	500.00		

Sub Total Reimbursement of Costs \$ 9,050.26

Total Fee for Month \$ 11,759.37

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,663.27	<u>619.90</u>
Sub Total Management Fee		<u>\$ 2,629.90</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	5,861.16		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	4.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	86.00
		John Turner	64.00
		Billy Nelms Jr.	<u>8.00</u>
			<u>162.00</u>
Kentucky Utilities - Lift Station	452.95		
Kentucky Utilities - Lagoon	71.85		
McCoy & McCoy Lab #1288233	245.00		
Clear Distributing #4321	1,080.00		
Pipeline Products #16792	197.16		
Clinton Hardware #23325	8.96		
Sub Total Reimbursement of Costs	<u>\$ 8,342.08</u>		

Total Fee for Month \$ 10,971.98

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-15

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	24,839.20	<u>745.18</u>
Sub Total Management Fee		<u>\$ 2,755.18</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	4,956.66		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	9.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	44.00
		John Turner	78.00
		Billy Nelms Jr.	<u>6.00</u>
			<u>137.00</u>
Kentucky Utilities - Lift Station	505.41		
Kentucky Utilities - Lagoon	510.97		
McCoy & McCoy Lab #1290483	692.00		
Clear Distributing #4369	1,080.00		
Cummins Crosspoint #081-63569	1,164.88		
Cummins Crosspoint #081-63536	1,295.10		
Sub Total Reimbursement of Costs	<u>\$ 10,630.02</u>		

Total Fee for Month \$ 13,385.20

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	21,523.18	<u>645.70</u>
Sub Total Management Fee		<u>\$ 2,655.70</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	6,222.96		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	7.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	76.00
		John Turner	80.00
		Billy Nelms Jr.	<u>9.00</u>
			<u>172.00</u>
Kentucky Utilities - Lift Station	379.60		
Kentucky Utilities - Lagoon	3,735.46		
McCoy & McCoy Lab #1292423	968.00		
Clinton Hardware	3.91		
Hach #9764682	2,118.00		

Sub Total Reimbursement of Costs \$ 13,852.93

Total Fee for Month \$ 16,508.63

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	22,837.55	<u>685.13</u>
Sub Total Management Fee		<u>\$ 2,695.13</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	4,811.94		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	12.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	114.00
		John Turner	
Kentucky Utilities - Lift Station	355.81	Billy Nelms Jr.	<u>7.00</u>
Kentucky Utilities - Lagoon	557.42		<u>133.00</u>
McCoy & McCoy Lab #1294391	1,255.00		
Clinton Hardware	3.99		
G&C Supply Co. #6608264	37.45		
G&C Supply Co. #6608625	202.99		
Sub Total Reimbursement of Costs	<u>\$ 7,649.60</u>		

Total Fee for Month \$ 10,344.73

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	21,972.02	<u>659.16</u>
Sub Total Management Fee		<u>\$ 2,669.16</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	5,282.28			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	12.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	99.50	
		John Turner	28.50	
		Billy Nelms Jr.	<u>6.00</u>	
			<u>146.00</u>	
Kentucky Utilities - Lift Station	473.04			
Kentucky Utilities - Lagoon	948.26			
McCoy & McCoy Lab #1297056	1,230.00			
Vaughn Electric Co. #CARI-2054	230.55			
Vaughn Electric Co. #CARI-2098	196.10			

Sub Total Reimbursement of Costs \$ 8,785.23

Total Fee for Month \$ 11,454.39

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,511.15	<u>615.33</u>
Sub Total Management Fee		<u>\$ 2,625.33</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	6,838.02		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	18.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	79.00
		John Turner	83.00
		Billy Nelms Jr.	<u>9.00</u>
			<u>189.00</u>
Kentucky Utilities - Lift Station	314.12		
Kentucky Utilities - Lagoon	1,314.52		
Clinton Hardware	15.48		
Bio-Chem Industries Inc.	2,552.26		
Vaughn Electric Co. #CARI-2098	196.10		
McCoy & McCoy Laboratories Inc.	1,009.00		
Sub Total Reimbursement of Costs	<u>\$ 12,664.50</u>		

Total Fee for Month \$ 15,289.83

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	21,844.56	<u>655.34</u>
Sub Total Management Fee		<u>\$ 2,665.34</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	7,923.42			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	11.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	103.00	
		John Turner	98.00	
		Billy Nelms Jr.	<u>7.00</u>	
			<u>219.00</u>	
Kentucky Utilities - Lift Station	338.39			
Kentucky Utilities - Lagoon	746.31			
Clinton Hardware	6.03			
Bio-Chem Industries Inc.	1,546.64			
Ray Farms #500469	500.00			
McCoy & McCoy Laboratories Inc. #1301577	1,034.00			
Sub Total Reimbursement of Costs	<u>\$ 12,519.79</u>			

Total Fee for Month \$ 15,185.13

Paid by check number _____ on _____

Utilities, Inc.
Invoice for Management Services City of Clinton Wastewater
Jun-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	22,762.51	<u>682.88</u>
Sub Total Management Fee		<u>\$ 2,692.88</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	6,259.14			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	12.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	84.00	
		John Turner	60.00	
Kentucky Utilities - Lift Station	208.81	Billy Nelms Jr.	4.00	
Kentucky Utilities - Lagoon	423.86	Steve Vaughn	<u>13.00</u>	
Clinton Hardware	236.11		<u>173.00</u>	
Bio-Chem Industries Inc.	2,050.06			
Ray Farms #500469	500.00			
McCoy & McCoy Laboratories Inc. #1301577	1,009.00			
Jim Brown Supply #521673	153.56			
USA Blue Book #986329	2,842.07			
Vaughn Electric Co. #RI-2960	7,910.24			
Vaughn Electric Co. #CARI-2215	450.00			
Sub Total Reimbursement of Costs	<u>\$ 22,467.85</u>			

Total Fee for Month \$ 25,160.73

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-16

Management Fee		
Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	21,837.30	<u>655.12</u>
Sub Total Management Fee		<u>\$ 2,665.12</u>

Reimbursement of Costs				
Direct Labor and Benefits	6,512.40		<u>Hours</u>	<u>Rate</u>
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	76.00	
		John Turner	82.00	
Kentucky Utilities - Lift Station	283.55	Billy Nelms Jr.	6.00	
Kentucky Utilities - Lagoon	361.39	Bruce Haas	<u>8.00</u>	
Clinton Hardware	280.59		<u>180.00</u>	
Bio-Chem Industries Inc.	2,074.75			
McCoy & McCoy Laboratories Inc. #1306568	666.00			
Vaughn Electric Co. #CARI-2290	633.35			
Sub Total Reimbursement of Costs	<u>\$ 11,237.03</u>			
Total Fee for Month				
	<u>\$ 13,902.15</u>			

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	27,856.29	<u>835.69</u>
Sub Total Management Fee		<u>\$ 2,845.69</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	8,031.96			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	11.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	102.00	
		John Turner	104.00	
		Billy Nelms Jr.	5.00	
Kentucky Utilities - Lift Station	278.75			
Kentucky Utilities - Lagoon	391.37			
Ray Farms	500.00			<u>222.00</u>
Bio-Chem Industries Inc.	2,060.50			
McCoy & McCoy Laboratories Inc. #1308996	838.00			

Sub Total Reimbursement of Costs \$ 12,525.58

Total Fee for Month \$ 15,371.27

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,850.62	<u>565.52</u>
Sub Total Management Fee		<u>\$ 2,575.52</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	5,607.90			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	5.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	80.00	
		John Turner	64.00	
		Billy Nelms Jr.	6.00	
Kentucky Utilities - Lift Station	228.16			
Kentucky Utilities - Lagoon	537.48			
Ray Farms #500482	500.00			<u>155.00</u>
McCoy & McCoy Laboratories Inc. #1311377	1,009.00			

Sub Total Reimbursement of Costs \$ 8,307.54

Total Fee for Month \$ 10,883.06

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,611.25	<u>618.34</u>
Sub Total Management Fee		<u>\$ 2,628.34</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	7,380.72		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	106.00
		John Turner	84.00
		Billy Nelms Jr.	6.00
			<u>204.00</u>
Kentucky Utilities - Lift Station	231.52		
Kentucky Utilities - Lagoon	365.86		
Clinton Hardware	15.26		
McCoy & McCoy Laboratories Inc.	1,255.00		
Bio-Chem Industries #M109KY	2,051.45		
Bio-Chem Industries #M109KY	(409.01)		
Midwest Metering #0082520-IN	1,300.00		
Sub Total Reimbursement of Costs	<u>\$ 12,615.80</u>		

Total Fee for Month \$ 15,244.14

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,329.49	<u>609.88</u>
Sub Total Management Fee		<u>\$ 2,619.88</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	5,933.52			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	7.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	87.50	
		John Turner	64.50	
		Billy Nelms Jr.	5.00	
Kentucky Utilities - Lift Station	276.38			
Kentucky Utilities - Lagoon	382.26			
American Development Corp #100826	65.46			<u>164.00</u>
McCoy & McCoy Laboratories Inc. #1315797	1,108.00			
Clinton Hardware #025149	26.82			
Cummins Crosspoint #081-79284	787.54			
Carquest #229692	148.92			
Sub Total Reimbursement of Costs	<u>\$ 9,153.90</u>			

Total Fee for Month \$ 11,773.78

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-16

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	19,580.79	<u>587.42</u>
Sub Total Management Fee		<u>\$ 2,597.42</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	4,522.50		
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00 36.18
Transportation Expense	275.00	Ronald G. Rushing	46.00
		John Turner	64.00
		Billy Nelms Jr.	7.00
Kentucky Utilities - Lift Station	286.95		
Kentucky Utilities - Lagoon	362.43		
Bio-Chem #M118KY	1,487.33		<u>125.00</u>
McCoy & McCoy Laboratories Inc. #1318308	1,255.00		
Clinton Hardware #025953	19.10		
Vaughn Electric #CARI-2577	196.10		
Sub Total Reimbursement of Costs	<u>\$ 8,554.41</u>		

Total Fee for Month \$ 11,151.83

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	19,367.68	<u>581.03</u>
Sub Total Management Fee		<u>\$ 2,591.03</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	8,212.86			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	9.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	81.00	
		John Turner	98.00	
		Billy Nelms Jr.	7.00	
		John Norton	<u>32.00</u>	
			<u>227.00</u>	
Kentucky Utilities - Lift Station	365.60			
Kentucky Utilities - Lagoon	560.03			
Bio-Chem #M122KY	1,488.03			
McCoy & McCoy Laboratories Inc. #1320590	1,009.00			
Clinton Hardware #026181	9.53			
Hach #10267511	1,217.29			
Hach #10278763	735.64			
Hach #10269682	363.49			
Hach #10291385	2,160.00			
Sub Total Reimbursement of Costs	<u>\$ 16,546.47</u>			

Total Fee for Month \$ 19,137.50

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	17,335.92	<u>520.08</u>
Sub Total Management Fee		<u>\$ 2,530.08</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	6,512.40			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	80.00	
		John Turner	76.00	
Kentucky Utilities - Lift Station	301.04	Billy Nelms Jr.	8.00	
Kentucky Utilities - Lagoon	1,323.78	John Norton	<u>8.00</u>	
McCoy & McCoy Laboratories Inc. #1322834	1,009.00		<u>180.00</u>	
Hach #10316546	38.20			

Sub Total Reimbursement of Costs \$ 9,609.42

Total Fee for Month \$ 12,139.50

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,767.77	<u>563.03</u>
Sub Total Management Fee		<u>\$ 2,573.03</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	6,693.30			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	12.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	80.00	
		John Turner	87.00	
		Billy Nelms Jr.	6.00	
Kentucky Utilities - Lift Station	462.58			
Kentucky Utilities - Lagoon	830.82			
McCoy & McCoy Laboratories Inc. #1325353	1,059.00			<u>185.00</u>
Hach #10358176	58.07			
Hach #10356084	196.19			
USA Bluebook #208168	9,588.00			
BioChem Ind. #M134KY	1,487.84			
BioChem Ind. #M131KY	1,487.90			
Sub Total Reimbursement of Costs	<u>\$ 22,288.70</u>			

Total Fee for Month \$ 24,861.73

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	16,803.37	<u>504.10</u>
Sub Total Management Fee		<u>\$ 2,514.10</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	8,719.38			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	16.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	100.50	
		John Turner	104.50	
		Billy Nelms Jr.	8.00	
Kentucky Utilities - Lift Station	375.61	John Norton	<u>12.00</u>	
Kentucky Utilities - Lagoon	78.51		<u>241.00</u>	
McCoy & McCoy Laboratories Inc. #1327586	396.00			
Lemons Enterprises #07332	875.00			
Midwest Meter Inc. #0087757-IN	650.00			
Clinton Hardware #0027656	28.78			
G&C Supply Co. #6652503	747.70			
Sub Total Reimbursement of Costs				<u>\$ 12,295.98</u>

Total Fee for Month \$ 14,810.08

Paid by check number _____ on _____

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,836.27	<u>625.09</u>
Sub Total Management Fee		<u>\$ 2,635.09</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	6,512.40			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	8.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	84.00	
		John Turner	80.00	
		Billy Nelms Jr.	8.00	
Kentucky Utilities - Lift Station	484.02			
Kentucky Utilities - Lagoon	733.48			
McCoy & McCoy Laboratories Inc. #1327586	838.00			<u>180.00</u>
Bio-Chem Industries #M145KY	1,561.83			
Bio-Chem Industries #M148KY	1,561.52			
Ray Farms #437801	500.00			
Clinton Hardware #0027654	5.55			
Vaughn Electric #RI-3779	5,088.00			
Hach #10442768	233.55			
Sub Total Reimbursement of Costs	<u>\$ 17,943.35</u>			

Total Fee for Month \$ 20,578.44

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,210.31	<u>546.31</u>
Sub Total Management Fee		<u>\$ 2,556.31</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	6,548.58			
Office Expenses (phone, computer, fax lines, etc)	150.00	James Leonard	6.00	36.18
Transportation Expense	275.00	Ronald G. Rushing	84.00	
		John Turner	84.00	
		Billy Nelms Jr.	7.00	
Kentucky Utilities - Lift Station	270.72			
Kentucky Utilities - Lagoon	1,158.99			
McCoy & McCoy Laboratories Inc. #1332744	1,255.00			<u>181.00</u>
Bio-Chem Industries #M153KY	1,593.53			
Ray Farms #437808	500.00			
Clinton Hardware #0026899	20.32			
G&C Supply Co # 6662429	749.42			
Hach #314666420	152.50			
Sub Total Reimbursement of Costs	<u>\$ 12,674.06</u>			

Total Fee for Month \$ 15,230.37

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,364.55	<u>550.94</u>
Sub Total Management Fee		<u>\$ 2,560.94</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	7,091.28			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	98.00	36.18
Transportation Expense	275.00	John Turner	92.00	
		Billy Nelms Jr.	6.00	
Kentucky Utilities - Lift Station	233.87			
Kentucky Utilities - Lagoon	424.35			<u>196.00</u>
McCoy & McCoy Laboratories Inc. #1335039	437.00			
Bio-Chem Industries #M159KY	1,595.53			
Clinton Hardware #0027033	33.85			
USA Bluebook #309743	34.75			
USA Bluebook #309852	228.02			
Sub Total Reimbursement of Costs				<u>\$ 10,503.65</u>

Total Fee for Month \$ 13,064.59

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	20,727.88	<u>621.84</u>
Sub Total Management Fee		<u>\$ 2,631.84</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	7,163.64			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	92.00	36.18
Transportation Expense	275.00	John Turner	92.00	
		Billy Nelms Jr.	6.00	
		Stephen Vaughn	<u>8.00</u>	
			<u>198.00</u>	
Kentucky Utilities - Lift Station	233.58			
Kentucky Utilities - Lagoon	361.34			
McCoy & McCoy Laboratories Inc. #1337643	275.00			
Bio-Chem Industries #M171KY	1,666.23			
Clinton Hardware #0027226	29.66			
RAY FARMS #437813	500.00			
Vaughn Electric #CARI-3012	943.40			
Hach #10587456	131.59			

Sub Total Reimbursement of Costs		<u>\$ 11,729.44</u>
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Total Fee for Month		<u>\$ 14,361.28</u>
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Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	19,030.93	<u>570.93</u>
Sub Total Management Fee		<u>\$ 2,580.93</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	6,548.58			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	64.00	36.18
Transportation Expense	275.00	John Turner	91.00	
		Billy Nelms Jr.	6.00	
Kentucky Utilities - Lift Station	249.76	Stephen Vaughn	<u>20.00</u>	
Kentucky Utilities - Lagoon	322.47		<u>181.00</u>	
McCoy & McCoy Laboratories Inc. #1340046	289.00			
Bio-Chem Industries #M177KY	1,688.16			
Clinton Hardware #0027940	4.92			
RAY FARMS #437813	500.00			

Sub Total Reimbursement of Costs		<u>\$ 10,027.89</u>
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Total Fee for Month		<u>\$ 12,608.82</u>
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Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,742.66	<u>562.28</u>
Sub Total Management Fee		<u>\$ 2,572.28</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	7,163.64			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	98.00	36.18
Transportation Expense	275.00	John Turner	79.00	
		Billy Nelms Jr.	7.00	
		Stephen Vaughn	<u>14.00</u>	
			<u>198.00</u>	
Kentucky Utilities - Lift Station	222.58			
Kentucky Utilities - Lagoon	136.51			
McCoy & McCoy Laboratories Inc. #1342452	481.00			
Bio-Chem Industries #M185KY	1,245.06			
Clinton Hardware #0027850	252.00			
Hach #10694334	138.94			
Fouser Environmental Service #56684	80.00			

Sub Total Reimbursement of Costs		<u>\$ 10,144.73</u>
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Total Fee for Month		<u><u>\$ 12,717.01</u></u>
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Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	18,920.04	<u>567.60</u>
Sub Total Management Fee		<u>\$ 2,577.60</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,328.56			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	35.00	36.18
Transportation Expense	275.00	John Turner	39.00	
		Billy Nelms Jr.	6.00	
		Stephen Vaughn	<u>12.00</u>	
			<u>92.00</u>	
Kentucky Utilities - Lift Station	318.35			
Kentucky Utilities - Lagoon	52.42			
McCoy & McCoy Laboratories Inc. #1344912	1,209.00			
Bio-Chem Industries #M189KY	1,483.41			
Carquest #270768	4.23			
Hach #10694334	138.94			
Fouser Environmental Service #56684	80.00			
Cummins Sales #081-96280	1,222.04			
Hach #10773892	<u>2,228.00</u>			
Sub Total Reimbursement of Costs	<u>\$ 10,489.95</u>			

Total Fee for Month \$ 13,067.55

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-17

Management Fee

Flat Fee		\$ 2,010.00
Gross Systems Revenues 3%	17,768.78	<u>533.06</u>
Sub Total Management Fee		<u>\$ 2,543.06</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,473.28			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	41.00	36.18
Transportation Expense	275.00	John Turner	33.00	
		Billy Nelms Jr.	7.00	
		Stephen Vaughn	<u>15.00</u>	
			<u>96.00</u>	
Kentucky Utilities - Lift Station	337.51			
Kentucky Utilities - Lagoon	467.22			
McCoy & McCoy Laboratories Inc. #1347111	1,044.00			
Bio-Chem Industries #M196KY	1,481.98			
Hach #10773892	2,228.00			
Clinton Hardware #028392	153.05			
JIMS AUTO PARTS #273633	4.23			
JIMS AUTO PARTS #273849	142.71			
Sub Total Reimbursement of Costs	<u>\$ 9,756.98</u>			

Total Fee for Month \$ 12,300.04

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	25,165.93	<u>754.98</u>
Sub Total Management Fee		<u>\$ 2,804.98</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	1,989.90			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	5.00	36.18
Transportation Expense	275.00	John Turner	32.00	
		Billy Nelms Jr.	6.00	
		Stephen Vaughn	<u>12.00</u>	
			<u>55.00</u>	
Kentucky Utilities - Lift Station	583.68			
Kentucky Utilities - Lagoon	524.33			
McCoy & McCoy Laboratories Inc. #1349337	1,255.00			
Bio-Chem Industries #M210KY	1,562.76			
Sub Total Reimbursement of Costs	<u>\$ 6,340.67</u>			

Total Fee for Month \$ 9,145.65

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	22,825.52	<u>684.77</u>
Sub Total Management Fee		<u>\$ 2,734.77</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	2,460.24			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	29.00	36.18
Transportation Expense	275.00	John Turner	22.00	
		Billy Nelms Jr.	6.00	
		Stephen Vaughn	<u>11.00</u>	
			<u>68.00</u>	
Kentucky Utilities - Lift Station	668.48			
Kentucky Utilities - Lagoon	1,031.20			
McCoy & McCoy Laboratories Inc. #1351559	1,009.00			
Clinton Hardware #28680	47.06			
Sub Total Reimbursement of Costs	<u>\$ 5,640.98</u>			

Total Fee for Month \$ 8,375.75

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	17,405.67	<u>522.17</u>
Sub Total Management Fee		<u>\$ 2,572.17</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,002.94			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	26.00	36.18
Transportation Expense	275.00	John Turner	27.00	
		Billy Nelms Jr.	6.00	
Kentucky Utilities - Lift Station	464.51	Stephen Vaughn	<u>24.00</u>	
Kentucky Utilities - Lagoon	1,746.15		<u>83.00</u>	
McCoy & McCoy Laboratories Inc. #1354187	984.00			
Carquest #282929	121.47			
Bio-Chem Industries #M217KY	1,635.10			
Sub Total Reimbursement of Costs	<u>\$ 8,379.17</u>			

Total Fee for Month \$ 10,951.34

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	20,344.14	<u>610.32</u>
Sub Total Management Fee		<u>\$ 2,660.32</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	3,545.64		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	28.00 36.18
Transportation Expense	275.00	John Turner	38.00
		Billy Nelms Jr.	6.00
		Stephen Vaughn	<u>26.00</u>
			<u>98.00</u>
Kentucky Utilities - Lift Station	643.72		
Kentucky Utilities - Lagoon	1,920.03		
McCoy & McCoy Laboratories Inc. #1356612	1,319.00		
Clinton Hardware #0029399	3.02		
Champion Plumbing #16263	340.00		
Champion Plumbing #16345	340.00		
Sub Total Reimbursement of Costs	<u>\$ 8,536.41</u>		

Total Fee for Month \$ 11,196.73

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	21,428.12	<u>642.84</u>
Sub Total Management Fee		<u>\$ 2,692.84</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,364.74			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	42.00	36.18
Transportation Expense	275.00	John Turner	28.00	
		Billy Nelms Jr.	7.00	
		Stephen Vaughn	<u>16.00</u>	
			<u>93.00</u>	
Kentucky Utilities - Lift Station	392.46			
Kentucky Utilities - Lagoon	1,912.75			
McCoy & McCoy Laboratories Inc. #1359111	644.00			
Clinton Hardware #0029105	3.02			
Fouser Environmental Services #58252	180.00			
G&C Supply #6696518	312.60			
Champion #16407	275.00			
Champion #16346	212.50			
Sub Total Reimbursement of Costs	<u>\$ 7,722.07</u>			

Total Fee for Month \$ 10,414.91

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	18,277.55	<u>548.33</u>
Sub Total Management Fee		<u>\$ 2,598.33</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,618.00			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	41.00	36.18
Transportation Expense	275.00	John Turner	33.00	
		Billy Nelms Jr.	4.00	
		Stephen Vaughn	<u>22.00</u>	
			<u>100.00</u>	
Kentucky Utilities - Lift Station	262.77			
Kentucky Utilities - Lagoon	662.21			
McCoy & McCoy Laboratories Inc. #1361621	360.00			
BIO-CHEM #M244KY	1,647.99			
Fouser Environmental Services #58426	180.00			
ERA #868764	91.83			
Shawnee Professional Services #14353	1,500.00			
Sub Total Reimbursement of Costs				<u>\$ 8,747.80</u>

Total Fee for Month \$ 11,346.13

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	21,978.22	<u>659.35</u>
Sub Total Management Fee		<u>\$ 2,709.35</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,220.02			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	41.00	36.18
Transportation Expense	275.00	John Turner	25.00	
		Billy Nelms Jr.	5.00	
		Stephen Vaughn	<u>18.00</u>	
			<u>89.00</u>	
Kentucky Utilities - Lift Station	255.23			
Kentucky Utilities - Lagoon	213.03			
McCoy & McCoy Laboratories Inc. #1364377	11.00			
BIO-CHEM #M256KY	1,640.54			
Fouser Environmental Services #58671	690.00			
Fouser Environmental Services #58731	265.00			
Clinton Hardware #28988	26.27			
Ray Farms #500527	500.00			
Sub Total Reimbursement of Costs	<u>\$ 7,246.09</u>			

Total Fee for Month \$ 9,955.44

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	18,803.95	<u>564.12</u>
Sub Total Management Fee		<u>\$ 2,614.12</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	2,532.60			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	24.00	36.18
Transportation Expense	275.00	John Turner	27.00	
		Billy Nelms Jr.	4.00	
		Stephen Vaughn	<u>15.00</u>	
			<u>70.00</u>	
Kentucky Utilities - Lift Station	240.91			
Kentucky Utilities - Lagoon	155.62			
McCoy & McCoy Laboratories Inc. #1367268	250.00			
BIO-CHEM #M268KY	1,649.93			
Fouser Environmental Services #58904	35.00			
Champion #16815	212.50			
Champion #16814	212.50			
Clinton Hardware #30345	20.60			
Carquest #5184-180249	16.96			
Sub Total Reimbursement of Costs	<u>\$ 5,751.62</u>			

Total Fee for Month \$ 8,365.74

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	19,689.73	<u>590.69</u>
Sub Total Management Fee		<u>\$ 2,640.69</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	1,989.90			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	21.00	36.18
Transportation Expense	275.00	John Turner	18.00	
		Billy Nelms Jr.	4.00	
Kentucky Utilities - Lift Station	268.60	Stephen Vaughn	<u>12.00</u>	
Kentucky Utilities - Lagoon	133.74		<u>55.00</u>	
McCoy & McCoy Laboratories Inc. #1369557	200.00			
Sub Total Reimbursement of Costs				<u>\$ 3,017.24</u>

Total Fee for Month \$ 5,657.93

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	20,859.19	<u>625.78</u>
Sub Total Management Fee		<u>\$ 2,675.78</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	2,677.32			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	32.00	36.18
Transportation Expense	275.00	John Turner	18.00	
		Billy Nelms Jr.	5.00	
		Stephen Vaughn	<u>19.00</u>	
			<u>74.00</u>	
Kentucky Utilities - Lift Station	237.04			
Kentucky Utilities - Lagoon	181.05			
McCoy & McCoy Laboratories Inc. #1372290	200.00			
Bio-Chem Industries M292KY	1,652.51			
USA Bluebook #I88518	514.24			
Ray Farms #500530	500.00			
Billy Nelms #585669	600.00			
Sub Total Reimbursement of Costs	<u>\$ 6,987.16</u>			

Total Fee for Month \$ 9,662.94

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	19,794.00	<u>593.82</u>
Sub Total Management Fee		<u>\$ 2,643.82</u>

Reimbursement of Costs

			Hours	Rate
Direct Labor and Benefits	2,496.42			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	41.00	36.18
Transportation Expense	275.00	Billy Nelms Jr.	5.00	
		Stephen Vaughn	<u>23.00</u>	
			<u>69.00</u>	
Kentucky Utilities - Lift Station	426.02			
Kentucky Utilities - Lagoon	844.33			
McCoy & McCoy Laboratories Inc. #1374830	719.00			
Bio-Chem Industries M302KY	1,647.39			
Champion #17117	255.00			
Cummins #R5-1018	826.24			
Billy Nelms #585670	600.00			
Sub Total Reimbursement of Costs	<u>\$ 8,239.40</u>			

Total Fee for Month \$ 10,883.22

*Flat management fee increased by 2017 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-18

Management Fee

Flat Fee*		\$ 2,050.00
Gross Systems Revenues 3%	18,976.76	<u>569.30</u>
Sub Total Management Fee		<u>\$ 2,619.30</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	2,170.80			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	34.00	36.18
Transportation Expense	275.00	Billy Nelms Jr.	5.00	
		Stephen Vaughn	<u>21.00</u>	
			<u>60.00</u>	
Kentucky Utilities - Lift Station	650.80			
Kentucky Utilities - Lagoon	675.14			
McCoy & McCoy Laboratories Inc. #1374830	663.00			
Vaughn # CARI4093	1,047.50			
Vaughn # CARI-4100	2,033.89			
Billy Nelms #517039	600.00			
Sub Total Reimbursement of Costs	<u>\$ 8,266.13</u>			

Total Fee for Month \$ 10,885.43

*Flat management fee increased by 2018 CPI of 2.11%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jan-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	22,629.55	<u>678.89</u>
Sub Total Management Fee		<u>\$ 2,778.89</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	2,460.24		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	40.00 36.18
Transportation Expense	275.00	Billy Nelms Jr.	5.00
		Stephen Vaughn	<u>23.00</u>
			<u>68.00</u>
Kentucky Utilities - Lift Station	582.64		
Kentucky Utilities - Lagoon	690.68		
McCoy & McCoy Laboratories Inc. #1379468	1,105.00		
Bio-Chem industries #M315KY	159.82		
USA Bluebook #778389	515.59		
Billy Nelms #585677	600.00		
Clinton Hardware #029805	3.81		
Sub Total Reimbursement of Costs	<u>\$ 6,542.78</u>		

Total Fee for Month \$ 9,321.67

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Feb-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	19,069.20	<u>572.08</u>
Sub Total Management Fee		<u>\$ 2,672.08</u>

Reimbursement of Costs

			Hours	Rate
Direct Labor and Benefits	3,871.26			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	44.00	36.18
Transportation Expense	275.00	Evan Myers	35.00	
		Stephen Vaughn	<u>28.00</u>	
			<u>107.00</u>	
Kentucky Utilities - Lift Station	702.74			
Kentucky Utilities - Lagoon	1,771.99			
McCoy & McCoy Laboratories Inc. #1381736	964.00			
Bio-Chem industries #M328KY	1,668.72			
Champion #17413	245.00			
Billy Nelms #517041	600.00			
Sub Total Reimbursement of Costs	<u>\$ 10,248.71</u>			

Total Fee for Month \$ 12,920.79

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Mar-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	19,035.76	<u>571.07</u>
Sub Total Management Fee		<u>\$ 2,671.07</u>

Reimbursement of Costs

			<u>Hours</u>	<u>Rate</u>
Direct Labor and Benefits	3,690.36			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	44.00	36.18
Transportation Expense	275.00	Evan Myers	34.00	
		Stephen Vaughn	<u>24.00</u>	
			<u>102.00</u>	
Kentucky Utilities - Lift Station	400.87			
Kentucky Utilities - Lagoon	2,216.27			
McCoy & McCoy Laboratories Inc. #1910021	884.00			
Bio-Chem industries #M346KY	1,666.72			
Clinton Hardware #30995	15.36			
Billy Nelms #585681	600.00			
Car Quest #322055	25.44			
Sub Total Reimbursement of Costs	<u>\$ 9,924.02</u>			

Total Fee for Month \$ 12,595.09

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Apr-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	18,701.33	<u>561.04</u>
Sub Total Management Fee		<u>\$ 2,661.04</u>

Reimbursement of Costs

			Hours	Rate
Direct Labor and Benefits	3,943.62			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	45.00	36.18
Transportation Expense	275.00	Evan Myers	45.00	
		Stephen Vaughn	<u>19.00</u>	
			<u>109.00</u>	
Kentucky Utilities - Lift Station	475.91			
Kentucky Utilities - Lagoon	863.23			
McCoy & McCoy Laboratories Inc. #1912825	1,384.00			
Champion #17679	300.00			
Clinton Hardware #003105	11.39			
Billy Nelms #517042	600.00			
ERA #899032	183.52			
Vaughn #RI-5910	<u>8,363.40</u>			
Sub Total Reimbursement of Costs	<u>\$ 16,550.07</u>			

Total Fee for Month \$ 19,211.11

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 May-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	19,123.52	<u>573.71</u>
Sub Total Management Fee		<u>\$ 2,673.71</u>

Reimbursement of Costs

			Hours	Rate
Direct Labor and Benefits	3,762.72			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	43.00	36.18
Transportation Expense	275.00	Evan Myers	44.00	
		Stephen Vaughn	17.00	
			<u>104.00</u>	
Kentucky Utilities - Lift Station	412.44			
Kentucky Utilities - Lagoon	1,047.69			
McCoy & McCoy Laboratories Inc. #1915395	1,256.00			
Champion #17853	375.00			
Champion #17842	350.00			
Clinton Hardware #280131	400.00			
Clinton Hardware #831083	632.00			
Billy Nelms #517043	600.00			
Biochem Industries #M359KY	1,626.17			
Biochem Industries #M365KY	1,669.57			
Sub Total Reimbursement of Costs	<u>\$ 12,556.59</u>			

Total Fee for Month \$ 15,230.30

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jun-19

Management Fee		
Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	17,415.35	<u>522.46</u>
Sub Total Management Fee		<u>\$ 2,622.46</u>

Reimbursement of Costs				
Direct Labor and Benefits	3,437.10			
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	<u>36.00</u>	36.18
Transportation Expense	275.00	Evan Myers	36.00	
		Stephen Vaughn	<u>23.00</u>	
			<u>95.00</u>	
Kentucky Utilities - Lift Station	321.84			
Kentucky Utilities - Lagoon	2,623.40			
McCoy & McCoy Laboratories Inc. #1918125	1,570.00			
Champion #17967	350.00			
Billy Nelms #736175	600.00			
Credit	(723.60)			
Sub Total Reimbursement of Costs	<u>\$ 8,603.74</u>			
Total Fee for Month				
	<u>\$ 11,226.20</u>			

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Jul-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	20,347.27	<u>610.42</u>
Sub Total Management Fee		<u>\$ 2,710.42</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	4,088.34		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	45.00 36.18
Transportation Expense	275.00	Evan Myers	47.00
		Stephen Vaughn	<u>21.00</u>
			<u>113.00</u>
Kentucky Utilities - Lift Station	337.89		
Kentucky Utilities - Lagoon	308.85		
McCoy & McCoy Laboratories Inc. #1920943	1,256.00		
Champion #17897	350.00		
Champion #18038	350.00		
Bio-Chem Ind #M378KY	1,679.57		
Billy Nelms #585682	600.00		
Ray Farms #956751	500.00		
Sub Total Reimbursement of Costs	<u>\$ 9,895.65</u>		

Total Fee for Month \$ 12,606.07

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Aug-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	19,412.02	<u>582.36</u>
Sub Total Management Fee		<u>\$ 2,682.36</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	3,002.94		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	47.00 36.18
Transportation Expense	275.00	Evan Myers	11.00
		Stephen Vaughn	18.00
Kentucky Utilities - Lift Station	241.77	Christopher Cannon	<u>7.00</u>
Kentucky Utilities - Lagoon	1,703.39		<u>83.00</u>
McCoy & McCoy Laboratories Inc. #1923621	743.00		
Roto Rooter #280966	90.00		
Bio-Chem Ind #M393KY	1,640.24		
Billy Nelms #517044	600.00		
Sub Total Reimbursement of Costs	<u>\$ 8,446.34</u>		

Total Fee for Month \$ 11,128.70

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Sep-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	22,517.77	<u>675.53</u>
Sub Total Management Fee		<u>\$ 2,775.53</u>

Reimbursement of Costs

Direct Labor and Benefits	2,460.24		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	<u>22.00</u> 36.18
Transportation Expense	275.00	Stephen Vaughn	14.00
		Christopher Cannon	<u>32.00</u>
			<u>68.00</u>
Kentucky Utilities - Lift Station	209.42		
Kentucky Utilities - Lagoon	204.95		
McCoy & McCoy Laboratories Inc. #1926315	715.00		
Billy Nelms #517045	600.00		

Sub Total Reimbursement of Costs		<u>\$ 4,614.61</u>
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Total Fee for Month		<u><u>\$ 7,390.14</u></u>
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*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Oct-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	18,765.98	<u>562.98</u>
Sub Total Management Fee		<u>\$ 2,662.98</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	2,966.76		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	31.00 36.18
Transportation Expense	275.00	Stephen Vaughn	15.00
		Christopher Cannon	<u>36.00</u>
			<u>82.00</u>
Kentucky Utilities - Lift Station	297.89		
Kentucky Utilities - Lagoon	133.03		
McCoy & McCoy Laboratories Inc. #1928761	429.00		
Bio-Chem - #M423KY	1,672.46		
Billy Nelms - 585683	600.00		
Sub Total Reimbursement of Costs	<u>\$ 6,524.14</u>		

Total Fee for Month \$ 9,187.12

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Nov-19

Management Fee		
Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	18,822.94	<u>564.69</u>
Sub Total Management Fee		<u>\$ 2,664.69</u>

Reimbursement of Costs		
Direct Labor and Benefits	2,098.44	
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing <u>16.00</u> 36.18
Transportation Expense	275.00	Stephen Vaughn 15.00
		Christopher Cannon <u>27.00</u>
		<u>58.00</u>
Kentucky Utilities - Lift Station	465.09	
Kentucky Utilities - Lagoon	1,201.18	
McCoy & McCoy Laboratories Inc. #11930949	572.00	
Clinton Hardware #031947	2.60	
Bio-Chem Industries #M435KY	1,647.68	
Midwest Meter #0116822-IN	1,150.00	
Sub Total Reimbursement of Costs	<u>\$ 7,561.99</u>	
Total Fee for Month		<u><u>\$ 10,226.68</u></u>

*Flat management fee increased by 2018 CPI of 2.44%

Utilities, Inc.
 Invoice for Management Services City of Clinton Wastewater
 Dec-19

Management Fee

Flat Fee*		\$ 2,100.00
Gross Systems Revenues 3%	18,422.88	<u>552.69</u>
Sub Total Management Fee		<u>\$ 2,652.69</u>

Reimbursement of Costs

		Hours	Rate
Direct Labor and Benefits	3,039.12		
Office Expenses (phone, computer, fax lines, etc)	150.00	Ronald G. Rushing	30.00 36.18
Transportation Expense	275.00	Stephen Vaughn	10.00
		Christopher Cannon	<u>44.00</u>
			<u>84.00</u>
Kentucky Utilities - Lift Station	587.71		
Kentucky Utilities - Lagoon	2,264.51		
McCoy & McCoy Laboratories Inc. #1933644	1,884.00		
USA Bluebook #079991	427.74		
Lemonx Enterprises #07645	1,344.00		
Billy Nelms #585685	600.00		
Sub Total Reimbursement of Costs	<u>\$ 10,572.08</u>		

Total Fee for Month \$ 13,224.77

*Flat management fee increased by 2018 CPI of 2.44%

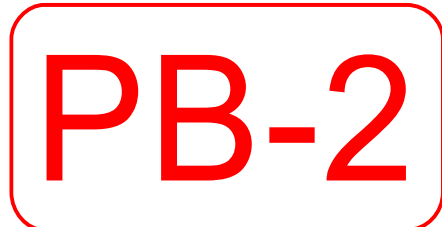
WSCK ERC Count ± 2,500

ERC < WSCK + 2,500

and

ERC > WSCK - 2,500

Company	Utility ID	ERC 2018 Year End	ERC < WSCK + 2,500 and ERC > WSCK - 2,500
Water Service Corporation of Kentucky	6000800	7,138	TRUE
Adair County Water District	18100	7,783	TRUE
Allen County Water District	18200	5,532	TRUE
Barkley Lake Water District	18500	5,414	TRUE
Bath County Water District	18600	3,909	FALSE
Beech Grove Water System Inc	33200	623	FALSE
Big Sandy Water District	18800	4,774	TRUE
Black Mountain Utility District	20000	3,376	FALSE
Boone County Water District	18900	26,280	FALSE
Bracken County Water District	19050	2,553	FALSE
Breathitt County Water District	7000700	1,872	FALSE
Bronston Water Association Inc	33500	1,823	FALSE
Buffalo Trail Water Association Inc	33600	1,528	FALSE
Bullock Pen Water District	19200	7,126	TRUE
Butler County Water System Inc	33700	4,911	TRUE
Caldwell County Water District	19201	2,040	FALSE
Cannonsburg Water District	19500	3,525	FALSE
Carroll County Water District 1	19600	2,968	FALSE
Cawood Water District	19650	1,680	FALSE
Center Ridge Water District No 2	6000700	339	FALSE
Christian County Water District	19700	6,084	TRUE
Corinth Water District	19900	1,155	FALSE
Crittenden-Livingston County Water District	20100	3,600	FALSE
Cunningham County Water District	20150	158	FALSE
Cumberland Falls Highway Water District	20200	3,305	FALSE
Dexter-Almo Heights Water District	20600	818	FALSE
East Casey County Water District	20700	4,848	TRUE
East Clark County Water District	20800	2,410	FALSE
East Daviess County Water Association Inc	33800	4,559	FALSE
East Laurel Water District	21000	5,547	TRUE
East Logan Water District Inc	21100	3,103	FALSE
East Pendleton Water District	21200	2,001	FALSE
Eastern Rockcastle Water Association Inc	35650	610	FALSE
Edmonson County Water District	21300	10,519	FALSE
Elkhorn Water District	21400	597	FALSE
Estill County Water District 1	21500	3,712	FALSE
Farmdale Water District	21700	2,655	FALSE
Fern Lake Company	15100	1	FALSE
Fleming County Water Association Inc	34000	4,145	FALSE
Fountain Run Water District 1	21800	533	FALSE
Francis Water Company Inc	15200	271	FALSE
Gallatin County Water District	21850	1,980	FALSE
Garrard County Water Association Inc	34100	5,708	TRUE
Garrison County Water Association Inc	21900	1,047	FALSE
Grayson County Water District	22000	6,751	TRUE
Green River Valley Water District	22200	7,152	TRUE
Green-Taylor Water District	22300	5,015	TRUE
Hardin County Water District 1	22500	10,349	FALSE
Hardin County Water District 2	22600	28,621	FALSE
Harrison County Water Association Inc	34200	5,866	TRUE
Henderson County Water District	22700	6,407	TRUE
Henry County Water District 2	23000	6,503	TRUE
Hyden-Leslie County Water District	23300	3,594	FALSE
Jackson County Water Association Inc	34500	4,715	TRUE
Jessamine County Water District 1	23400	2,234	FALSE
Jessamine-South Elkhorn Water District	24300	3,037	FALSE
Jonathan Creek Water District	23550	2,415	FALSE
Judy Water Association Inc	34650	1,963	FALSE
Kentucky-American Water Company aka Kentucky American Water	15800	131,752	FALSE
Kirksville Water Association Inc	34700	1,861	FALSE
Knott County Water and Sewer District	19400	2,974	FALSE
Knox County Utility Commission	7001000	2,854	FALSE
Lake Village Water Association Inc	34800	2,229	FALSE
Larue County Water District 1	24000	3,573	FALSE
Laurel County Water District 2	24100	6,041	TRUE
Ledbetter Water District	24200	1,227	FALSE
Letcher County Water and Sewer District	7000300	3,033	FALSE
Levee Road Water Association Inc	34900	855	FALSE
Lyon County Water District	24500	2,606	FALSE
Madison County Utilities District	7000100	10,990	FALSE
Magoffin County Water District	24600	3,803	FALSE
Marion County Water District	24700	6,008	TRUE
McCreary County Water District	25200	6,134	TRUE
McKinney Water District	25300	1,826	FALSE
Meade County Water District	25305	4,969	TRUE
Milburn Water District	25400	128	FALSE
Monroe County Water District	25500	3,492	FALSE
Montgomery County Water District 1	25600	686	FALSE
Morgan County Water District	25603	2,798	FALSE
Mountain Water District	25605	16,611	FALSE



WSCK ERC Count ± 2,500
ERC < WSCK + 2,500
and
ERC > WSCK - 2,500

Company	Utility ID	ERC 2018 Year End	ERC < WSCK + 2,500 and ERC > WSCK - 2,500
Muhlenberg County Water District 3	26000	2,119	FALSE
Nebo Water District	26400	1,579	FALSE
North Hopkins Water District	26600	1,413	FALSE
North Logan Water District 1	26700	554	FALSE
North Manchester Water Association Inc	35300	1,953	FALSE
North Marshall Water District	26800	5,528	TRUE
North McLean County Water District	26900	1,311	FALSE
North Mercer Water District	27000	5,032	TRUE
North Nelson Water District	27100	4,751	TRUE
North Shelby Water Company	35400	5,228	TRUE
Northeast Woodford County Water District	27300	1,003	FALSE
Northern Kentucky Water District	7000200	83,438	FALSE
Ohio County Water District	27500	173	FALSE
Oldham County Water District	27600	8,408	TRUE
Parksville Water District	27800	1,599	FALSE
Peaks Mill Water District	27900	1,172	FALSE
Pendleton County Water District	28000	2,417	FALSE
Powell's Valley Water District	28300	2,344	FALSE
Rattlesnake Ridge Water District	28600	4,089	FALSE
Reid Village Water District	28700	1,142	FALSE
Rowan Water Inc	35800	7,142	TRUE
Sandy Hook Water District	29200	1,210	FALSE
Sedalia Water District	29400	242	FALSE
Sharpsburg Water District	29500	1,466	FALSE
Simpson County Water District	29700	3,438	FALSE
South 641 Water District	30300	351	FALSE
South Anderson Water District	29800	2,981	FALSE
South Eastern Water Association Inc	36150	7,582	TRUE
South Hopkins Water District	30100	2,963	FALSE
South Logan Water Association Inc	36000	1,723	FALSE
South Woodford Water District	30400	1,645	FALSE
Southeast Daviess County Water District	30500	7,466	TRUE
Southern Madison Water District	30600	5,259	TRUE
Southern Water and Sewer District	7000900	5,399	TRUE
Symsonia Water District	31000	318	FALSE
Todd County Water District	31100	3,501	FALSE
Trimble County Water District 1	31200	1,434	FALSE
U S 60 Water District of Shelby and Franklin Counties	31500	2,476	FALSE
Union County Water District	31400	2,274	FALSE
Warren County Water District	31700	29,471	FALSE
Webster County Water District	31800	2,077	FALSE
West Carroll Water District	31900	981	FALSE
West Daviess County Water District	32000	5,258	TRUE
West Laurel Water Association Inc	36300	5,155	TRUE
West McCracken County Water District	32200	1,588	FALSE
West Shelby Water District	32300	-	FALSE
Western Fleming County Water District	32500	1,504	FALSE
Western Lewis-Rectorville Water and Gas District	22206700	2,505	FALSE
Western Mason County Water District	32700	1,035	FALSE
Western Pulaski County Water District	7000500	8,577	TRUE
Western Rockcastle Water Association Inc	36400	4,156	FALSE
Whitley County Water District 1	32900	3,679	FALSE
Wood Creek Water District	33000	5,310	TRUE

Companies	Customer Count 2018
Adair County Water District	7783
Allen County Water District	5532
Barkley Lake Water District	5414
Big Sandy Water District	4774
Bullock Pen Water District	7126
Butler County Water System Inc	4911
Christian County Water District	6084
East Casey County Water District	4848
East Laurel Water District	5547
Garrard County Water Association Inc	5708
Grayson County Water District	6751
Green River Valley Water District	7152
Green-Taylor Water District	5015
Harrison County Water Association Inc	5866
Henderson County Water District	6407
Henry County Water District 2	6503
Jackson County Water Association Inc	4715
Laurel County Water District 2	6041
Marion County Water District	6008
McCreary County Water District	6134
Meade County Water District	4969
Muhlenberg County Water District	5928
North Marshall Water District	5528
North Mercer Water District	5032
North Nelson Water District	4751
North Shelby Water Company	5228
Oldham County Water District	8408
Rowan Water Inc	7142
South Eastern Water Association Inc	7582
Southeast Daviess County Water District	7466
Southern Madison Water District	5259
Southern Water and Sewer District	5399
Water Service Corporation of Kentucky	7138
West Daviess County Water District	5258
West Laurel Water Association Inc	5155
Western Pulaski County Water District	8577
Wood Creek Water District	5310

Company	Customer Count							Customer Growth						CAVGR
	2012	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018	
Adair County Water District	7,681	7,718	7,749	7,776	7,858	7,735	7,783	0.48%	0.40%	0.35%	1.05%	-1.57%	0.62%	0.19%
Allen County Water District	5,437	5,531	6,584	6,672	6,760	5,477	5,532	1.73%	19.04%	1.34%	1.32%	-18.98%	1.00%	0.25%
Barkley Lake Water District	5,169	5,243	5,239	5,303	5,335	5,367	5,414	1.43%	-0.08%	1.22%	0.60%	0.60%	0.88%	0.66%
Bullock Pen Water District	6,742	6,704	6,723	6,820	6,921	7,033	7,126	-0.56%	0.28%	1.44%	1.48%	1.62%	1.32%	0.79%
Christian County Water District	5,759	5,773	5,871	5,934	6,083	5,838	6,084	0.24%	1.70%	1.07%	2.51%	-4.03%	4.21%	0.79%
Garrard County Water Association Inc	5,476	5,490	5,490	5,540	5,598	5,655	5,708	0.26%	0.00%	0.91%	1.05%	1.02%	0.94%	0.59%
Green River Valley Water District	6,813	6,828	6,848	6,874	6,945	7,132	7,152	0.22%	0.29%	0.38%	1.03%	2.69%	0.28%	0.70%
Henderson County Water District	6,384	6,416	6,424	6,439	6,454	6,417	6,407	0.50%	0.12%	0.23%	0.23%	-0.57%	-0.16%	0.05%
Henry County Water District 2	6,343	6,340	6,353	6,413	6,439	6,521	6,503	-0.05%	0.21%	0.94%	0.41%	1.27%	-0.28%	0.36%
Jackson County Water Association Inc	4,582	4,569	4,528	4,604	4,627	5,058	4,715	-0.28%	-0.90%	1.68%	0.50%	9.31%	-6.78%	0.41%
Laurel County Water District 2	5,848	5,906	5,939	5,960	5,997	6,017	6,041	0.99%	0.56%	0.35%	0.62%	0.33%	0.40%	0.46%
Marion County Water District	5,719	5,757	5,832	5,900	5,927	5,971	6,008	0.66%	1.30%	1.17%	0.46%	0.74%	0.62%	0.71%
McCreary County Water District	6,159	6,151	6,164	6,170	6,149	6,167	6,134	-0.13%	0.21%	0.10%	-0.34%	0.29%	-0.54%	-0.06%
Meade County Water District	4,405	4,489	4,577	4,950	5,082	4,940	4,969	1.91%	1.96%	8.15%	2.67%	-2.79%	0.59%	1.74%
Muhlenberg County Water District	5,975	5,938	5,921	6,017	5,944	5,964	5,928	-0.62%	-0.29%	1.62%	-1.21%	0.34%	-0.60%	-0.11%
North Nelson Water District	4,319	4,357	4,416	4,489	4,589	4,674	4,751	0.88%	1.35%	1.65%	2.23%	1.85%	1.65%	1.37%
North Shelby Water Company	4,875	4,926	4,930	4,981	5,023	5,146	5,228	1.05%	0.08%	1.03%	0.84%	2.45%	1.59%	1.00%
Oldham County Water District	7,802	7,859	7,946	8,041	8,192	8,294	8,408	0.73%	1.11%	1.20%	1.88%	1.25%	1.37%	1.07%
Rowan Water Inc	6,857	6,942	7,028	7,118	7,143	7,118	7,095	1.24%	1.24%	1.28%	0.35%	-0.35%	-0.32%	0.49%
South Eastern Water Association Inc	7,811	7,313	7,440	7,447	7,454	7,429	7,582	-6.38%	1.74%	0.09%	0.09%	-0.34%	2.06%	-0.42%
Southeast Daviess County Water District	6,702	6,826	6,959	7,078	7,246	7,349	7,466	1.85%	1.95%	1.71%	2.37%	1.42%	1.59%	1.55%
Southern Madison Water District	4,892	4,896	4,936	4,985	5,140	5,237	5,259	0.08%	0.82%	0.99%	3.11%	1.89%	0.42%	1.04%
Southern Water and Sewer District	7,033	7,004	6,798	6,724	6,661	5,457	5,399	-0.41%	-2.94%	-1.09%	-0.94%	-18.08%	-1.06%	-3.71%
Water Service Corporation of Kentucky	7,362	7,331	7,280	7,199	7,199	7,199	7,138	-0.42%	-0.70%	-1.11%	0.00%	0.00%	-0.85%	-0.44%
West Daviess County Water District	4,801	4,861	4,922	4,985	5,092	5,170	5,258	1.25%	1.25%	1.28%	2.15%	1.53%	1.70%	1.31%
Western Pulaski County Water District	8,165	8,226	8,251	8,408	8,524	8,565	8,577	0.75%	0.30%	1.90%	1.38%	0.48%	0.14%	0.71%

Company	Total Direct Labor Costs							Forecasted Direct Labor		Labor Costs Increase %					CAVGR	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017		2018
Adair County Water District	1,266,808	1,205,808	1,187,889	1,319,305	1,100,289	1,183,790	1,334,671	1,346,330	1,358,090	-4.82%	-1.49%	11.06%	-16.60%	7.59%	12.75%	0.87%
Allen County Water District	801,965	798,780	850,088	865,403	884,019	811,345	908,722	927,849	947,378	-0.40%	6.42%	1.80%	2.15%	-8.22%	12.00%	2.10%
Barkley Lake Water District	938,402	931,408	1,004,558	1,207,691	1,233,423	1,340,362	1,345,177	1,428,382	1,516,735	-0.75%	7.85%	20.22%	2.13%	8.67%	0.36%	6.19%
Bullock Pen Water District	1,135,325	1,236,176	1,132,864	1,378,635	1,319,891	1,519,506	1,527,112	1,604,462	1,685,729	8.88%	-8.36%	21.69%	-4.26%	15.12%	0.50%	5.07%
Christian County Water District	662,178	681,676	675,526	769,010	691,191	831,598	814,900	843,579	873,268	2.94%	-0.90%	13.84%	-10.12%	20.31%	-2.01%	3.52%
Garrard County Water Association Inc	385,842	410,763	422,809	373,753	384,226	390,254	413,581	418,394	423,263	6.46%	2.93%	-11.60%	2.80%	1.57%	5.98%	1.16%
Green River Valley Water District	1,198,280	1,266,633	1,327,865	1,388,884	1,484,008	1,525,520	1,546,146	1,613,241	1,683,247	5.70%	4.83%	4.60%	6.85%	2.80%	1.35%	4.34%
Henderson County Water District	635,689	587,223	612,693	629,266	645,838	691,218	808,951	842,109	876,627	-7.62%	4.34%	2.70%	2.63%	7.03%	17.03%	4.10%
Henry County Water District 2	1,100,473	1,116,752	1,153,718	1,191,802	1,310,716	1,311,787	1,390,394	1,445,654	1,503,110	1.48%	3.31%	3.30%	9.98%	0.08%	5.99%	3.97%
Jackson County Water Association Inc	826,342	869,831	914,497	990,246	1,066,643	983,225	877,084	885,839	894,681	5.26%	5.14%	8.28%	7.71%	-7.82%	-10.80%	1.00%
Laurel County Water District 2	779,878	881,031	1,017,056	1,039,166	1,168,729	1,486,552	1,714,169	1,954,601	2,228,757	12.97%	15.44%	2.17%	12.47%	27.19%	15.31%	14.03%
Marion County Water District	373,311	396,754	408,860	397,438	396,069	584,405	576,627	619,963	666,556	6.28%	3.05%	-2.79%	-0.34%	47.55%	-1.33%	7.52%
McCreary County Water District	1,273,299	1,335,869	1,327,491	1,335,681	1,343,002	1,577,177	1,636,401	1,706,277	1,779,137	4.91%	-0.63%	0.62%	0.55%	17.44%	3.76%	4.27%
Meade County Water District	634,575	651,899	690,027	656,790	662,909	708,060	661,407	665,988	670,601	2.73%	5.85%	-4.82%	0.93%	6.81%	-6.59%	0.69%
Muhlenberg County Water District	1,332,556	1,392,044	1,247,375	1,151,663	1,199,020	1,398,481	1,389,882	1,399,673	1,409,534	4.46%	-10.39%	-7.67%	4.11%	16.64%	-0.61%	0.70%
North Nelson Water District	309,596	309,523	264,991	308,647	293,650	370,200	527,098	575,980	629,395	-0.02%	-14.39%	16.47%	-4.86%	26.07%	42.38%	9.27%
North Shelby Water Company	552,361	592,887	617,486	686,614	742,950	802,273	821,156	877,256	937,188	7.34%	4.15%	11.20%	8.20%	7.98%	2.35%	6.83%
Oldham County Water District	1,455,549	1,536,418	1,599,344	1,630,353	1,608,338	1,656,027	1,829,927	1,901,085	1,975,011	5.56%	4.10%	1.94%	-1.35%	2.97%	10.50%	3.89%
Rowan Water Inc	866,882	884,016	850,934	830,177	846,222	889,006	970,128	988,494	1,007,207	1.98%	-3.74%	-2.44%	1.93%	5.06%	9.13%	1.89%
South Eastern Water Association Inc	370,608	374,982	391,831	424,559	477,637	614,077	552,067	589,981	630,498	1.18%	4.49%	8.35%	12.50%	28.57%	-10.10%	6.87%
Southeast Daviess County Water District	492,883	516,597	522,393	538,717	538,920	558,185	588,987	606,735	625,019	4.81%	1.12%	3.12%	0.04%	3.57%	5.52%	3.01%
Southern Madison Water District	474,738	527,814	493,522	489,485	489,402	490,222	554,046	568,496	583,324	11.18%	-6.50%	-0.82%	-0.02%	0.17%	13.02%	2.61%
Southern Water and Sewer District	1,019,079	1,126,436	1,268,902	1,124,457	1,331,421	1,376,299	1,228,043	1,266,819	1,306,819	10.53%	12.65%	-11.38%	18.41%	3.37%	-10.77%	3.16%
Water Service Corporation of Kentucky	663,069	605,051	620,637	659,263	750,311	850,719	995,629	1,080,567	1,298,471	-8.75%	2.58%	6.22%	13.81%	13.38%	17.03%	7.01%
West Daviess County Water District	404,884	424,007	428,188	441,843	439,710	458,023	483,647	498,190	513,170	4.72%	0.99%	3.19%	-0.48%	4.16%	5.59%	3.01%
Western Pulaski County Water District	369,658	411,225	435,072	423,643	512,938	529,928	534,345	568,188	604,174	11.24%	5.80%	-2.63%	21.08%	3.31%	0.83%	6.33%
Average	781,701	810,446	825,639	855,865	881,595	959,163	1,001,165	1,047,082	1,101,038							
WSCKY Comparison	-15%	-25%	-25%	-23%	-15%	-11%	-1%	3%	18%							

Company	Cost Per Customer							Cost Per Customer Escalation						CAVGR
	2012	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018	
Adair County Water District	13.74	13.02	12.77	14.14	11.67	12.75	14.29	-5.27%	-1.88%	10.68%	-17.47%	9.30%	12.05%	0.65%
Allen County Water District	12.29	12.03	10.76	10.81	10.90	12.34	13.69	-2.09%	-10.60%	0.46%	0.82%	13.28%	10.89%	1.81%
Barkley Lake Water District	15.13	14.80	15.98	18.98	19.27	20.81	20.71	-2.15%	7.94%	18.77%	1.52%	8.02%	-0.51%	5.37%
Bullock Pen Water District	14.03	15.37	14.04	16.85	15.89	18.00	17.86	9.50%	-8.62%	19.96%	-5.66%	13.29%	-0.81%	4.10%
Christian County Water District	9.58	9.84	9.59	10.80	9.47	11.87	11.16	2.69%	-2.56%	12.63%	-12.32%	25.36%	-5.97%	2.58%
Garrard County Water Association Inc	5.87	6.24	6.42	5.62	5.72	5.75	6.04	6.19%	2.93%	-12.40%	1.74%	0.55%	4.99%	0.47%
Green River Valley Water District	14.66	15.46	16.16	16.84	17.81	17.82	18.02	5.47%	4.53%	4.20%	5.76%	0.10%	1.07%	3.50%
Henderson County Water District	8.30	7.63	7.95	8.14	8.34	8.98	10.52	-8.08%	4.21%	2.47%	2.40%	7.64%	17.22%	4.04%
Henry County Water District 2	14.46	14.68	15.13	15.49	16.96	16.76	17.82	1.53%	3.10%	2.33%	9.53%	-1.18%	6.29%	3.54%
Jackson County Water Association Inc	15.03	15.86	16.83	17.92	19.21	16.20	15.50	5.56%	6.09%	6.50%	7.18%	-15.68%	-4.31%	0.52%
Laurel County Water District 2	11.11	12.43	14.27	14.53	16.24	20.59	23.65	11.86%	14.80%	1.81%	11.77%	26.77%	14.85%	13.41%
Marion County Water District	5.44	5.74	5.84	5.61	5.57	8.16	8.00	5.58%	1.73%	-3.91%	-0.80%	46.46%	-1.94%	6.64%
McCreary County Water District	17.23	18.10	17.95	18.04	18.20	21.31	22.23	5.05%	-0.84%	0.52%	0.89%	17.09%	4.31%	4.34%
Meade County Water District	12.00	12.10	12.56	11.06	10.87	11.94	11.09	0.81%	3.81%	-11.99%	-1.69%	9.88%	-7.13%	-1.31%
Muhlenberg County Water District	18.59	19.54	17.56	15.95	16.81	19.54	19.54	5.12%	-10.14%	-9.15%	5.39%	16.24%	-0.01%	0.84%
North Nelson Water District	5.97	5.92	5.00	5.73	5.33	6.60	9.25	-0.90%	-15.53%	14.58%	-6.93%	23.78%	40.07%	7.55%
North Shelby Water Company	9.44	10.03	10.44	11.49	12.33	12.99	13.09	6.23%	4.06%	10.06%	7.30%	5.40%	0.75%	5.59%
Oldham County Water District	15.55	16.29	16.77	16.90	16.36	16.64	18.14	4.79%	2.96%	0.73%	-3.17%	1.70%	9.00%	2.60%
Rowan Water Inc	10.54	10.61	10.09	9.72	9.87	10.41	11.39	0.73%	-4.92%	-3.67%	1.58%	5.42%	9.47%	1.31%
South Eastern Water Association Inc	3.95	4.27	4.39	4.75	5.34	6.89	6.07	8.07%	2.71%	8.25%	12.40%	29.00%	-11.91%	7.40%
Southeast Daviess County Water District	6.13	6.31	6.26	6.34	6.20	6.33	6.57	2.91%	-0.81%	1.39%	-2.28%	2.12%	3.86%	1.18%
Southern Madison Water District	8.09	8.98	8.33	8.18	7.93	7.80	8.78	11.09%	-7.25%	-1.79%	-3.03%	-1.69%	12.55%	1.38%
Southern Water and Sewer District	12.07	13.40	15.55	13.94	16.66	21.02	18.95	10.99%	16.06%	-10.41%	19.53%	26.18%	-9.81%	7.80%
Water Service Corporation of Kentucky	7.51	6.88	7.10	7.63	8.69	9.85	11.62	-8.36%	3.29%	7.42%	13.81%	13.38%	18.03%	7.56%
West Daviess County Water District	7.03	7.27	7.25	7.39	7.20	7.38	7.67	3.43%	-0.27%	1.88%	-2.57%	2.59%	3.83%	1.46%
Western Pulaski County Water District	3.77	4.17	4.39	4.20	5.01	5.16	5.19	10.42%	5.48%	-4.45%	19.43%	2.82%	0.69%	5.46%
Average	10.67	11.04	11.13	11.42	11.69	12.84	13.34							
WSCKY Variance to Average	2.59	2.05	2.80	3.24	3.75	5.04	4.56							
Standard Deviation	4.16	4.36	4.45	4.68	4.91	5.32	5.34							

Companies Removed From The Sample	Reason For Removal
1 Big Sandy Water District	Reported Zero For Payroll Taxes (2014 - 2018)
2 Butler County Water System Inc	Reported Zero For Payroll Taxes (2012 - 2018)
3 East Casey County Water District	Reported Zero For Officers & Directors (2012 - 2018)
4 East Laurel Water District	Missing Crucial Data For Every Year
5 Grayson County Water District	Missing Crucial Data For Every Year
6 Green-Taylor Water District	Reported Zero For Officers & Directors (2012 - 2018)
7 North Marshall Water District	Reported Zero For Payroll Taxes And Officers & Director (2012 - 2018)
8 North Mercer Water District	Reported Zero For Payroll Taxes (2012 - 2014)
9 Harrison County Water Association Inc	Reported Zero For Payroll Taxes (2017)
10 West Laurel Water Association Inc	Missing Crucial Data For Every Year
11 Wood Creek Water District	Reported Zero For Payroll Taxes, Officers & Director, And Pension & Benefits (2012 - 2018)

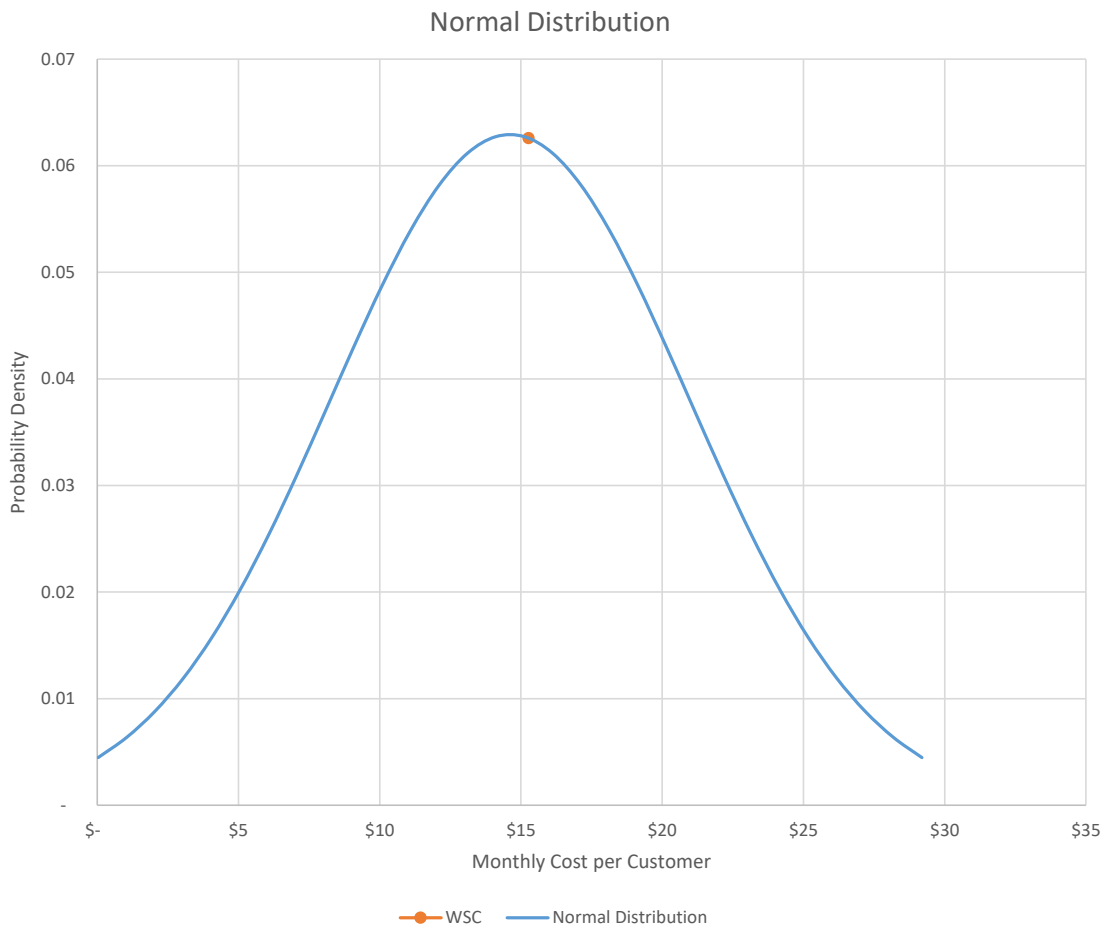
2020 Forecasted Salary Data

		Salaries & Wages						Statistics	
Line No.	Company Name	Year End		Officers,	Pension &	Payroll	Total Salaries &	Cost Per	Cost Per Customer
		Customers	Employees	Directors	Benefits	Taxes	Wages	Customer	(Monthly)
1	Adair County Water District	7,812	\$ 670,551	\$ 121,067	\$ 522,173	\$ 44,300	\$ 1,358,090	\$ 173.84	14.49
2	Allen County Water District	5,546	\$ 572,334	\$ 21,893	\$ 305,502	\$ 47,648	\$ 947,378	\$ 170.83	14.24
3	Barkley Lake Water District	5,450	\$ 764,599	\$ 10,148	\$ 682,043	\$ 59,945	\$ 1,516,735	\$ 278.30	23.19
4	Bullock Pen Water District	7,183	\$ 849,912	\$ 14,571	\$ 754,694	\$ 66,552	\$ 1,685,729	\$ 234.70	19.56
5	Christian County Water District	6,132	\$ 603,352	\$ 32,149	\$ 189,922	\$ 47,845	\$ 873,268	\$ 142.41	11.87
6	Garrard County Water Association Inc	5,742	\$ 312,877	\$ 21,492	\$ 61,914	\$ 26,980	\$ 423,263	\$ 73.71	6.14
7	Green River Valley Water District	7,202	\$ 1,278,806	\$ 6,423	\$ 295,929	\$ 102,089	\$ 1,683,247	\$ 233.73	19.48
8	Henderson County Water District	6,410	\$ 497,165	\$ 10,078	\$ 331,335	\$ 38,048	\$ 876,627	\$ 136.75	11.40
9	Henry County Water District 2	6,526	\$ 844,442	\$ 32,432	\$ 551,515	\$ 74,720	\$ 1,503,110	\$ 230.32	19.19
10	Jackson County Water Association Inc	4,734	\$ 645,834	\$ 36,314	\$ 163,500	\$ 49,033	\$ 894,681	\$ 188.98	15.75
11	Laurel County Water District 2	6,069	\$ 1,062,125	\$ 39,006	\$ 1,050,732	\$ 76,894	\$ 2,228,757	\$ 367.23	30.60
12	Marion County Water District	6,050	\$ 334,709	\$ 54,105	\$ 254,019	\$ 23,723	\$ 666,556	\$ 110.17	9.18
13	McCreary County Water District	6,130	\$ 939,765	\$ 24,463	\$ 738,981	\$ 75,928	\$ 1,779,137	\$ 290.21	24.18
14	Meade County Water District	5,055	\$ 439,182	\$ 30,417	\$ 169,447	\$ 31,555	\$ 670,601	\$ 132.65	11.05
15	Muhlenberg County Water District	5,921	\$ 737,146	\$ 18,255	\$ 595,559	\$ 58,574	\$ 1,409,534	\$ 238.04	19.84
16	North Nelson Water District	4,816	\$ 270,015	\$ 8,597	\$ 331,084	\$ 19,699	\$ 629,395	\$ 130.68	10.89
17	North Shelby Water Company	5,280	\$ 437,622	\$ 42,685	\$ 414,214	\$ 42,666	\$ 937,188	\$ 177.48	14.79
18	Oldham County Water District	8,498	\$ 1,114,745	\$ 32,594	\$ 752,684	\$ 74,988	\$ 1,975,011	\$ 232.40	19.37
19	Rowan Water Inc	7,177	\$ 576,685	\$ 25,419	\$ 370,761	\$ 34,342	\$ 1,007,207	\$ 140.34	11.69
20	South Eastern Water Association Inc	7,550	\$ 520,390	\$ 41,114	\$ 28,178	\$ 40,816	\$ 630,498	\$ 83.51	6.96
21	Southeast Daviess County Water District	7,582	\$ 395,235	\$ 9,551	\$ 188,487	\$ 31,746	\$ 625,019	\$ 82.43	6.87
22	Southern Madison Water District	5,314	\$ 344,585	\$ 15,161	\$ 193,659	\$ 29,919	\$ 583,324	\$ 109.78	9.15
23	Southern Water and Sewer District	5,199	\$ 905,527	\$ 25,540	\$ 302,122	\$ 73,631	\$ 1,306,819	\$ 251.37	20.95
24	Water Service Corporation of Kentucky	7,088	\$ 771,587	\$ 189,473	\$ 252,377	\$ 85,035	\$ 1,298,471	\$ 183.19	15.27
25	West Daviess County Water District	5,327	\$ 323,345	\$ 9,549	\$ 154,198	\$ 26,077	\$ 513,170	\$ 96.34	8.03
26	Western Pulaski County Water District	8,638	\$ 389,727	\$ 14,020	\$ 163,202	\$ 37,225	\$ 604,174	\$ 69.95	5.83

27	Minimum	4,734	\$ 270,015	\$ 6,423	\$ 28,178	\$ 19,699	\$ 423,263	\$ 69.95	5.83
28	Maximum	8,638	\$ 1,278,806	\$ 189,473	\$ 1,050,732	\$ 102,089	\$ 2,228,757	\$ 367.23	30.60
29	Average	6,324	\$ 638,549	\$ 34,097	\$ 377,624	\$ 50,768	\$ 1,101,038	\$ 175.36	14.61

		Year End		Officers,	Pension &	Payroll	Total Salaries &	Cost Per	Cost Per Customer
		Customers	Employees	Directors	Benefits	Taxes	Wages	Customer	(Monthly)
30	Per 2020 KY RC Filing Water Service Corporation of Kentucky	7,088	\$ 771,587	\$ 189,473	\$ 252,377	\$ 85,035	\$ 1,298,471	\$ 183.19	15.27
31	WСК vs. Average of Sample - B/(W)	(764)					\$ (197,433)	\$ (7.83)	(0.65)

Standard Deviation 6.34



COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation)
of Kentucky for a General Adjustment)
in Existing Rates) Case No. 2020-00160

DIRECT TESTIMONY OF Stephen R. Vaughn

1 **Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A1. My name is Stephen R. Vaughn. My business address is 102 Water Plant Rd., Middlesboro,
3 Kentucky, 40965.

4 **Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A2. I am the State Manager (“SM”) for Water Service Corporation of Kentucky, Inc. Kentucky.
6 Water Service Corporation of Kentucky, Inc. (“WSCK” or “Petitioner” or “Company”) is
7 a wholly owned subsidiary of Utilities, Inc. (“UI”).

8 **Q3. WHAT DO YOUR JOB RESPONSIBILITIES INCLUDE?**

9 A3. In my current position, I am responsible for leading the operations team to ensure
10 compliance with all applicable local, state, and federal regulations to ensure our customers
11 receive safe and reliable water and wastewater services at a low cost. I am also responsible
12 for managing or assisting in the preparation and execution of all Commission related
13 activities in coordination with the Company’s Financial and Regulatory department,
14 budgeting and forecasting operating and maintenance expenses, and monitoring the
15 financial performance throughout the year. I also oversee the development and execution
16 of developer agreements, payment of applicable fees, maintenance of facilities, company
17 vehicles and equipment.

18 I collaborate with the local operations staff in Kentucky, the Director of Engineering and
19 Asset Management and the Vice President – Midwest/Mid-Atlantic Operations regarding
20 the capital and operating expense budgets, acquisitions, and provide stewardship of legal
21 issues ensuring that all issues are reported through the management hierarchy. In addition,

1 I am responsible for recruiting and training employees, and providing leadership to the
2 operations staff.

3 **Q4. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

4 A4. In June 2009, I began my employment with Utilities, Inc. as a member of the WSCK
5 operations staff. I have been involved in the operation and management of water and
6 wastewater systems for over 10 years. I have operated and managed water systems ranging
7 from a single-well system up to a 3.0 MGD water system. My duties included day-to-day
8 operating decisions on the changes related to chemicals, detention times, water flows, and
9 maintenance and repairs to distribution systems. I currently hold Class IVA water
10 treatment, Class II distribution, Class II wastewater, and Class II collections licenses in the
11 state of Kentucky.

12 **Q5. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY**
13 **COMMISSION (“COMMISSION”)?**

14 A5. No, I have not.

15 **Q6. HAVE YOU TESTIFIED BEFORE ANY OTHER PUBLIC UTILITY**
16 **COMMISSIONS?**

17 A6. No, I have not.

18 **Q7. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

19 A7. My testimony provides support for WSCK’s request to adjust water rates. I will describe
20 our service territories, our water operations, justification for certain proforma operating
21 costs as it pertains to required projects and justification for certain tariff changes.

1 **Q8. PLEASE GENERALLY DESCRIBE WSCK'S SERVICE TERRITORIES.**

2 A8. WSCK currently owns and operates two water systems in Kentucky. As part of the
3 operations we deliver safe, potable water through distribution systems with filtration and
4 chemical addition. WSCK has a surface water facility in Middlesboro, Kentucky, where
5 we provide water service to approximately 6,000 connections. In Clinton, Kentucky we
6 serve approximately 600 water connections. In addition to water operations we are under
7 a contractual basis with the City of Clinton for wastewater treatment, maintenance and
8 operation.

9 **Q9. PLEASE GENERALLY DESCRIBE WSCK'S WATER OPERATIONS.**

10 A9. The system in Middlesboro, Kentucky consists of a 3MGD conventional surface water
11 treatment plant. The plant has two 1.25 MG storage tanks. There is one booster station
12 that supplies a remote 15,000-gallon storage tank. The distribution system consists of
13 approximately 86 miles of water mains varying in size from .75 inches to 24 inches. In
14 addition, the system has over 1,000 valves and 366 fire hydrants for use in public fire
15 protection and water main maintenance.

16 The system in Clinton, Kentucky has a .75 MGD groundwater plant. The plant has one
17 clear well with a capacity of 30,000 gallons that supplies two 178,000 ground storage tanks.
18 The distribution system consists of approximately 11.5 miles of water mains varying in
19 size from .75 inches to 8 inches. In addition, the system has 91 valves and 56 fire hydrants
20 for use in public fire protection and water main maintenance.

21

22 **Q10. PLEASE GENERALLY DESCRIBE WSCK'S WASTEWATER OPERATIONS.**

1 A10. As stated above the wastewater for Clinton, Kentucky is contracted through WSCK for
2 treatment, maintenance and operations. WSCK does not own the City’s assets, however,
3 the current facility is made up of a collection system that is connected to one main lift
4 station that pumps directly to the wastewater treatment plant (“WWTP”). The WWTP
5 consists of five treatment lagoons. There is a final pumping station that pumps directly to
6 Obion Creek watershed.

7 **Q11. PLEASE DESCRIBE THE DUTIES OF THE STAFF AT WSCK.**

8 A11. WSCK’s operational staff consists of a State Manager, Lead Operators, Operators, Field
9 Technicians, and an Administrative Assistant.

10 Staff is responsible for the daily operation and maintenance of our water facilities. Staff
11 completes daily monitoring and testing activities in conjunction with needed and scheduled
12 preventative maintenance activities. Staff is responsible for maintaining accurate records
13 that are submitted to the Kentucky Department of Environmental Protection and Kentucky
14 Division of Water on a monthly basis. Staff also maintains the distribution and collection
15 systems; chemical usage for inventory and treatment requirements are also monitored by
16 staff. Field Activities are completed by staff which are recorded and documented through
17 our Operations Management Software (Lucity) as well as our Customer Care Billing
18 System.

19 **Q12. WHAT ARE THE UNACCOUNTED-FOR-WATER RATES IN WSCK?**

20 A12. The below two tables depict the 2019 unaccounted-for-water (“UFW”) for Middlesboro
21 and Clinton respectively. Middlesboro UFW rate was 14.3% and Clinton’s UFW rate was
22 8.4%.

Middlesboro					
Total Water Pumped	Water Sold	% Pumped	Revenue Water	UFW Per System	UFW Gallons
508,154,000	414,755,000	100%	85.7%	14.3%	72,666,000

1

2

Clinton					
Total Water Pumped	Water Sold	% Pumped	Revenue Water	UFW Per System	UFW Gallons
33,393,000	29,565,00	100%	91.6%	8.4%	2,805,102

6

7 **Q13. PLEASE DESCRIBE THE ACTIONS AND STEPS THE COMPANY TAKES TO**
 8 **KEEP UFW LEVELS TO A MINIMUM.**

9

10 A13. The operations staff conducts a semi-annual leak audit, by using acoustic listening devices,
 11 placed on every service, within the distribution system. Once leaks are discovered, a plan
 12 is put into place to make the necessary repairs. If water treatment staff notices increased
 13 pumping, all known creek crossings and historical trouble spots are checked first, then
 14 more aggressive use of the listening devices would be implemented, until the leaks are
 15 discovered.

16 **Q14. DOES WSCK CURRENTLY HAVE ANY ISSUES REGARDING ITS WATER**
 17 **QUALITY?**

18 A14. No. In fact, during our 2019 annual customer meeting, there were a few customers that
 19 stated we really have great tasting water, and those customers have never seen any issues

1 nor raised any complaints about the water quality. WSCK staff takes pride in the water
2 quality. We are currently in compliance with state water quality standards.

3 **Q15. PLEASE SUMMARIZE ANY CUSTOMER COMPLAINTS RECEIVED WITHIN**
4 **THE LAST 18 MONTHS.**

5 A15. During the last 18 months, WSCK has received 15 water quality complaints related to
6 discoloration or taste and odor concerns. The discoloration may have been due to possible
7 iron leaching from unlined cast-iron water mains.

8 **Q16. PLEASE DESCRIBE WHAT ACTIONS WERE TAKEN TO RECTIFY THESE**
9 **WATER QUALITY SITUATIONS?**

10 A16. In 14 of the instances, water was flushed to clear up the water. The remaining instance, no
11 problem was found. An ongoing, more stringent flushing plan is in place for problematic
12 areas. One particular area in Clinton, an automatic flusher was installed, to flush on a more
13 frequent basis with minimizing water used.

14 **Q17. PLEASE DISCUSS THE COMPANY'S ASSET MANAGEMENT PROGRAM AND**
15 **ITS IMPORTANCE.**

16 A17. The Company continues to develop and refine its Asset Management Program (AMP)
17 which is a comprehensive approach to assessing system asset conditions, risk, preventative
18 maintenance, and capital improvements. The AMP allows the Company to look at the
19 system in its entirety rather than taking a narrow view of components that may not fully
20 capture essential actions required for capital improvements. The AMP incorporates the
21 Condition Assessment Report and resultant remediation plan from the water storage tank
22 inspections and hydrant inspections to provide operational input for cost savings through

1 more informed capital action. The AMP will further assess individual pumps, treatment
2 equipment and other vertical assets for current real condition, best maintenance practices,
3 and expected life cycle timelines for the assets. Information developed in the AMP will be
4 added to the new Operations Management System (OMS) software tool that aids in
5 maintenance planning, work orders, asset information [such as age, condition, consequence
6 of failure, and expected life cycle], and other operationally relevant data. Implementation
7 of the AMP is intended to allow more proactive strategies for system maintenance and
8 upgrade and greater prioritization, which will ultimately reduce expenditures through
9 reducing unanticipated needs.

10

11 **Q18. DOES WSCK PROPOSE PRO FORMA ADJUSTMENTS TO ITS OPERATING**
12 **EXPENSES?**

13 A18. Yes, the Company is proposing to include hydrant maintenance expense and amortization
14 costs related to the following:

- 15 • Hydrant Assessment and Maintenance Program
- 16 • Middlesboro Tank Reconditioning Project
- 17 • Clinton Tank Reconditioning Project

18 **Q19. PLEASE DESCRIBE THE HYDRANT ASSESSMENT AND MAINTENANCE**
19 **PROGRAM.**

1 A19. This is an annual program where a third-party hydrant service firm will be performing
2 flushing, flow testing, service recording compilation, operation and maintenance of each
3 hydrant, including:

- 4 Repair difficult and/or hard to turn hydrants.
- 5 Service hydrant bonnet and nozzles.
- 6 Greasing.
- 7 Fill oil reservoir (if applicable).
- 8 Replace O-rings as needed for routine maintenance.
- 9 Thorough inspection.

10 The hydrant service firm is also able to complete full or partial hydrant replacement to
11 help ensure all hydrants are in their best operating condition. Proper operation of hydrants
12 is important to provide adequate system flushing, which removes sediment from the
13 distribution network, as well as allow for use for firefighting.

14 There are approximately 366 hydrants in Middlesboro and 56 hydrants in Clinton.

15
16 **Q20. PLEASE DESCRIBE THE MIDDLESBORO TANK RECONDITIONING**
17 **PROJECT.**

18 A20. The Middlesboro water system has two 1,250,000 gallon-ground storage tanks at the water
19 treatment plant, referred to as Tank #1 and Tank #2. The tanks were built in 1978 and 1997,
20 respectively. Reconditioning work was last performed on Tank #1 in 2005 when it was
21 spot blasted and painted. Reconditioning work was last performed on Tank #2 in 2004
22 when it had lead abatement efforts performed on the outside of the tank, whereby the paint
23 was stripped to bare metal and repainted with primer and two topcoats.

24

1 The Middlesboro water system also has a 15,000-gallon standpipe that provides storage for
2 the Beans Fork Road service area. The standpipe was constructed in 2008. The standpipe
3 has not previously required any reconditioning work.

4 In order to provide prudent management of the tanks, the Company engaged Dixon
5 Engineering (Dixon), a professional engineering firm specializing in tank inspections, to
6 inspect each of the three tanks. The inspection reports are provided as Attachment SV-1A
7 to SV-1C.

8 Upon internal review of the inspection report, the Company generally concurred with
9 Dixon's assessment of the recommended reconditioning work for the tanks (included in the
10 inspection reports). The Company finds that the overflow system for Tank #1 and Tank #2
11 is operating well. If needed, the work recommended for the overflow systems could be
12 completed in-house. The Company bid full installation of a cathodic protection system as
13 an alternate for each tank (Tank #1 and Tank #2) to determine the cost, instead of simply
14 installing clips and pressure fitting as originally recommended by Dixon. A cathodic
15 protection system is anticipated to extend the useful service life of the tanks. Per the
16 engineering inspection report, the recommended reconditioning work of Tank #1 and Tank
17 #2 should be completed in the next one to two years (as of July 2018). The standpipe work
18 could be completed in 5 years, however, due to the small size of the project, it is favorable
19 to bid and complete the project along with the two larger tanks as a single project, to
20 minimize mobilization and contract administration costs.

21 The interior recoat will extend the useful service life of the tanks by repairing rust bleed
22 through and spot failures. The repair/installation of various appurtenances will improve the
23 safety and functionality of the tanks, including fall prevention devices, wet interior ladder,

1 and step off platform/railings. The exterior overcoat will extend the life of exterior coating.
2 The roof stiffeners may need to be replaced, which will be determined after abrasive
3 blasting to determine the condition. Dixon's Engineer's Estimate of Probable Cost (EOPC)
4 for Tank #1, Tank #2, and the standpipe were \$400,000, \$424,000, and \$47,000,
5 respectively.

6 In April 2020, the Company engaged Dixon to prepare specifications for reconditioning of
7 the three Middlesboro tanks. The bidding documents are provided as Attachment SV-2. On
8 May 11, 2020, Dixon sent the bidding documents to contractors and plan rooms for
9 bidding. Bids are due on June 5, 2020. The Company plans to file an amendment to this
10 testimony providing the bid results and total project costs.

11
12 **Q21. PLEASE DESCRIBE THE CLINTON TANK RECONDITIONING PROJECT.**

13 A21. The Clinton Standpipe (200,000-gallon standpipe) and Reservoir (30,000-gallon ground
14 storage tank) will be reconditioned in accordance with the inspection reports prepared by
15 Dixon in October 2019 and November 2019, respectively. The inspection reports are
16 provided as Attachments SV-3A and SV-3B.

17 Upon internal review of the inspection report, the Company generally concurred with
18 Dixon's assessment of the recommended reconditioning work for the tanks (included in
19 inspection reports). The Company bid full installation of a cathodic protection system as
20 an alternate for the standpipe to determine the cost, instead of simply installing clips and
21 pressure fitting as originally recommended by Dixon. A cathodic protection system is
22 anticipated to extend the useful service life of the tanks. Per the engineering inspection
23 report, the recommended reconditioning work of the tanks should be completed in the next

1 1-2 and 2-3 years for each tank (as of late 2019). Dixon’s EOPC for the Standpipe and
2 Reservoir were \$144,000 and \$20,000, respectively.

3 In April 2020, the Company engaged Dixon to prepare specifications for reconditioning of
4 the two Clinton tanks. In early June 2020, Dixon will send the bidding documents to
5 contractors and plan rooms for bidding. Bids are due on June 25, 2020. The Company plans
6 to file an amendment to this testimony providing the bid results and total project costs.

7

8 **Q22. DOES WSCK PROPOSE CHANGES OR MODIFICATION TO IS TARIFF?**

9 A22. Yes, in addition to the proposed change to rate designs, WSCK proposes to include a
10 wholesale water rate in the Company’s tariff.

11

12 **Q23. WHAT CHANGE IS THE COMPANY PROPOSING TO ITS WHOLESALE**
13 **RATE?**

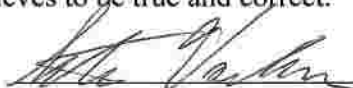
14 A23. At present, there is not a wholesale water rate listed in the Company’s tariff. However, the
15 Company has an agreement in place with an interconnected city. The neighboring city of
16 Pineville has an interconnect with our Middlesboro system and infrequently will need to
17 draw on our water supply in emergency situations. The wholesale rate is proposed to equal
18 the marginal cost of production for the Company, which we have updated as \$2.20. This
19 was determined by review of costs deemed as marginal and compared to usage within the
20 test year.

21 **Q24. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

22 A24. Yes, it does.

AFFIDAVIT

The undersigned, Stephen R. Vaughn., being duly sworn, deposes and says that he is the State Manager for the Water Service Corporation of Kentucky, within Utilities, Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.



Stephen R. Vaughn., Affiant

NOTARY CERTIFICATE

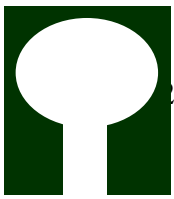
STATE OF _____

COUNTY OF _____

Subscribed, acknowledged and sworn to before me by _____ on
this _____ day of _____, 2020.

My commission expires: _____.

NOTARY PUBLIC



SV-1A

July 12, 2018

Mr. John Norton
Water Service Corporation of Kentucky
1217 Cumberland Ave.
P.O. Box 818
Middlesboro, KY 40965

Subject: 1,250,000 Gallon Ground Storage Tank #1 Inspection

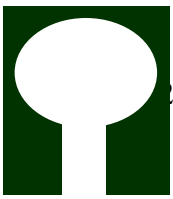
Dear Mr. Norton,

On June 19, 2018 Dixon completed a preliminary maintenance inspection of the 1,250,000 gallon ground storage tank #1. The purpose of the inspection was to evaluate the interior and exterior coating's performance and life expectancy, assess the condition of metal surfaces and appurtenances, and review safety and health aspects. The inspection was performed by Kyle Lay, Engineering Technician. The inspector was assisted by Larry Houck, Staff Technician. The inspection included the exterior coating and the wet interior coating above the high water line (roof and upper sidewall).

The inspection showed the exterior coating is in good condition overall. The coating is beginning to chalk and fade and there is loss of gloss. Surfaces have faded due to exposure to ultraviolet light, which is a normal occurrence for an exterior coating system. There are approximately 50 small areas of rust bleedthrough on the roof. The wet interior coating is poor condition overall. There is moderate corrosion on the roof stiffener edges and extensive rust bleedthrough and spot coating failures throughout the roof and upper sidewall. The coatings are 13 years old.

Complete the recommended work in 1-2 years.

1. High pressure water clean, spot power tool clean , and coat the exterior with a polyurethane system. The estimated cost is \$90,000.
2. Abrasive blast clean the wet interior to a near-white metal (SSPC-SP10) condition and apply a three-coat epoxy system. The estimated cost is \$220,000.
3. Install clips and a pressure fitting for future installation of a submerged cathodic protection system. The estimated cost is \$4,000.
4. Coat the foundation to help prevent deterioration. Cost would be incidental to exterior coating.



DIXON ENGINEERING, INC.

1104 Third Ave.
Lake Odessa, MI 48849
Telephone (616) 374-3221
Fax (616) 374-7116

5. Install additional rigging couplings on the roof for temporary fall prevention of workers in the wet interior. Cost would be incidental to the next paint project.
6. Install a screened flap gate on the overflow pipe discharge. The estimated cost is \$2,000.
7. Install a catch basin under the discharge end of the overflow pipe to prevent soil erosion and possible undermining of the foundation. The estimated cost is \$5,000.
8. Install a swing gate at the ladder step-off on the roof. The estimated cost is \$2,000.
9. Replace the corroded stiffeners on the interior roof (contingency). The estimated cost is \$22,000.

COST SUMMARY TANK 1:

Exterior overcoat	\$90,000
Wet Interior Recoating	220,000
Cathodic protection clips and coupling	4,000
Overflow flap gate	2,000
Overflow catch basin	5,000
Swing gate at step-off	2,000
Interior roof stiffener repairs (contingency)	<u>22,000</u>
Subtotal	\$345,000
Engineering and Contingencies	<u>\$55,000</u>
Total	\$400,000

If you have any questions regarding this inspection, please contact project manager, Kayla Mulcahy at (414)-529-1859 ext.103.

FOR DIXON ENGINEERING, INC.,

John Watson
Staff Technician

Cc: Kayla Mulcahy

**Members: Steel Structures Council
American Water Works Association
Consulting Engineers Council**

DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
RESERVOIR TANK

DATE: **June 19, 2018**

OWNER: **Water Service Corporation of Kentucky**

CLIENT CODE: **17-07-66-01**

TANK NAME: **Tank #1**

LOCATION: Street: **102 Water Plant Rd.**

City: **Middlesboro**

State: **Kentucky**

TANK SIZE: Capacity: **1,250,000 gallons**

Tank Diameter: **75 feet (from nameplate)**

Height to overflow (HWL): **38 feet 8 inches (from nameplate)**

Sidewall height: **40 feet (estimated)**

CONSTRUCTION: **Welded**

Type: **Reservoir**

Type of roof: **Hemisphere**

DATE CONSTRUCTED: **1997**

MANUFACTURER: **Pitt-Des Moines**

CONTRACT NUMBER: **57183**

COATING HISTORY	EXTERIOR	WET INTERIOR
DATE LAST COATED	<u>2005</u>	<u>Spot 2005</u>
CONTRACTOR	<u>Unknown</u>	<u>Unknown</u>
COATING SYSTEM	<u>Urethane</u>	<u>Presumed Epoxy</u>
SURFACE PREPARATION	<u>SSPC-SP11</u>	<u>SSPC-SP10</u>
COATING MANUFACTURER	<u>Unknown</u>	<u>Unknown</u>
HEAVY METAL COATING SAMPLES	<u>No</u>	<u>No</u>
HEAVY METAL BEARING	<u>No</u>	<u>No</u>

PERSONNEL: Inspector Kyle Lay, Top person Larry Houck,
TYPE OF INSPECTION: Preliminary Maintenance
METHOD OF INSPECTION: Float
DATE LAST INSPECTED: Unknown-done by others

SITE CONDITIONS

Fenced: Yes
Site large enough for contractor's equipment: Yes
Control building: No
Antenna control site: No
Neighborhood: Open/Woods and WTP site
Power lines within 50 feet: No
Site drainage: Toward tank (southwest side) and away from tank
Indications of underground leakage: No
Shrub, tree, etc. encroachment: No

EXPOSED PIPING:

N/A

FOUNDATION

Foundation exposed: Yes
Exposed height: 1-16 inches
Exposed foundation condition: Good
Damage or deterioration: No
Foundation coated: No
Type of baseplate gap filler: Grout
Condition: Good
Amount missing: 0 feet
Undermining of foundation: No
Foundation comments: Foundation is constructed of stone with a layer of 3 inch concrete on top of it.

EXTERIOR COATING

Sidewall:

Logo: Yes
Number: 1
Estimated Size: 12x30 feet
Describe logo: UTILITIES, INC.
Topcoat condition: Good
Previous system condition: Good
Describe coating: No significant coating deterioration

EXTERIOR COATING

Dry film thickness: **12-15 mils**

Coating adhesion: **5A**

Panel connections: **Welded**

Metal condition: **Good**

Roof:

Topcoat condition: **Fair**

Previous system condition: **Fair**

Describe coating: **Fading, erosion, and rust bleedthrough**

Dry film thickness: **10-15 mils**

Coating adhesion: **Not taken**

Metal condition: **Good**

Roof comments: **40-50 patches of rust bleedthrough, playing card size and smaller.**

EXTERIOR APPURTENANCES

Sidewall manway:

Number: **2**

Size: **30 inches**

Hinged: **Yes**

Coating condition: **Good**

Metal condition: **Good**

Anchor bolts:

N/A

Overflow pipe:

Diameter: **8 inches**

Coating condition: **Good**

Metal condition: **Good**

Condition of screen: **Good**

Percent of screen open: **100**

Mesh size: **4**

Flap gate: **No**

Air gap: **Yes**

Highest part of discharge to the ground distance: **10 inches**

Splash pad: **Yes**

Type: **Storm drain**

Condition: **Good**

EXTERIOR APPURTENANCES

Overflow comments: **There is a screen on discharge pipe and catch basin.**

Mud valve:

N/A

Level Indicator (mechanical):

N/A

Sidewall ladder:

Height to start of ladder: **10 feet**
Toe clearance: **7 inches or greater**
Width of rungs: **16 inches**
Thickness of rungs: **¾ inch**
Shape of rungs: **Rebar**
Coating condition: **Good**
Metal condition: **Good**
Fall prevention device: **Yes**
 Type: **Rail**
 Function Properly: **Yes**
Cage: **Yes**
 Diameter: **27 inches (tombstone)**
Vandal guard: **Yes**
 Condition: **Good**

Step-off platform:

Dimensions: **7 x 3 feet**
Railing height: **42 inches**
Midrail height: **22 inches**
Toe plate height: **4 inches**
Coating condition: **Good**
Metal condition: **Good**

Balcony:

N/A

Roof steps:

Coating condition: **Good**
Metal condition: **Good**
Fall prevention device: **No**

EXTERIOR APPURTENANCES

Roof ladder comments: **24 inch wide with diamond plate.**

Roof handrail:

At the sidewall at sidewall ladder: **Yes**

Location: **One side of ladder**

Along roof to the center: **Yes**

Location: **Both sides (distance between 24 inches)**

Circular section: **Yes**

Diameter: **13 feet**

Railing height: **42 inches**

Midrail height: **23 inches**

Kick plate height: **4 inches**

Vertical post Type: **Angle**

Size: **2½ x 2½ inches**

Top Rail Type: **Angle**

Size: **2½ x 2½ inches**

Midrail Type: **Plate**

Size: **2½ inches**

Coating condition: **Poor**

Metal condition: **Good**

Roof handrail comments: **Topcoat delamination and edge failures throughout. Six inch beyond step-off platform.**

Painter's rail:

N/A

Roof rigging points:

Number: **13**

Couplings covered: **Yes**

Coating condition: **Good**

Metal condition: **Good**

Removable cathodic caps:

N/A

Wet Interior Roof Hatch:

Neck size: **24 x 24 inches**

Distance from center of the tank (to outer edge): **At edge**

Shape: **Square**

Handhold at opening: **No**

EXTERIOR APPURTENANCES

Hatch security: **Lock**

Outside coating condition: **Fair**

Inside coating condition: **Fair**

Metal condition: **Good**

Hatch comments: **Failures and steel flaking in manway neck.**

Secondary Wet Interior Roof Hatches:

N/A

Bolted ventilation hatch:

N/A

Roof vent:

Number: **1**

Type: **Screened pressure-vacuum**

Neck diameter: **24 inches**

Flange opening diameter: **24 inches**

Coating condition: **Not coated**

Metal condition: **Good**

Screen condition: **Good**

Condition of screen: **Good**

Mesh size: **Perforated**

Pressure plate free to move: **Yes**

Vent comments: **Rusting present under vent, source unknown (perhaps pressure plate hardware).**

Aviation lights:

N/A

Antennas:

N/A

Aluminum Geodesic Dome:

N/A

Electrical:

N/A

WET INTERIOR COATING

Roof:

Topcoat condition: Poor

Primer coating condition: Poor

Describe coating: Spot coating failures to substrate, rust undercutting, and rust bleedthrough

Metal condition: Good

Lap seams: Welded

Condition of laps: Good

Upper sidewall:

Topcoat condition: Poor

Primer coating condition: Poor

Describe coating: Rust bleedthrough

Metal condition: Good

Active pitting: No

WET INTERIOR APPURTENANCES

Tank ladder:

N/A

Cathodic protection:

N/A

Roof stiffeners:

Orientation: Radial (x1) and traverse (x2)

Center support design: Channel

Stiffener connection at center support: Welded

Connection Condition: Poor

Number of stiffener support rings: 0

Number of inner ring stiffeners: 34

Stiffener Shape: Angle

Dimensions: 3 x 4 inches x 35 ft. long (estimated)

Stiffener Condition: Good

Connection at support ring: Welded

Connection Condition: Fair

Roof stiffener comments: Some steel flaking at the sidewall connection.

Sidewall stiffener:

N/A

WET INTERIOR APPURTENANCES

Columns:

N/A

Interior platform:

N/A

Overflow pipe:

Type: Funnel

Coating condition: Poor

Metal condition: Fair

Overflow comments: Steel flaking.

Fill pipe:

Diameter: 18 inches

Height above floor: 30 feet (estimated)

Configuration: Routes up wall

One way valves present: Yes

Deflector on end: Yes

Mixing system: Yes

Type: Dispersal tree

Coating condition: Fair

Metal condition: Good

Separate draw pipe:

Diameter: 20 inches

Draw pipe comments: Enters tank thru sidewall on northern end.

Baffle wall:

N/A

Spider Rods:

N/A

Field Inspection Report is prepared from the contractor's viewpoint. It contains information the contractor needs to prepare his bid for any repair or recoating. The engineer uses it to prepare the engineering report. Cost estimates are more accurate if the contractor's problems can be anticipated. While prepared from the contractor's viewpoint, the only intended beneficiary is the owner. These reports are completed with diligence, but the accuracy is not guaranteed. The contractor is still advised to visit the site.

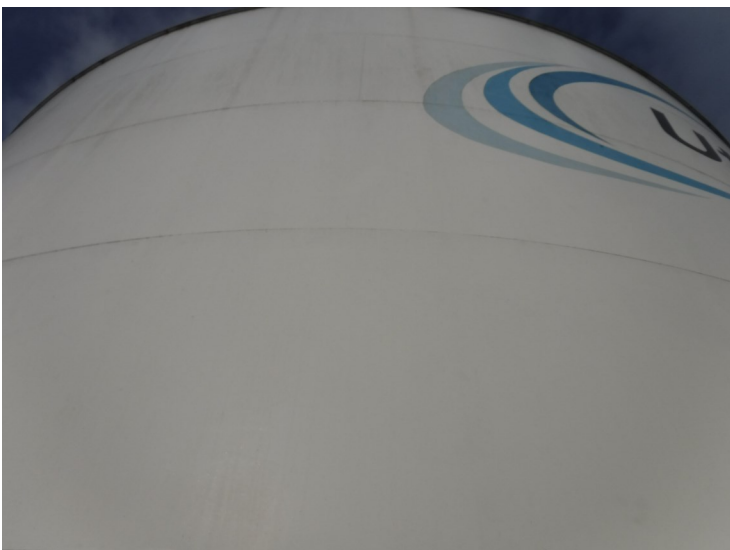


1,250,000 gallon ground storage tank #1 owned by Water Service Corporation of Kentucky located in Middlesboro, Kentucky.



1) The foundation is in good condition.

2) There is no significant coating deterioration on the sidewall.



3) Same.



4) The sidewall manway is in good condition.

5) The overflow pipe discharges to a drain line that runs underground.



6) The overflow pipe discharge screen partially plugged with debris.



7) Grass clippings covering the drain line screen.

8) Sidewall ladder with rail type fall prevention device.

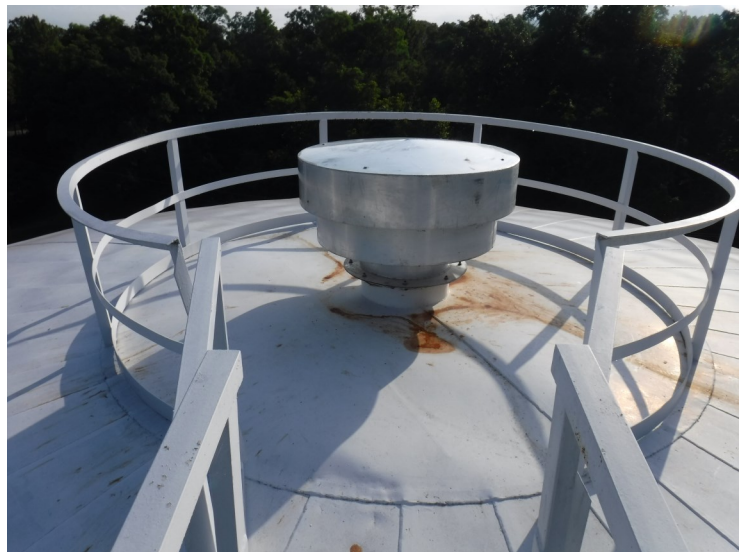


9) Step-off platform at the top of the sidewall.



10) Handrail and stairs leading to the center of the roof.

11) The frost free pressure vent is in good condition.



12) The vent pressure plate is aligned.



13) Rust staining around the vent neck.

14) Rust bleedthrough on the roof.

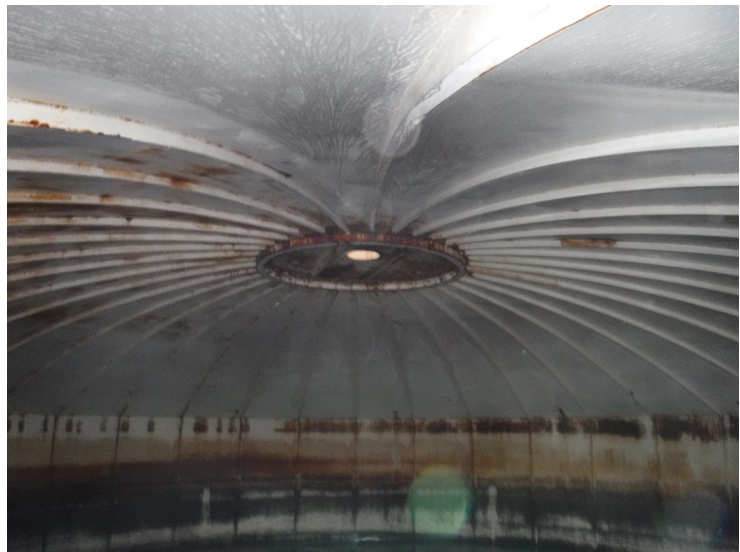


15) Same.



16) The wet interior hatch is in good condition.

17) Rust bleedthrough and spot coating failures on the roof stiffener beams.



18) Same.

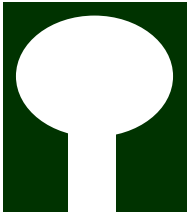


19) Rust bleedthrough along the upper sidewall.

20) Same.



21) Coating failures on the overflow funnel.



DIXON

**ENGINEERING & INSPECTION SERVICES
FOR THE COATING INDUSTRY**

1104 Third Avenue
Lake Odessa, MI 48849
Telephone: (616) 374-3221
Fax: (616) 374-7116

July 23, 2018

SV-1B

Mr. John Norton
Water Service Corporation of Kentucky
2335 Sanders Road
Northbrook, IL 60062

Subject: 1,250,000 Gallon Ground Storage Tank #2 Inspection

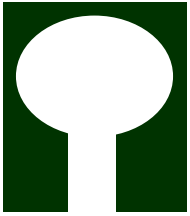
Dear Mr. Norton,

On June 19, 2018 Dixon completed a preliminary maintenance inspection of the 1,250,000 gallon ground storage tank #2. The purpose of the inspection was to evaluate the interior and exterior coating's performance and life expectancy; assess the condition of metal surfaces and appurtenances; and review safety and health aspects. The inspection was performed by Kyle Lay, Engineering Technician. The inspector was assisted by Larry Houck, Staff Technician. The inspection included the exterior coating and the wet interior coating above the high water line (roof and upper sidewall).

The inspection showed the exterior coating is in good condition overall. The coating is beginning to chalk and fade and there is loss of gloss. Surfaces have faded due to exposure to ultraviolet light, which is a normal occurrence for an exterior coating system. There is no significant coating deterioration. The wet interior coating is in fair to poor condition overall. There is moderate corrosion on the roof stiffener edges and extensive rust bleedthrough throughout the roof and upper sidewall. The coatings are 14 years old. Current adhesion shows the exterior coating system could support an overcoat at this time. Once the adhesion degrades, overcoating will no longer be an option.

Complete the recommended work in 1-2 years.

1. High pressure water clean, spot power tool clean, and coat the exterior with a polyurethane system. The estimated cost is \$90,000. For reference, the estimated cost to abrasive blast clean and recoat with containment is \$210,000.
2. Abrasive blast clean the wet interior to a near-white metal (SSPC-SP10) condition and apply a three-coat epoxy system. The estimated cost is \$220,000.
3. Install clips and a pressure fitting for future installation of a submerged cathodic protection system. The estimated cost is \$4,000.



DIXON

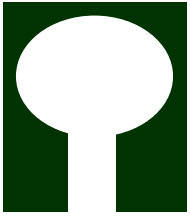
**ENGINEERING & INSPECTION SERVICES
FOR THE COATING INDUSTRY**

1104 Third Avenue
Lake Odessa, MI 48849
Telephone: (616) 374-3221
Fax: (616) 374-7116

4. Repair areas of missing or damaged grout between the steel baseplate and the concrete foundation. The estimated cost is \$3,000.
5. Coat the foundation to help prevent deterioration. Cost would be incidental to exterior coating.
6. Install additional handrail section that extends to the center of the roof. The estimated cost is \$12,000.
7. Install rigging couplings on the roof for temporary fall prevention of workers in the wet interior. Cost would be incidental to the next coating project.
8. Install a screened flap gate on the overflow pipe discharge. The estimated cost is \$2,000.
9. Install a catch basin under the discharge end of the overflow pipe to prevent soil erosion and possible undermining of the foundation. The estimated cost is \$5,000.
10. Install a swing gate at the ladder step-off on the roof. The estimated cost is \$2,000.
11. Install a 30 inch diameter sidewall manway. The estimated cost is \$9,000.
12. Replace the corroded stiffeners on the interior roof (contingency). The estimated cost is \$22,000.

COST SUMMARY TANK 2:

Exterior overcoat	\$90,000
Wet Interior Recoating	220,000
Cathodic protection clips and coupling	4,000
Repair damaged grout	3,000
Additional hand railing on roof	12,000
Overflow flap gate	2,000
Overflow catch basin	5,000
Swing gate at step-off	2,000
30 inch sidewall manway	9,000
Interior roof stiffener repairs (contingency)	22,000
Subtotal	<u>\$369,000</u>
Engineering and Contingencies	<u>\$55,000</u>
Total	<u>\$424,000</u>



DIXON

**ENGINEERING & INSPECTION SERVICES
FOR THE COATING INDUSTRY**

1104 Third Avenue
Lake Odessa, MI 48849
Telephone: (616) 374-3221
Fax: (616) 374-7116

If you have any questions regarding this inspection, please contact project manager, Kayla Mulcahy at (414) 429-3430.

FOR DIXON ENGINEERING, INC.,

John Watson
Staff Technician

Cc: Kayla Mulcahy

DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
RESERVOIR TANK

DATE: **June 19, 2018**

OWNER: **Water Service Corporation of Kentucky**

CLIENT CODE: **17-07-66-02**

TANK NAME: **Tank #2**

LOCATION: Street: **102 Water Plant Rd.**

City: **Middlesboro**

State: **Kentucky**

TANK SIZE: Capacity: **1,250,000 gallons**

Tank Diameter: **74 feet (from nameplate)**

Height to overflow (HWL): **41 feet (from nameplate)**

Sidewall height: **42 feet (estimated)**

CONSTRUCTION: **Welded**

Type: **Reservoir**

Type of roof: **Cone**

DATE CONSTRUCTED: **1978**

MANUFACTURER: **CB&I**

CONTRACT NUMBER: **81853**

COATING HISTORY	EXTERIOR	WET INTERIOR
DATE LAST COATED	<u>2004</u>	<u>2004</u>
CONTRACTOR	<u>Unknown</u>	<u>Unknown</u>
COATING SYSTEM	<u>Urethane</u>	<u>Presumed Epoxy</u>
SURFACE PREPARATION	<u>Presumed SSPC-SP6</u>	<u>Presumed SSPC-SP10</u>
COATING MANUFACTURER	<u>Unknown</u>	<u>Unknown</u>
HEAVY METAL COATING SAMPLES	<u>No</u>	<u>No</u>
HEAVY METAL BEARING	<u>No</u>	<u>No</u>

PERSONNEL: Inspector Kyle Lay, Top person Larry Houck,
TYPE OF INSPECTION: Preliminary Maintenance
METHOD OF INSPECTION: Float
DATE LAST INSPECTED: Unknown-done by others

SITE CONDITIONS

Fenced: Yes
Site large enough for contractor's equipment: Yes
Control building: No
Antenna control site: No
Neighborhood: Open/Woods and WTP grounds
Power lines within 50 feet: No
Site drainage: Toward tank(southern side) and Away from tank(rest)
Indications of underground leakage: No
Shrub, tree, etc. encroachment: No
Site Comments: Tank #1 to the east approximately 35 feet.

EXPOSED PIPING:

N/A

FOUNDATION

Foundation exposed: Yes
Exposed height: 1-5 inches
Exposed foundation condition: Fair
Damage or deterioration: Yes
 Type of damage: Chips
 Severity: Minor
Foundation coated: No
Type of baseplate gap filler: Grout
 Condition: Fair
 Amount missing: 60-80 feet
Undermining of foundation: No
Foundation comments: Foundation appears aged, but good. Grout is missing or loose randomly.

EXTERIOR COATING

Sidewall:

Lettering: No
Logo: No
Topcoat condition: Good
Previous coat condition: Good

EXTERIOR COATING

Describe coating: **No significant coating deterioration**

Dry film thickness: **6-11 mils**

Coating adhesion: **4A**

Panel connections: **Welded**

Metal condition: **Good**

Roof:

Topcoat condition: **Good**

Previous coat condition: **Good**

Describe coating: **Fading and erosion**

Dry film thickness: **7-13 mils**

Coating adhesion: **Not taken**

Metal condition: **Good**

Roof comments: **Coating is fully intact, but looks aged. Some humps visible on roof panels.**

EXTERIOR APPURTENANCES

Pilaster access door:

Size: **19 x 81 inches**

Coating condition: **Good**

Metal condition: **Good**

Sidewall manway:

Number: **1**

Size: **24 inches**

Hinged: **Yes**

Coating condition: **Good**

Metal condition: **Good**

Anchor bolts:

N/A

Overflow pipe:

Diameter: **8 inches**

Coating condition: **Good**

Metal condition: **Good**

Condition of screen: **Good**

Percent of screen open: **85**

Mesh size: **4**

Flap gate: **No**

EXTERIOR APPURTENANCES

Air gap: **Yes**

Highest part of discharge to the ground distance: **10 inches**

Splash pad: **Yes**

Type: **Storm drain**

Condition: **Good**

Overflow comments: **Paint on overflow screen. Screen on discharge pipe as well as catch basin.**

Mud valve:

N/A

Sidewall ladder:

Height to start of ladder: **Ground level**

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **3/4 inch**

Shape of rungs: **Diamond**

Coating condition: **Good**

Metal condition: **Good**

Fall prevention device: **Yes**

Type: **Rail**

Function Properly: **Yes**

Cage: **Yes**

Diameter: **27 inches**

Step-off platform:

N/A

Balcony:

N/A

Roof handrail:

At the sidewall at sidewall ladder: **Yes**

Location: **Both sides of ladder (5 feet each way, 2 1/2 x 2 1/2 inch kicker at ends)**

Alongroof to the center: **No**

Circular section: **No**

Railing height: **42 inches**

Midrail height: **21 inches**

Kick plate height: **4 inches**

EXTERIOR APPURTENANCES

Vertical post Type: **Angle**

Size: **3 x 3 inches by ladder, 2 1/2 x 2 1/2 on outside**

Top Rail Type: **Angle**

Size: **2 1/2 x 2 1/2 inches**

Midrail Type: **Angle**

Size: **2 1/2 x 2 1/2 inches**

Coating condition: **Good**

Metal condition: **Good**

Painter's rail:

N/A

Roof rigging points:

Number: **1 lug near vent**

Coating condition: **Fair**

Metal condition: **Good**

Rigging comments: **In zinc, no paint.**

Removable cathodic caps:

N/A

Wet Interior Roof Hatch:

Neck size: **24 x 24 inches**

Distance from center of the tank (to outer edge): **At edge**

Shape: **Square**

Handhold at opening: **No**

Hatch security: **Lock**

Outside coating condition: **Good**

Inside coating condition: **Good**

Metal condition: **Good**

Hatch comments: **Manway neck is in poor condition.**

Secondary Wet Interior Roof Hatches:

N/A

Bolted ventilation hatch:

N/A

EXTERIOR APPURTENANCES

Roof vent:

Number: **1**
Type: **Screened pressure-vacuum**
Neck diameter: **22 inches**
Flange opening diameter: **22 inches**
Coating condition: **Not coated**
Metal condition: **Good**
Screen condition: **Good**
Condition of screen: **Good**
 Mesh size: **Perforated**
 Pressure plate free to move: **Yes**
Vent comments: **Vent neck left in zinc primer.**

Aviation lights:

N/A

Antennas:

N/A

Electrical:

N/A

WET INTERIOR COATING

Roof:

Topcoat condition: **Poor**
Primer coating condition: **Poor**
Describe coating: **Spot coating failures to substrate and rust bleedthrough**
Metal condition: **Good**
Lap seams: **Open**
 Condition of laps: **Good**

Sidewall: (above high water line)

Topcoat condition: **Fair**
Primer coating condition: **Fair**
Describe coating: **Rust bleedthrough and cracking paint**
Metal condition: **Good**
Sidewall comments: **Below high water line mineral deposits moderate**

WET INTERIOR APPURTENANCES

Tank ladder:

Toe clearance: 7 inches or greater

Width of rungs: 16 inches

Thickness of rungs: 3/4 inch

Shape of rungs: Diamond

Shape of side rails: Flat

Coating condition: Poor

Metal condition: Good

Fall prevention device: No

Ladder comments: Signs of an old ladder visible (standoff brackets).

Cathodic protection:

N/A

Roof stiffeners:

Orientation: Radial

Center support design: Channel-similar to wheel with spokes

Stiffener connection Condition: Good

Stiffener Shape: I-beam

Dimensions: 4 x 10 inches x 32-35 ft. long (estimated)

Stiffener Condition: Good

Connection at wall: Welded with lugs

Roof stiffener comments: Rust bleedthrough throughout. Coating loss to substrate at beam, lug, and wall connections.

Sidewall stiffener:

N/A

Column:

Center column shape: Round

Dimensions: 12 inches (estimated)

Coating condition: Fair

Metal condition: Good

Column comments: Rust bleedthrough above high water line

Interior platform:

N/A

Overflow pipe:

Type: Funnel

WET INTERIOR APPURTENANCES

Coating condition: **Fair**

Metal condition: **Good**

Fill pipe:

Diameter: **18 inch diameter**

Height above floor: **Unknown**

Configuration: **Routes across floor**

Fill pipe comments: **Enters through sidewall on exterior, somewhat visible through water.**

Baffle wall:

N/A

Spider Rods:

N/A

Field Inspection Report is prepared from the contractor's viewpoint. It contains information the contractor needs to prepare his bid for any repair or recoating. The engineer uses it to prepare the engineering report. Cost estimates are more accurate if the contractor's problems can be anticipated. While prepared from the contractor's viewpoint, the only intended beneficiary is the owner. These reports are completed with diligence, but the accuracy is not guaranteed. The contractor is still advised to visit the site.

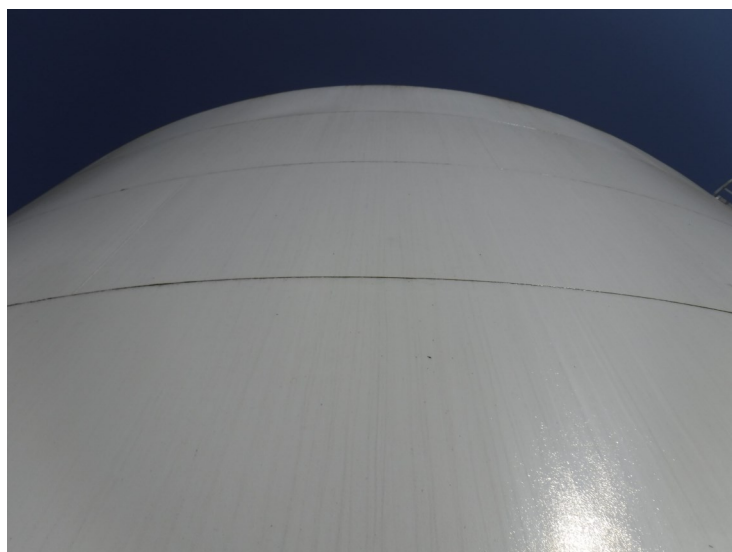


1,250,000 gallon ground storage tank #2 owned by Water Service Corporation of Kentucky in Middlesboro, Kentucky.



1) Loose and missing grout between the baseplate and foundation.

2) Same.



3) There is no significant coating deterioration on the sidewall.



4) Same.

5) The overflow pipe discharges to a drain line that runs underground.



6) The overflow pipe discharge screen is partially plugged with debris.



7) Hinged sidewall manway for tank entry.

8) The vandal guard is in good condition.



9) Sidewall ladder with rail-type fall prevention device.

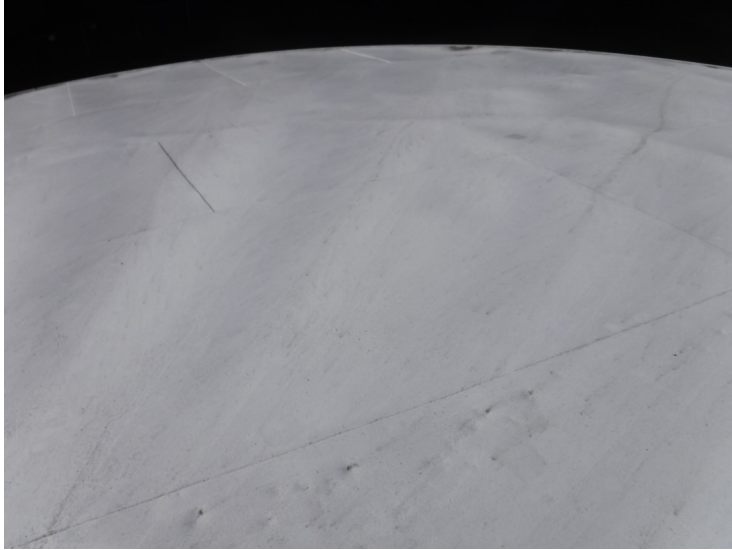


10) Roof handrail at the top of the ladder.

11) The frost free pressure vent is in good condition.



12) The vent pressure plate is aligned.



13) There is no significant coating deterioration on the roof.

14) Same.



15) Rust bleedthrough on the wet interior hatch curb.



16) Extensive rust bleedthrough on the roof.

17) Extensive rust bleedthrough on the roof stiffener beams.



18) Edge corrosion on the roof stiffener beams.



19) Same.

20) Rust bleedthrough on the center column.

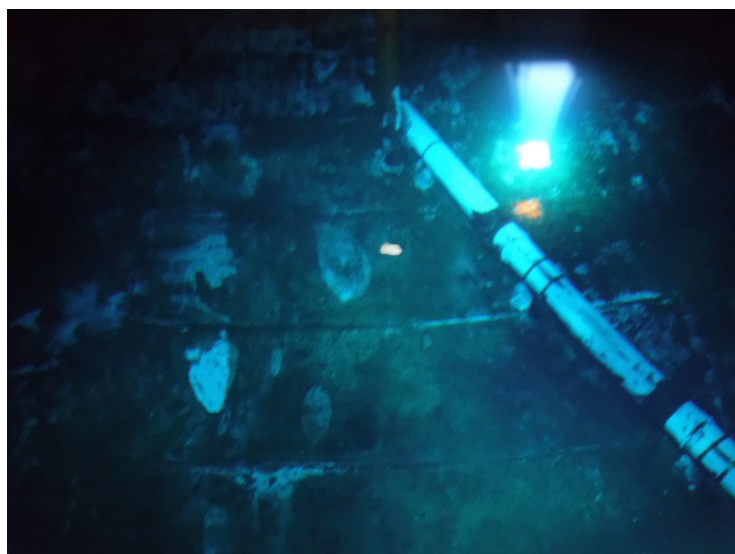


21) Extensive rust bleedthrough on the upper sidewall.



22) Spot coating failures on the upper sidewall.

23) Wet interior ladder with rust bleedthrough and spot coating failures.



24) Piping visible through the water.

SV-1C

Dixon Engineering, Inc.

Preliminary Maintenance Inspection

15,000 Gallon Steel Standpipe
(Middlesboro)

Water Service Corp. of Kentucky
Middlesboro, Kentucky

Inspection Performed: August 13, 2019
Reviewed by Joseph T. Hoban P.E.: October 19, 2019

Dixon Engineering, Inc.
4811 S. 76th St. Ste. 109, Greenfield, WI 53220

Phone (414) 529-1859
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Wisconsin@dixonengineering.net

CONCLUSIONS:

1. The exterior coating is a urethane system. The coating is in good condition overall with no significant deterioration.
2. The wet interior coating is presumed to be an epoxy system. The coating is in fair condition overall. Below the high-water level coating deterioration includes spot failures to the substrate on the floor and sidewall. Above the high-water level coating is in good condition with minor deterioration around the vent penetration.

RECOMMENDATIONS:

Complete the recommended work in five years. The coating work is the greatest cost and largest part of the recommendations. The repairs and upgrades should be completed during the next major tank rehabilitation project when coating repairs are made.

1. Abrasive blast clean the entire wet interior and repaint with an epoxy system. The estimated cost is \$25,000.
2. Abrasive blast clean the pit piping and repaint with an epoxy system. The estimated cost is \$4,000.
3. Cut the tree limbs that are encroaching on the sidewall to prevent damage. The work can be performed by in-house personnel.
4. Repair the spalls on the concrete foundation. The estimated cost is \$2,000.
5. Install rigging couplings on the roof for temporary fall prevention of workers in the wet interior. The cost would be incidental to the next painting project.
6. Install a screen at the overflow pipe discharge. The cost would be incidental to the next painting project or could be performed by in-house personnel.
7. Replace the roof vent with a frost-free vent. The estimated cost is \$6,000.
8. Install deflector bars over the draw pipe in the wet interior. The cost would be incidental to the next paint project.

9. Repair the inoperable floating level indicator. Work can be performed by in-house personnel. The estimated cost if completed during the next paint project is \$2,000. If the indicator is not needed it should be removed. Cost for removal would be incidental to the next paint project.

COST SUMMARY:

Wet interior repaint	\$25,000
Pit piping repaint	4,000
Foundation repair	2,000
Frost-free roof vent	6,000
Level indicator repair	<u>2,000</u>
Sub Total	\$39,000
Engineering and Contingencies	<u>\$8,000</u>
Total	\$47,000

INSPECTION:

On August 13, 2019 Dixon Engineering Inc. performed a preliminary maintenance inspection on the 15,000 gallon water storage standpipe owned by the Water Service Corporation of Kentucky and located in Middlesboro, Kentucky. Purposes of the inspection were to evaluate the interior and exterior coating's performance and life expectancy, assess the condition of metal surfaces and appurtenances, review safety and health aspects, and make budgetary recommendations for continued maintenance of the tank. All recommendations with budgeting estimates for repairs are incorporated in this report.

The inspection was performed by Andy Schrauben, Engineering Technician. The inspector was assisted by Kyle Lay, Engineering Technician. Scheduling and arrangements for the inspection were completed through Steven Vaughn. Following the inspection, chlorine was added to disinfect the tank per AWWA Standard C652-11 Method No. 3. Photos are included with this report.

GENERAL INFORMATION:

The tank was built by Service Welding & Machine Co. with an estimated height to high-water level of 23 feet. The original construction date is unknown.

CONDITIONS AND RECOMMENDATIONS:

EXTERIOR COATING CONDITIONS:

A coating sample was taken and sent to Tnemec Paint Company for lab analysis. Lab results indicate that the exterior coating is a urethane.

The coating is in good condition overall. The coating is beginning to chalk and fade and there is loss of gloss. Surfaces have faded due to exposure to ultraviolet light which is a normal occurrence for an exterior coating system.

The sidewall and roof coating are in good condition with no significant failures.

EXTERIOR COATING RECOMMENDATIONS:

Take no immediate action on the exterior coating. Budget for overcoating in approximately ten years pending the results of the next five year inspection. The typical overcoat frequency for modern urethane systems is fifteen years. There is always a risk

in overcoating the exterior, but we have had several successful projects when performed in the timeframe noted. The risk of poor adhesion of the overcoat system gets higher as the existing system gets older. Perform a maintenance inspection in five years to update the coating times and costs. The estimated cost is \$10,000.

WET INTERIOR COATING CONDITIONS:

The coating is presumed to be an epoxy system based on the color and condition. Determining exact coating type is not essential because spot repair is not typically recommended and overcoating in the wet interior is never recommended.

The roof coating is in good condition with only a few minor failures at the roof vent penetration.

The sidewall coating is in fair condition with a few failures. Primary method of deterioration is spot failures to the substrate. There is no significant coating damage at the high-water level which would be the area most affected by ice movement.

The coating on the floor is in fair condition with a few failures. Primary method of deterioration is spot failures to the substrate. The floor was covered with approximately $\frac{1}{16}$ inch of sediment that was flushed from the interior during the inspection.

WET INTERIOR COATING RECOMMENDATIONS:

Budget to repaint the wet interior in five years. Abrasive blast clean the entire wet interior to a near-white metal (SSPC-SP10) condition. Wet interior coating systems must be approved for potable water storage tanks contingent upon meeting requirements of NSF/ANSI 61.

Apply a three-coat epoxy system to the prepared surfaces. Epoxy coating systems are recommended in most applications because they have good adhesion and abrasion resistant qualities. The estimated cost is \$25,000.

PIT PIPING CONDITIONS:

There is a pit adjacent to the tank that contains piping and a valve. The pit has a metal cover that is in good condition. The piping is in good condition. The coating on the piping is in poor condition with surface corrosion throughout.

PIPING RECOMMENDATIONS:

Abrasive blast clean the piping to a commercial (SSPC-SP6) condition and repaint with an epoxy system. The estimated cost is \$4,000.

SITE CONDITIONS:

The tank is located on a fenced site. The tank is adjacent to a wooded area. Tree branches are encroaching on the sidewall. The branches may wear through the coating if the branches are not trimmed back.

SITE RECOMMENDATIONS:

Cut the tree limbs that are encroaching on the sidewall to prevent damage. The work can be performed by in-house personnel.

FOUNDATION AND ANCHOR BOLT CONDITIONS:

There is a concrete slab around the tank. The top 0 to 2 inches of the concrete is exposed. The exposed concrete foundation is in poor condition. There is moderate deterioration with spalling.

There are six anchor bolts evenly spaced on the baseplate. The anchor bolts are in good condition with no deterioration of the nuts or bolts.

FOUNDATION AND ANCHOR BOLT RECOMMENDATIONS:

Remove the deteriorated concrete and patch with a cementitious repair mortar. The estimated cost is \$2,000.

GROUT CONDITIONS:

The grout between the baseplate and the foundation is in poor condition with approximately 12 total lineal feet missing. The grout was applied with a taper from the top of the baseplate down to the concrete foundation. The tapered grout has failed in several places but the grout under the baseplate is in good condition. The failures are to be expected because the steel baseplate will expand and contract at a different rate than the grout. The tapered section serves no structural purpose and repair is not recommended.

ROOF HANDRAIL, PAINTER'S RAILING, AND ROOF RIGGING CONDITIONS:

There is a set of handrails on either side of the sidewall ladder located at the roof hatch.

There are no roof rigging couplings for safety and staging lines during wet interior coating work.

ROOF HANDRAIL, PAINTER'S RAILING, AND ROOF RIGGING RECOMMENDATIONS:

Install rigging couplings on the roof for fall prevention of workers in the wet interior. The couplings would allow a contractor working in the wet interior to be tied off to a fall prevention device at all times. The cost would be incidental to the next painting project.

OVERFLOW PIPE CONDITIONS:

The tank has a 4.5 inch diameter overflow pipe that exits the upper sidewall, extends down along the exterior of the sidewall, then routes through the ground to a splash pad and rip rap. The discharge end of the overflow pipe is not screened. The end of the pipe has a solid flap gate that is in good condition.

OVERFLOW PIPE RECOMMENDATIONS:

Install a screen on the end of the overflow pipe. The screen prevents rodents or birds from entering the pipe. The cost would be incidental to the next painting project or could be performed by in-house personnel.

HATCH AND MANWAY CONDITIONS:

There is a 30 inch square roof hatch to the wet interior that is in good condition. The hinged cover is in good condition. The hatch was secured with a padlock.

There is a 24 inch diameter manway in the sidewall that is in good condition. The manway gasket showed no signs of leakage and the bolts are in good condition.

VENT CONDITIONS:

The roof vent is a 24 inch flow through design that is in good condition. The screen is intact but is oversized.

VENT RECOMMENDATIONS:

Replace the roof vent with a screened frost-free pressure vacuum vent. The new vent would have a movable plate that would allow air to flow in and out of the tank even if the screens become plugged or frosted over. The vent can be removed during coating or rescue operation for additional light and ventilation. The estimated cost is \$6,000.

Annually inspect the roof vent for tears and gaps in the screen.

LADDER CONDITIONS:

The exterior sidewall ladder starts at ground level and extends up to a small platform near the top of the sidewall. The ladder is caged and equipped with a cable-type fall prevention device that is in good condition. There is a vandal guard on the sidewall ladder that is in good condition.

There is a stainless steel wet interior ladder from the roof to the floor that is in good condition. The interior ladder meets OSHA size requirements. The ladder is equipped with a cable-type fall prevention device that is in good condition.

FILL/DRAW PIPE CONDITIONS:

The fill pipe penetrates through the floor and extends approximately 15 feet into the tank up the sidewall. There is corrosion on the pipe.

The tank draws from a separate pipe. The draw pipe penetrates through the floor and extends approximately ½ inch into the wet interior. There is no deflector over the pipe.

FILL/DRAW PIPE CONDITIONS:

Install deflector bars over the draw pipe in the wet interior. The cost would be incidental to the next paint project.

LEVEL INDICATOR CONDITIONS:

There is a mechanical level indicator on the tank. There was a float inside the wet interior attached to a cable that routes through the roof inside of conduit. The float is sitting on top of the ladder in the wet interior. The cable runs along pulleys inside the conduit. The end of the cable is attached to the indicator glide that moves along a rail on the exterior sidewall. The level indicator is not operational.

LEVEL INDICATOR RECOMMENDATIONS:

Repair the inoperable floating level indicator. The pulley assembly will need to be disassembled and repaired as needed. Work can be performed in-house or the estimated cost would be \$2,000 if done during the next paint project. If the indicator is not needed it should be removed. Cost for removal would be incidental to the next paint project.

WET INTERIOR METAL CONDITIONS:

The steel structure is in good condition above and below the high-water level.

No active pitting was observed at the coating failures on the sidewall and floor.

DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
STANDPIPE TANK

DATE: **August 13, 2019**

OWNER: **Water Service Corporation of Kentucky**

CLIENT CODE: **17-53-66-03**

LOCATION: Address: **Beans Fork Road**

City: **Middlesboro**

State: **Kentucky**

TANK SIZE: Capacity: **15,000 gallons**

Diameter: **10.5 feet (measured)**

Sidewall height: **23 feet 4 inches (measured)**

CONSTRUCTION: **Welded**

Type: **Standpipe**

Type of roof: **Hemisphere**

YEAR CONSTRUCTED: **Unknown**

MANUFACTURER: **Service Welding & Machine Co.**

CONTRACT NUMBER: **A114240**

COATING HISTORY	EXTERIOR	WET INTERIOR
YEAR LAST COATED	<u>Unknown</u>	<u>Unknown</u>
CONTRACTOR	<u>Unknown</u>	<u>Unknown</u>
COATING SYSTEM	<u>Urethane</u>	<u>Presumed Epoxy</u>
HEAVY METAL COATING SAMPLES	<u>No</u>	<u>No</u>
HEAVY METAL BEARING	<u>N/A</u>	<u>No</u>

PERSONNEL: Inspector **Andy Schrauben**, ROV operator **Kyle Lay**

TYPE OF INSPECTION: **Preliminary Maintenance**

METHOD OF INSPECTION: **Drained**

YEAR LAST INSPECTED: **Unknown**

SITE CONDITIONS

Fenced: **Yes**
Site large enough for contractor's equipment: **Yes**
Control building: **No**
Antenna control site: **No**
Neighborhood: **W**
Power lines within 50 feet: **No**
Site drainage: **Away from tank**
Indications of underground leakage: **No**
Shrub, tree, etc. encroachment: **Yes**
 Rubbing on the tank: **No**
 Interference with future containment: **N/A**

EXPOSED PIPING:

Location: **Adjacent to tank (in pit)**
Condition of structure: **Good**
 Structure is: **Dry**
 Pump present: **No**
Cover condition: **Good**
 Locked: **No**
Altitude valve: **No**
Pipe coating condition: **Poor**
Describe coating: **Rust bleedthrough**
Condition of metal: **Good**

FOUNDATION-There is a concrete slab around the tank

Foundation exposed: **No**
Slab exposed height: **0-2 inches**
Exposed foundation condition: **Poor**
Damage or deterioration: **Yes**
 Type of damage: **Spalling**
 Severity: **Moderate**
 Total spall area: **40 square feet (0 square feet need repair)**
Type of baseplate gap filler: **Grout**
 Condition: **Poor**
 Amount missing: **12 feet**
Undermining of foundation: **No**

EXTERIOR COATING

Sidewall:

Lettering: **No**
Logo: **No**
Topcoat condition: **Good**
Previous coat/system condition: **Good**
Describe coating: **Fading**
Dry film thickness: **5-6 mils**
Panel connections: **Welded**
Metal condition: **Good**
Bottom shell steel thickness: **0.262 inches**

Roof:

Topcoat condition: **Good**
Previous coat/system condition: **Good**
Describe coating: **Fading**
Dry film thickness: **12-14 mils**
Adhesion: **Not taken**
Reason not taken: **Wet**
Metal condition: **Good**

EXTERIOR APPURTENANCES

Sidewall manway:

Size: **24 inches**
Hinged: **No**
Coating condition: **Good**
Metal condition: **Good**

Anchor bolts:

Number: **6**
Diameter: **1/2 inch**
Coating condition: **Good**
Metal condition: **Good**

Overflow pipe:

Diameter: **4.5 inches**
Coating condition: **Not coated**
Metal condition: **Good**
Condition of screen: **None present**
Flap gate: **Yes**
Design: **Solid**

EXTERIOR APPURTENANCES

Flap gate condition: **Good**

Air gap: **Yes**

Lowest part of discharge to the ground distance: **3 inches**

Overflow discharges to: **Concrete pad and rip rap**

Condition: **Good**

Overflow comments: **The pipe enters ground and discharges at the side of a slope to a concrete pad and then to rip rap**

Mud valve:

N/A

Level indicator:

Type: **Mechanical**

Functioning properly: **No**

Decal condition: **Poor**

Roof penetration condition: **Good**

Level indicator comments: **The float is broken and sitting on the wet interior ladder**

Sidewall ladder:

Height to start of ladder: **18 feet**

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **¾ inch**

Shape of rungs: **Round**

Coating condition: **Good**

Metal condition: **Good**

Fall prevention device: **Yes**

Type: **Cable**

Function properly: **Yes**

Cage: **Yes**

Diameter: **30 inches**

Vandal guard: **Yes**

Condition: **Good**

Step-off platform:

Dimensions: **12 x 18 inches**

Railing height: **45 inches**

Midrail height: **21 inches**

EXTERIOR APPURTENANCES

Coating condition: **Good**

Metal condition: **Good**

Wet interior roof hatch:

Neck size: **30 inches**

Distance from center of the tank (to outer edge): **4.5 feet**

Shape: **Square**

Handhold at opening: **Yes**

Curb height: **13 inches**

Cover overlap: **2 inches**

Hatch security: **Lock**

Outside coating condition: **Not coated**

Inside coating condition: **Not coated**

Metal condition: **Good**

Bolted ventilation hatch:

N/A

Roof vent:

Number: **1**

Distance from center of the tank (to outer edge): **0 feet**

Type: **Flow-through**

Neck diameter: **24 inches**

Coating condition: **Good**

Metal condition: **Good**

Screen condition: **Good**

Mesh size: **4**

Antennas:

N/A

Antenna comments: **There is one solar panel on the roof handrail**

Electrical:

Electrical conduit condition: **Good**

Exposed wiring: **No**

WET INTERIOR COATING

Roof:

Topcoat condition: **Good**

Primer coating condition: **Good**

WET INTERIOR COATING

Describe coating: **No significant coating deterioration**

Metal condition: **Good**

Lap seams: **Welded**

Condition of laps: **Good**

Sidewall:

Topcoat condition: **Good**

Primer coating condition: **Good**

Describe coating: **Spot coating failures to substrate**

Mineral deposits: **Light**

Metal condition: **Good**

Active pitting: **Yes**

Deepest pit depth: **Could not measure from the ladder or floor of the tank**

Number of pits: **< 10**

Previous pitting: **No**

Sidewall comments: **There are approximately twenty-five spot coating failures randomly throughout that are 1/4-3 inches in size**

Floor:

Topcoat condition: **Good**

Primer coating condition: **Good**

Describe coating: **Spot coating failures to substrate**

Mineral deposits: **Light**

Metal condition: **Good**

Active pitting: **No**

Previous pitting: **No**

Depth of sediment: **1/16 inch**

Floor comments: **There are approximately ten to twenty spot coating failures**

WET INTERIOR APPURTENANCES

Tank ladder:

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **3/4 inch**

Shape of rungs: **Round**

Shape of side rails: **Flat**

Coating condition: **Not coated**

Metal condition: **Good**

WET INTERIOR APPURTENANCES

Fall prevention device: **Yes**

Type: **Cable**

Function properly: **Yes**

Cathodic protection:

N/A

Clips: **No**

Pressure fitting: **No**

Overflow pipe:

Type: **Stub**

Coating condition: **Good**

Metal condition: **Good**

Overflow comments: **The pipe stubs at the top of the sidewall**

Fill pipe:

Diameter: **4 inches estimated**

Height above floor: **15 feet estimated**

Configuration: **Routes up wall**

Deflector on end: **No**

Coating condition: **Poor**

Metal condition: **Good – there is corrosion**

Separate draw pipe:

Diameter: **4 inches estimated**

Location: **In the floor**

Deflector over the end: **No**

Sump:

N/A

Mixer:

N/A

Field Inspection Report is prepared from the contractor's viewpoint. It contains information the contractor needs to prepare his bid for any repair or recoating. The engineer uses it to prepare the engineering report. Cost estimates are more accurate if the contractor's problems can be anticipated. While prepared from the contractor's viewpoint, the only intended beneficiary is the owner. These reports are completed with diligence, but the accuracy is not guaranteed. The contractor is still advised to visit the site.



15,000 gallon standpipe located in Middlesboro, Kentucky and owned by Water Service Corporation of Kentucky.



1) There is a concrete slab around the tank that is in poor condition overall with spalling throughout.

2) Typical anchor bolt is in good condition.



3) Missing section of grout.



4) The sidewall manway is in good condition.

5) The overflow routes into the ground.



6) The overflow discharges through the side of the hill. The concrete pad is in good condition.



7) The sidewall coating is in good condition overall with no coating failures.

8) The level indicator is in poor condition.



9) The sidewall ladder is in good condition.



10) The ladder step-off platform is in good condition.

11) The flow through vent screen is in good condition.

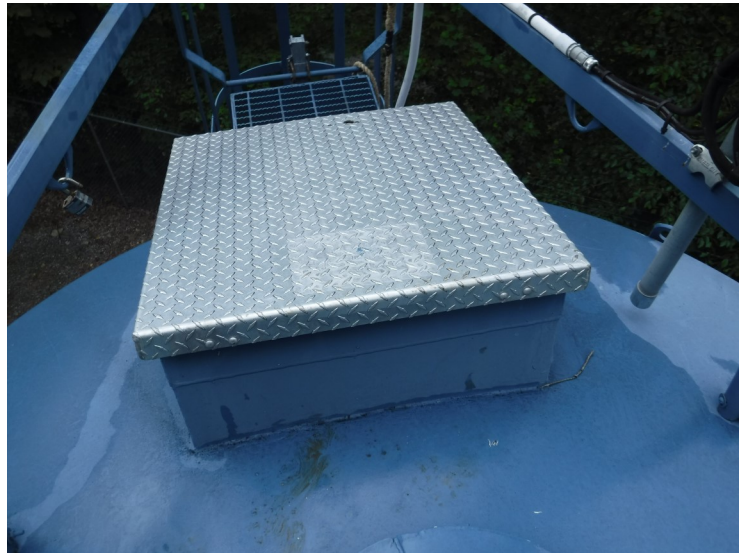


12) The roof coating is in good condition.



13) The roof penetrations for the level indicator are in good condition.

14) The wet interior roof hatch is in good condition.



15) The hatch cover operated properly during the inspection.



16) The wet interior roof coating is in good condition overall.

17) Spot coating failures on the sidewall.



18) Same.



19) The wet interior ladder is in good condition and is equipped with a cable-type fall prevention. The level indicator is broken and stuck behind the ladder.

20) The overflow pipe stubs in through the top of the sidewall.



21) The level indicator float is sitting on the top of the wet interior ladder.



22) The fill pipe routes up the sidewall. The coating is in poor condition.

23) Spot coating failures on the floor.



24) Same.



25) The draw pipe penetrates the floor and stubs just inside the wet interior.

26) The metal cover for the pit piping is in good condition.



27) The pipe coating is in poor condition overall.



**WATER SERVICE CORPORATION OF
KENTUCKY**

**2 - 1,250,000 GALLON RESERVOIRS
EXTERIOR OVERCOAT
WET INTERIOR REPAINT
AND MISCELLANEOUS REPAIRS**

**15,000 GALLON STANDPIPE
WET INTERIOR REPAINT
AND MISCELLANEOUS REPAIRS**

**BID DATE: JUNE 5, 2020
BID TIME: 10:00 A.M.**

CONTRACT NO. 17-07-66-01/02-20

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SECTION 00 00 30
NOTICE to BIDDERS

Separate sealed Bids are solicited for the following project:

Project Name: **2 – 1,250,000 Gallon Reservoirs**
 Exterior Overcoat
 Wet Interior Repaint
 and Miscellaneous Repairs

15,000 Gallon Standpipe
 Wet Interior Repaint
 And Miscellaneous Repairs

Note: This project name shall be understood to include the entire scope of project as defined and detailed by these specifications.

Separate sealed bids will be received by the Owner and then publicly opened and read aloud at:

Bids Sent To: **Water Service Corporation of Kentucky, 5509 N. Highland Dr.**
 McHenry, IL 60050

Bid Opening Date: **June 5, 2020**

Bid Opening Time: **10:00 A.M. (local time)**

Bid Opening Site: **Water Service Corporation of Kentucky, 5509 N. Highland Dr.**
 McHenry, IL 60050

The SPECIFICATIONS/PLANS may be examined at the following locations:

Builders Exchange	Construction Association	Central Michigan Plan Room
2300 Meadow Dr., Suite 100	43636 Woodward Ave.	2026 Independence Dr.
Louisville, KY 40215	Bloomfield Hills, MI 48302	Mt. Pleasant, MI 48858

At the OFFICE of the ENGINEER.

Printed copies, Electronic copies, or Documents on Flash drives with the Bidding Documents may be obtained from the office of DIXON ENGINEERING, INC., 1104 Third Avenue, Lake Odessa, Michigan, 48849 (Issuing Office) upon payment for handling charge of each set in the respective format. Payment for Bidding Documents should be made to Dixon Engineering, Incorporated. **There will be no refund of handling charge for return of specification packages, or in the digital format.**

Format	Cost
Bidding Documents	\$95.00
Flash Drive containing Bidding Documents in portable document format (PDF)	\$85.00
Electronic download of Bidding Documents by email (PDF)	\$75.00

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders, and if applicable Supplemental Instructions to Bidders, that are included in the Bidding Documents.

Note 1: The Engineer assumes no responsibility to supply Builders Exchanges and similar plan review rooms with all addenda issued. An attempt will be made to do so; however, only registered plan holders will be notified by fax or email of expected addendum with short preparation times.

Note 2: Prequalification of BIDDERS - Dixon Engineering will review qualifications of all Contractors and determine their status. Contractors will be prequalified for different sized tanks and towers based on experience, workmanship, successful Project completions with DIXON and Contractor's financial data. All information shall be submitted on DIXON's Prequalification Form. Any Contractor who has any projects in dispute or unfinished because of Contract problems will be considered NOT prequalified.

CONTRACTORS wishing to be prequalified must submit their latest financial statement and a list of ten (10) similar sized projects using similar coating systems. Failure to submit may result in rejection of bid. A prequalification status may be upgraded or downgraded during the course of the season, and possible during the Bidding period, as a result of new data submitted, resolution or origination of project conflicts. Disqualification will not result in the return of any handling fee for Bidding Documents.

SECTION 00 00 40 **PROJECT SUMMARY**

PART 1 – GENERAL

This Project Summary is an overview of the entire Project. The Project Summary is referred to in the Bid/Agreement Form in a few locations. It is intended to place all project specifics in one location to aid Bidders.

1.01 SCHEDULE, LIQUIDATED DAMAGES and SPECIAL DAMAGES

The Contractor shall abide by the following schedule:

Commence work on or after March 1, 2021.

Work hours are dawn to dusk 7 days a week.

Substantial Completion is June 30, 2021 including cure and disinfection time.

Each 1,250,000 gallon tank may be out-of-service a maximum of 40 days. The 15,000 gallon tank may be out-of-service a maximum of 20 days.

Only one 1,250,000 tank can be out-of-service at a time. Contractor to allow 7 days for refilling Tank #1 and draining Tank #2. Exterior power washing and welding can be performed during this time. The 15,000 gallon standpipe can be completed at the same time as either 1,250,000 gallon tank.

For liquidated damages, 40 days out-of-service establishes Substantial Completion date for each 1,250,000 gallon tank and 20 days for the 15,000 gallon standpipe. Liquidated damages at \$1,250/calendar day shall apply after this date. Ready for Final Payment Date shall be thirty (30) days after date Substantial Completion was scheduled or adjusted by Change Order, or earlier if actual date. Liquidated damages after Ready for Final Payment Date of \$250/day shall apply. Liquidated damages are cumulative if damages from Substantial Completion and Ready for Final Payment overlap. In addition, Special Damages may also apply per Bid/Agreement Form.

1.02 SCOPE of WORK

Tank Information:

Tank #1 (East Tank): The structure is a 1,250,000 gallon reservoir with a 75 ft. diameter and a height to high-water line of 38 ft. 8 in. located at 102 Water Plant Rd. in Middlesboro, Kentucky.

Tank #2 (West Tank): The structure is a 1,250,000 gallon reservoir with a 74 ft. diameter and a height to high-water line of 41 ft. located immediately next to Tank #1.

Standpipe: The structure is a 15,000 gallon standpipe with a 10.5 ft. diameter and a sidewall height of 23 ft. 4 in. located on Beans Fork Rd. in Middlesboro, Kentucky.

The work includes:

Tank #1

Wet Interior: Abrasive blast clean to a SSPC-SP10 near-white metal standard and apply a three (3) coat zinc epoxy system.

Exterior: High pressure water clean (5,000 to 10,000 psi), spot power tool clean to a SSPC-SP11 standard, and apply a three (3) coat epoxy urethane system.

Exterior - Alternate: High pressure water clean (5,000 to 10,000 psi), spot power tool clean to a SSPC-SP11 standard, and apply a three (3) coat epoxy fluoropolymer urethane system.

Foundation: Water clean and apply a two (2) coat epoxy system.

Cathodic Protection: Install an impressed current cathodic protection system.

Repairs:

- 1) Replace manway gaskets.
- 2) Install swing gate at the step-off platform.
- 3) Install cathodic clips and coupling.
- 4) Install roof couplings with rigging clips.
- 5) Roof stiffener replacement.

Tank #2

Wet Interior: Abrasive blast clean to a SSPC-SP10 near-white metal standard and apply a three (3) coat zinc epoxy system.

Exterior: High pressure water clean (5,000 to 10,000 psi), spot power tool clean to a SSPC-SP11 standard, and apply a three (3) coat epoxy urethane system.

Exterior - Alternate: High pressure water clean (5,000 to 10,000 psi), spot power tool clean to a SSPC-SP11 standard, and apply a three (3) coat epoxy fluoropolymer urethane system.

Foundation: Water clean and apply a two (2) coat epoxy system.

Cathodic Protection: Install an impressed current cathodic protection system.

Repairs:

- 1) Replace manway gasket.
- 2) Install swing gate at the roof handrail.

- 3) Install cathodic clips and coupling.
- 4) Install roof couplings with rigging clips.
- 5) Roof stiffener replacement.
- 6) Install sidewall manway.
- 7) Install roof handrail.

Standpipe

Wet Interior: Abrasive blast clean to a SSPC-SP10 near-white metal standard and apply a three (3) coat zinc epoxy system.

Pit Piping: Abrasive blast clean to a SSPC-SP6 commercial standard and apply a two (2) coat epoxy system.

Foundation: Replace the concrete slab around the standpipe.

Repairs:

- 1) Replace manway gasket.
- 2) Install roof couplings with rigging clips.
- 3) Replace vent with a frost-free roof vent.
- 4) Repair level indicator.

SECTION 00 02 00
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. Issuing Office – The office from which the Bidding Documents are to be issued, and which registers plan holders.
 - B. Owner’s Office – The office where the bidding procedures are to be administered.

ARTICLE 2 – BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder’s responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Notice to Bidders, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is obvious. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder’s failure to obtain Addenda from a plan room.
- 2.05 Electronic Documents
- A. When the Notice to Bidders Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified. (Sealed master copy of Bid documents held by Owner.
 - 1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version **9.0** or later. It is the intent of DIXON and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and DIXON cannot totally control the transmission and receipt of Electronic Documents nor the Contractor’s means of reproduction of such documents, the Owner and DIXON cannot and do not guarantee that Electronic Documents and

reproductions prepared from those versions are identical in every manner to the paper copies.

- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.
 - 1. In no case will the Contractor be entitled to additional compensation or time for completion due to any differences between the actual Contract Documents and any related document in native file format.

ARTICLE 3 – QUALIFICATIONS/PREQUALIFICATIONS OF BIDDERS

3.01 Coating projects require competent, financially solvent Contractors who complete projects on time. These projects deal with the health and safety of the public, have a short availability time, and include dangerous work; therefore, the Owner will only consider prequalified Contractors. Bidders not prequalified may be considered non-responsive and bids may be returned, unopened or opened. Bidders who are not prequalified may not be awarded the project if there is insufficient time (30 days) to complete a thorough review or may not be awarded at Owner's discretion.

A. Requirements for prequalification are:

- 1. On tanks of 1,000,000 gallons or smaller, successful completion of at least ten projects of like or larger size in the last five years. On tanks larger than 1,000,000 gallons, five projects of like size shall have been successfully completed in the last five years.
 - 2. The experience list shall be based on the type of project being Bid. If project is for a reservoir, then experience list shall contain the required number of projects for reservoirs only; if Project is for an elevated tank, then elevated only; wastewater, wastewater only; clarifier, clarifier only.
 - 3. All projects listed by a Bidder shall have been completed by that bidder under the company name in which they will be bidding this project. If the Bidder has completed the project(s) under a different company name, then the name under which the project(s) was completed shall be noted.
 - 4. Bidders shall furnish proof that they are bondable for the size of the project they are bidding and furnish proof of their bonding company's rating.
- B. DIXON will review submitted data to determine if Bidder meets prequalification requirements. QP1 or QP2 certification by Society of Protective Coatings (SSPC) is an

alternate method of prequalification, except for the experience list. Any information found to be false or incorrect may be ample reason for disqualification.

- C. New Bidders can apply for prequalification; however, they must be able to prove that they are bondable, provide a certified financial statement (most recent fiscal quarter), provide a complete equipment list; and a list of manpower, including work experience and the contractor(s) for whom they have worked. From this information, an evaluation and recommendation will be made by DIXON using economic ratios and comparisons regarding project size, equipment, manpower available, and foreman's experience. A determination will then be made by the Owner as to whether or not the Bidder is qualified to perform the Project.
- D. Any prequalified Contractor (by DIXON or SSPC) who has pending litigation against him for work not completed on a project or for failed work on a project may be subject to disqualification.
- E. In addition, the Owner may make further investigations into the Bidder's prequalification, including compliance with human resource programs, as well as OSHA and environmental histories. The Owner also may review elements of the prequalification and determine if experience is generic to and specific to the project. Furnish the Owner information, data, or certifications requested.

3.02 Disqualification:

- A. Prequalification status may be nullified if a Bidder is disqualified or by other means rejected from bidding in a state or subdivision of a state, or by the federal government.
- B. By submitting their bid, the Bidder certifies that he is not currently disqualified or rejected from submitting bids in the state or political subdivision of the state where the project is located.

3.03 If not Prequalified; to demonstrate Bidder's qualifications to perform the Work, and at least ten (10) days prior to Bid Opening, Bidder shall submit the following information:

- A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
- B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
- C. Bidder's state or other contractor license number, if applicable.
- D. Subcontractor and Supplier qualification information.
- E. A completed Qualification Form (EJCDC 451) and supporting documentation.
- F. Other required information regarding qualifications.
- G. DIXON will review submitted data to determine if Bidder meets prequalification requirements. QP1 or QP2 certification by Society of Protective Coatings (SSPC) is an alternate method of prequalification, except for the experience list and fiscal review. Any information found to be false, incorrect or embellished (sole determination of Owner) will be sufficient reason for disqualification.

- H. A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- I. No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4 – PRE-BID CONFERENCE MOVED TO SUPPLEMENTAL INSTRUCTIONS

ARTICLE 5 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 Site and Other Areas

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 Existing Site Conditions

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
 - 1. There are no reports or drawings that contain Technical Data.
 - 2. There are no reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
- B. Underground Facilities – The only known Underground Facilities may be piping pits unless noted in the Supplemental Conditions.
- C. Site-related Documents
- D. No Site-related documents are available.

5.03 Site Visit and Testing by Bidders

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.

5.04 Owner's Safety Program

- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.05 Other Work at the Site

- A. Reference is made to the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents.

ARTICLE 6 – BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 Express Representations and Certifications in Bid Form, Agreement

- A. The Bid/Agreement Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will automatically reaffirm representations and certifications when it executes the Bid/Agreement.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.

7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to DIXON in writing. Contact information and submittal procedures for such questions are to be made to the Issuing Office.

7.03 Interpretations or clarifications considered necessary by DIXON in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.

- A. Addenda may be electronically issued within five days of opening of Bids if Addenda is considered clarification only.
- B. The only Addenda issued within three days of the bid will be a notice to reschedule opening of Bids, or to cancel opening of Bids. Bids already in transit will be returned unopened or held unopened if requested by Bidder until new date for opening of Bids.

7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the

Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of ten (10) percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Article 6 of the General Conditions, or in the form of a Certified check made payable to Owner. A check is considered a stopgap measure only, and shall be replaced by a Bid Bond as soon as practical. As an alternate to replacement Contractor must demonstrate that they can procure the required Construction Bonds.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other Conditions Precedent of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security (Conditions Precedent) within 10 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole as a Liquidated Damage.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.
- 8.05 Bid Bonds will not be returned, but allowed to expire sixty-one days after Bid opening, unless notified by Owner.
- 8.06 Bid security in the form of a certified check have in the past been overlooked when following Paragraphs 8.02 –8.04 permit return, without intent, because the Certified checks were kept in a different location than the Bonds. It is the Contractor's responsibility to track the location and secure the return of their check.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement and in Section 00 00 40 Project Summary.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement and in Section 00 00 40 Project Summary.

ARTICLE 10 – SUBSTITUTE AND “OR EQUAL” ITEMS

- 10.01 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed and the item of Work they are proposed to do.
- 11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or DIXON, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute.
- 11.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder.

ARTICLE 12 – PREPARATION OF BID

- 12.01 The Bid/Agreement Form is included with the Bidding Documents. Additional copies are available from the Issuing Office.
- A. DIXON has combined the Bid and Agreement Form. While preparing the Bid documents, use caution to remain in the Bid portion and not the Agreement.
 - B. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - C. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly

legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder's name and official address.
- 12.07 A Bid by a joint venture will not be accepted.
- 12.08 All names must be printed legibly in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13 – BASIS OF BID

13.01 Unit Price

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form. Where a quantity is not specified (i.e. exterior paint), consider the quantity as one, or a lump sum line item.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes.

The final quantities and Contract Price will be determined in accordance with the General Conditions.

Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the math corrections. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. See 00 06 00 Schedule of Values for further determinations.

ARTICLE 14 – SUBMITTAL OF BID

- 14.01 The Bidding Documents include one separate unbound copy of the Bid Form and Schedule of Values. The unbound copy of the Bid Form and Schedule of Values is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 4 of the Bid Form. If Bidding documents were issued electronically it is the Bidder's responsibility to print the Bid Form and submit as directed above. Bid form is identified herein as Bid/Agreement Form but is only a Bid Form until signed by Owner as an Agreement.
- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the required Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement. Failure to meet the requirements of this paragraph is sufficient reason to consider the Bid nonresponsive.
- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and may be returned to the Bidder unopened.

ARTICLE 15 – MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Dependent upon the timing of receipt of such notice, the unopened Bid may be returned to the Bidder. If the Bid is opened then the Bidder must comply with Paragraph 15.03 below. There is no guarantee that Notice is sufficient or timely if sent by text or email.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. If the Project is rebid, the Bidder

who withdraws their bid may be disqualified from submitting a new Bid, at the sole discretion of the Owner.

ARTICLE 16 – OPENING OF BIDS

16.01 Bids will be opened at the time and place indicated in the Notice to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders upon written request to DIXON.

ARTICLE 17 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and allow the Bid security to expire prior to the end of this period.

ARTICLE 18 – EVALUATION OF BIDS AND AWARD OF CONTRACT

18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.

18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.

18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or DIXON, then Owner will reject the Bid as nonresponsive.

18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

18.05 Evaluation of Bids

A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.

C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers

proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

- 18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders including prequalified Bidders, and any proposed Subcontractors or Suppliers. Prequalification by DIXON does not guarantee that Owner after investigation will determine the same Contractor to be qualified. Owner's sole determination will govern.

ARTICLE 19 – BONDS AND INSURANCE

- 19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to Performance and Payment bonds, and other required bonds (if any). The entire section (paragraphs concerning insurance and from Article 7, the Indemnification requirements have been moved to Supplemental Conditions Paragraph 6.02+. When the Successful Bidder delivers the executed Notice of Award to Owner, the signed Award shall be accompanied by required bonds and insurance documentation.

ARTICLE 20 – SIGNING OF AGREEMENT

- 20.01 The Articles of these Instructions as prepared by EJCDC consider a formal "Closing" or contract signing meeting. All references to a Closing, contract signing event, are intended to be deleted. Notice of Award will be issued by Owner, all requirements of Conditions Precedent (bonds and insurance) will be completed by contractor within 10 days after issuance of Notice of Award and forwarded to DIXON who will then compile Contract Documents. Three sets of documents will be sent to Owner for signature and distribution. One executed copy will be retained, one executed copy will be sent to the Contractor and one to DIXON. There will be no meeting for signing unless required by Supplemental Instructions.
- 20.02 This Contract contains a combined Bid/Agreement form. The Bidder signs Article 1 as Bidder. The Owner will issue a Notice of Award and request Bonds and insurance and possibly other items (Conditions Precedent). When the Conditions Precedent are met, the Owner signs Article 2 of the Bid/Agreement making the document an Agreement document.
- 20.02 The executed copy will be accompanied by three copies of signed Notice to Proceed. Within five days of the date on the Notice to Proceed, the Bidder will sign the Notice to Proceed and return a copy to DIXON. If DIXON does not receive the accepted Notice to Proceed in five days, then the Notice to Proceed will be considered accepted by default. The Notice to Proceed will be dated on or around the contract date. The actual contract start date, completion date, etc. will be the same as the Effective Agreement Date, or as noted in the Project Summary.
- 20.03 Notice of Award; Effective Date of Award (Effective Date of Agreement): If the Contract is awarded by Owner, such award shall be effective when the Notice of Award has been delivered to the successful Bidder ("Effective Date of Award"). The Effective Date of Agreement is the date the BID/Agreement is signed by the Owner.

- 20.04 The acknowledgement of the Notice of Award, the submittal of additional requested materials, the Contractor's Certifications, and acceptable certificate(s) of insurance and Performance and Payment Bonds shall be considered Conditions Precedent to the Contract.
- 20.05 Failure to timely execute or submit any of the Conditions Precedent shall be grounds for the imposition of liquidated damages. The liquidated Damages will be equal to the Bid Security. If the submitted documents or any of them fail to comply with these Instructions or Supplemental Instructions to Bidders, Owner may, in its sole discretion, annul the award or allow the successful Bidder an opportunity to correct the deficiencies.
- 20.06 In no event will Owner execute the Agreement until any and all such deficiencies have been cured or Owner has received adequate assurances, as determined by Owner, of complete and prompt performance.
- 20.07 Annulment of Award; Liquidated Damages: The failure or refusal of a successful Bidder to comply with the Conditions Precedent to Closing or to Close shall be just cause for the annulment of the award and the imposition of liquidated damages.
- 20.08 Subsequent Awards: Upon annulment of an award, Owner may accept, and award a Contract based on, any other Bidder's Proposal as Owner, in its sole judgment, deems to be the best or may invite new Proposals or may abandon the bidding process or the Work.

ARTICLE 21 – NON-DISCRIMINATION

- 21.01 Non-Discrimination: Do not discriminate in employment practices.
- 21.02 Bidders shall, if requested, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive the award of the contract.
- 21.03 Successful Bidders shall, if requested, submit a list of all subcontractors who will perform work on the project and written signed statements from authorized agents of the labor pools with which they will or may deal for employees on the work, together with supporting information to the effect that said labor pools' practices and policies are in conformity with Equal Employment Opportunity, including latest federal and local policies. Labor pools will affirmatively cooperate in or offer no hindrance to the recruitment, employment, and equal treatment of employees seeking employment and performing work under the contract, or a certification as to what efforts have been made to secure such statements when such agents or labor pools have failed or refused to furnish same prior to award of the project.
- 21.04 Successful Bidders shall comply in all respects with the Labor Standards Contract Provisions regarding non-discrimination on this Project.
- 21.05 Bidder agrees that in the hiring of employees for the performance of work under this Agreement or any sub-agreement, neither the Contractor, nor any Subcontractor, nor any person acting on behalf of either, shall by reason of race, creed, or color, discriminate against any citizen in the employment of labor or workers who are qualified and available to perform the work to which the employment relates; nor shall the Contractor, or any Subcontractor, or any person acting on behalf of either, in any manner discriminate against or intimidate any employee hired for the performance of work under this Agreement on account of race, creed, or color.

ARTICLE 22 – NON-COLLUSION

22.01 Collusion between Bidders will be cause for rejection of affected bids and may be cause for rejection of all bids. Multiple bids submitted by one bidder under the same or different names, whether as individual, firm, partnership, corporation, profit or non-profit, affiliate, or association will be cause for rejection of bids. A subcontractor is not a Bidder and he may submit prices to multiple Bidders.

ARTICLE 23 – ALTERNATE BIDS OR RESTRICTIONS ON BIDS

23.01 Items that affect the scope of the project and not addressed by addenda will not be accepted as an alternate bid.

23.02 Alternate bids will automatically be considered non-responsive.

- A. Such bids may be examined prior to project award and may result in bid cancellation, followed by new bids, including the alternate.
- B. Discounts to the Owner for payment within a stipulated period of time will not be considered conditional or qualified bids. Discounts will be accepted, but not considered in bid price evaluation for bid award.
- C. Interest clauses will be considered a qualified bid.

SECTION 00 20 10
SUPPLEMENTAL INSTRUCTIONS to BIDDERS

The following instructions will change on a Project to Project Basis

- 1.01 A pre-bid conference will not be conducted for this Project.
- A. All access to the site must be coordinated through the Owner. Bidder must conduct the site visit during normal working hours.
 - B. Information presented during the site visit does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the visit. Information presented, and statements made at the visit will not be binding or legally effective unless incorporated in an Addendum.
- 1.02 Non-discrimination in Employment is required.

SECTION 00 05 00
BID/AGREEMENT FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid/Agreement Form with initial capital letters have the meanings stated in the Instructions to Bidders, Supplemental Instructions to Bidders (if applicable), the General Conditions, and the Supplementary Conditions.

ARTICLE 1 –BID/AGREEMENT SIGNATURES AND BID

1.01 By signing this Bid Proposal, Contractor acknowledges that this Bid Form becomes an Agreement upon acceptance and signature of Owner below in Article 2.

1.02 Receipt of Addenda – Bidder hereby acknowledges receipt of the following Addenda:
Attach sheet if more rows are needed.

Addendum Number	Addendum Date	SIGNATURE -Addendum Received

1.03 Base Bid – Bidder will complete the Work in accordance with the Contract Documents, including all labor and material, for the following Total price which is the Sum of prices from the Schedule of Values. Section 00 06 00:

_____ \$_____

Lump Sum Prices are based on the Schedule of Values – Section 00 06 00.

Unit Prices have been computed in accordance with the General Conditions and listed in Schedule of Values.

Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Bidder acknowledges that Lump Sum bids are actually itemized bids based on the Schedule of Values, and further agrees and acknowledges the alternatives and conditions set forth in the Schedule of Values.

1.04 This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

1.05 BIDDER hereby submits this Bid to:

Owner: Water Service Corporation of Kentucky

Address of Owner: 5509 N. Highland Dr., McHenry, IL 60062

Bidder: _____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____

Title: _____

Date: _____

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____
(individual's signature)

Name: _____

Title: _____

Date: _____

Address for giving notices:

Bidder's Contact and Agent for Service or Process:

Name: _____

Title: _____

Phone: _____

Email: _____

(Email will be used for Electronic Document Transfer Protocol.)

All Business Entities

Date of Qualification to do business in _____ [State Where Project is Located] is
____________.

ARTICLE 2 – AGREEMENT SIGNATURES

2.01 Owner’s signature as Party to Agreement, Changes Bidder’s Status to Second Party to Agreement, Contractor.

AGREEMENT: IN WITNESS WHEREOF, Contractor has signed this Agreement as Bidder. Owner has signed Agreement in duplicate and one counterpart each has been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf. (a third copy or original has been delivered to DIXON)

This Agreement will be effective on, _____, _____ (which is the Effective Date of the Agreement)

OWNER: _____

By: _____

Title: _____

ARTICLE 3 – BIDDER TO CONTRACTOR

- 3.01 The above signed Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner by Owner signing above and transforming this Document into a combined Bid/Agreement Form and:
- A. Agrees to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
 - B. Agrees to accept all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.
 - C. Bidder accepts all the terms and conditions of the combined Bid/Agreement form. (The Bid/Agreement form is an attempt to shorten the time period between submittal and award.) Bidder’s signature is an acceptance of all terms of the Bid and Agreement sections.

ARTICLE 4 – ATTACHMENTS TO THIS BID

- 4.02 The following documents are submitted with and made a condition of this bid:
- A. Required bid security, including evidence of authority to do business in the state of the project; or a written covenant to obtain such authority within the time for acceptance of bids.
 - B. Contractor's license number as evidence of bidder's state contractor's license or a covenant by bidder to obtain said license within the time for acceptance of bids.
 - C. Bidder qualification statement with supporting data (submitted 10 days prior to bid opening), unless contractor is prequalified.

ARTICLE 5 – TIME OF COMPLETION

- 5.01 Bidder agrees that the Work will be substantially complete and will be completed and Ready for Final Payment in accordance with the General Conditions on or before the dates or within the number of calendar days indicated in this Bid/ Agreement, or in the Project Summary.
- 5.02 Bidder accepts the provisions of the Agreement as to liquidated damages, Special damages, and Set-offs in the event of failure to complete the Work within the Contract Times, or within Milestone dates or in compliance with the specifications and General Conditions.

ARTICLE 6 – BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

- 6.01 Bidder's Representations
- A. In submitting this Bid, Bidder represents the following:
 - 1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
 - 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - 3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - 4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings, if any.
 - 5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work in the State required by the Bidding Documents (Project).
12. Bidder has been prequalified for projects of this design, size, and complexity, or submitted Qualification forms ten (10) days prior to Bid Opening.

6.02 Bidder's Certifications

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

- b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
- c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
- d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

6.03 Affirmations of Bidder Transferred to Contractor

- A. All references to Bidder in Paragraph 6.01 and 6.02 in these affirmations, representations, and certifications will change to the term Contractor if this Bid becomes an Agreement.

ARTICLE 7 – TIME REQUIRED TO EXECUTE AGREEMENT

- 7.01 Time Framework for Award Execution – The Owner will open bids on the bid date. After opening, no bid may be withdrawn or altered for sixty days, unless specifically stated elsewhere. The Owner may negotiate with the low Bidder and mutually both parties may alter bid (i.e. partial award of project).

The Bidder will be notified of award within sixty days of bid date, unless stated elsewhere or mutually extended. Notice of Award form will be sent by fax, mail, or email. Within ten business days of Notice of Award, supply the Engineer with three original sets of separate Payment and Performance Bonds. Supply three original sets of Certificates of Insurance meeting requirements of Supplementary Conditions 5.01 and 5.02. Insurance companies and insurance forms must be standard to the industry and acceptable to the Owner. Failure to submit bonds and/or insurance within the time frame will be considered a default, a failure to perform as required by the Bid Bond. The Owner, at his option, may waive default, delay default, or proceed with capture of the Bid Bond as liquidated damages which will become the Owner’s property.

Bonds and insurances are to be submitted to the Engineer for review. The Owner will within twenty days of receipt of approved bonds and insurances from the Engineer execute the Agreement and send a signed copy to the Contractor.

The executed copy will be accompanied by three copies of the Notice to Proceed. Within five days of the date on the Notice to Proceed, the Bidder shall sign the Notice to Proceed

and return a copy to the Engineer. If the Engineer does not receive the accepted Notice to Proceed in five days, then the Notice to Proceed will be considered accepted by default.

The Notice to Proceed will be dated on or around the Effective Date of Agreement.

ARTICLE 8 – BID ACCEPTANCE

8.01 Bid Acceptance:

- A. The above Bid is accepted by the Owner and shall become a Contract Agreement binding on all parties after signing by an authorized representative of the Owner in Article 2 of this Bid/Agreement Form.
- B. All references in the second portion of this form are Agreement terminology. Bidder is now referred to as Contractor. Where appropriate, the term Bidder in the Bid/Agreement form is changed to Contractor.

ARTICLE 9 – ENGINEER

- 9.01 The Owner has retained **DIXON** Engineering, Inc. to act as Owner's representative, assume all duties and responsibilities of Engineer, and RPR, and have the rights, limitations of responsibility, and authority assigned to Engineer in the Contract.

ARTICLE 10 – CONTRACT TIMES

10.01 Time is of the Essence

- A. All time limits for Milestones, if any, Substantial Completion, and completion and Readiness for Final Payment as stated in the Project Summary and these Contract Documents are of the essence of the Contract.
- B. The Work shall be Substantially Completed, and completed and ready for Final Payment on or before the dates or time period as required by the Project Summary 00 00 40.

10.02 Liquidated Damages

- A. Contractor and Owner recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in the Project Summary 00 00 40, plus any extensions thereof allowed in accordance with the General Conditions and approved Change Order. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that Liquidated Damages are for delay (but not as a penalty) and agree to the Liquidated Damages listed in the Project Summary 00 00 40.
- B. If Milestones are identified in the Project Summary 00 00 40 as essential to the proper sequencing/or coordination of work with others, or to the successful compliance with the project Substantial Completion date, Liquidated Damages are identified in the Project Summary.
- C. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are additive, and will be imposed concurrently.

10.03 Special Damages

- A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in the Project Summary for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), and if necessary to hire other Contractors to complete portions of the Work, until the Work is completed and ready for final payment.
- C. The special damages imposed in this paragraph are supplemental, in addition to, any liquidated damages for delayed completion established in this Agreement.

ARTICLE 11 – CONTRACT PRICE

- 11.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Schedule of Values and this Bid/Agreement.
- 11.02 As provided in the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

ARTICLE 12 – PAYMENT PROCEDURES

12.01 Submittal and Processing of Payments

- A. Contractor shall submit Applications for Payment in accordance with the General Conditions. Applications for Payment will be processed by DIXON as provided in the General Conditions.

12.02 Progress Payments; Retainage

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment once each month during performance of the Work as provided in Paragraphs 12.02.A.1 through 12.02.A.7 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established and by protocol as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided in the General Conditions. The following is a protocol used for partial completion of an individually listed lump sum item e.g. wet interior painting. All items may not apply to this Agreement.

1. The wet interior, surface preparation by abrasive blast cleaning will be considered equal to 40 percent of the line item and each coat of paint 20 percent.
 2. The exterior, surface preparation by high pressure cleaning and power tool cleaning will be considered equal to 40 percent of the line item work and cost and each full coat of paint 15 percent. The remainder will be for lettering, demobilization and cleanup.
 3. Repairs will not be broken down. 100 percent completion is required before they will be considered for payment.
 4. Mobilization is included in the surface preparation allotment for the items above.
- C. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated above but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract. Retainage to be held as follows: 10% of the dollar value through 50% completion; 5% of the dollar value through 100% completion.
- D. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 90 percent of the Work completed, less such amounts set off by Owner pursuant to the General Conditions, and less 150 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

12.03 Final Payment, Consent of Surety

- A. Upon final completion and acceptance of the Work in accordance with the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer.
- B. Owner reserves the right to not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release. Determination to require Consent will be based on the Engineer's sole decision as to the level of confidence in Contractor's Work practices, their payment of employees, certified payrolls (when required), or the potential of future claims against the Owner or Contractor.

ARTICLE 13 - CONTRACT DOCUMENTS

13.01 Contents

- A. The Contract Documents consist of the following:
 1. This Bid/Agreement including Sections 00 00 40 Project Summary and 00 06 00 Schedule of Values.
 2. Performance bond.
 3. Payment bond.

4. Maintenance (Warranty) bond
 5. General Conditions,
 6. Supplementary Conditions,
 7. Technical Specifications and Drawings (if any) as listed in the table of contents of the Contract Documents.
 8. Addenda as listed on page 1.
 9. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Order(s).
 - d. Field Orders.
- B. There are no Contract Documents other than those listed above in this Article 13.
- C. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 14 - MISCELLANEOUS

14.01 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

14.02 Successors and Assigns

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

14.03 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

SECTION 00 06 00
SCHEDULE of VALUES

1.01 PART 1

TANK # 1

A. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 05 00 00:

- 1. SWING GATE
_____ \$

- 2. CATHODIC CLIPS AND COUPLING
_____ \$

- 3. ROOF STIFFENER REPLACEMENT – TEN (10) 3 FOOT LONG SECTIONS
_____ \$

TOTAL PRICE SECTION 05 00 00 INCLUDING #1 THROUGH #3:
_____ \$

B. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 09 97 13:

- 1. WET INTERIOR REPAINT
_____ \$

- 2. EXTERIOR OVERCOAT
_____ \$

- 3. EXTERIOR OVERCOAT - ALTERNATE
_____ \$

TOTAL PRICE SECTION 09 97 13 INCLUDING #1 THROUGH #2:
_____ \$

C. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 26 42 23:

1. CATHODIC PROTECTION SYSTEM

\$ _____

TANK #1 TOTAL PRICE SECTION 05 00 00, 09 97 13 AND 26 42 23:

SECTION 05 00 00: \$ _____
SECTION 09 97 13: \$ _____
SECTION 26 42 23: \$ _____
TANK #1 TOTAL: \$ _____

D. ESTIMATED COST ALREADY INCLUDED IN EXTERIOR PAINTING TO PROTECT AND WORK AROUND ANTENNAS AND CABLES. OWNER RESERVES THE RIGHT TO DELETE THIS AMOUNT IF THE ANTENNAS AND CABLES ARE REMOVED.

\$ _____

TANK #2

A. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 03 01 00:

1. SPALL REPAIR – 1 FT.

\$ _____

2. GROUT REPAIR – 80 FT.

\$ _____

TOTAL PRICE SECTION 03 01 00 AND 03 30 53 INCLUDING #1 THROUGH #2:

\$ _____

B. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 05 00 00:

1. SWING GATE

\$ _____

2. CATHODIC CLIPS AND COUPLING

\$ _____

3. ROOF STIFFENER REPLACEMENT – TEN (10) 3 FOOT LONG SECTIONS
_____ \$

4. SIDEWALL MANWAY
_____ \$

5. ROOF HANDRAIL
_____ \$

TOTAL PRICE SECTION 05 00 00 INCLUDING #1 THROUGH #5:
_____ \$

C. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 09 97 13:

1. WET INTERIOR REPAINT
_____ \$

2. EXTERIOR OVERCOAT
_____ \$

3. EXTERIOR OVERCOAT - ALTERNATE
_____ \$

D. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 26 42 23:

1. CATHODIC PROTECTION SYSTEM
_____ \$

TANK #2 TOTAL PRICE SECTION 03 01 00, 05 00 00, 09 97 13 AND 26 42 23:

SECTION 03 01 00:	\$ _____
SECTION 05 00 00:	\$ _____
SECTION 09 97 13:	\$ _____
SECTION 26 42 23:	\$ _____
TANK #2 TOTAL:	\$ _____

STANDPIPE

A. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 03 01 00:

1. CONCRETE SLAB REPLACEMENT
_____ \$ _____

B. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 05 00 00:

1. ROOF VENT
_____ \$ _____

2. LEVEL INDICATOR REPAIR
_____ \$ _____

TOTAL PRICE SECTION 05 00 00 INCLUDING #1 THROUGH #2:
_____ \$ _____

C. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 09 97 13:

1. WET INTERIOR REPAINT
_____ \$ _____

2. PIT PIPING REPAINT
_____ \$ _____

TOTAL PRICE SECTION 09 97 13 INCLUDING #1 THROUGH #2:
_____ \$ _____

STANDPIPE TOTAL PRICE SECTION 03 01 00, 05 00 00 AND 09 97 13:

SECTION 03 01 00: \$ _____
SECTION 05 00 00: \$ _____
SECTION 09 97 13: \$ _____
STANDPIPE TOTAL: \$ _____

TANK #1 TOTAL:	\$ _____
TANK #2 TOTAL:	\$ _____
STANDPIPE TOTAL:	\$ _____
PROJECT TOTAL:	\$ _____

1.02 PART 2 - UNIT PRICES – ADJUSTMENT TO BASE BID QUANTITIES

A. Unit Price Tank #2 Spall Repair: Cost of preparation of spalled and deteriorated concrete and placement of **one (1) square foot** of cementitious patching mortar to an average of **2 inches thick**. Add to the base bid of **one (1) square feet**.

\$ _____

B. Unit Price Tank #2 – Grout Repair: Cost of concrete preparation and placement of **five 5 lineal foot** of cementitious patching mortar. Add to or deduct from the base bid of **eighty (80) lineal feet**.

\$ _____

C. Unit Price Tank #1 – Roof Stiffener Replacement: Cost of replacement of **one (1) 3 foot** section of stiffener. Add to or deduct from the base bid of **ten (10) 3 lineal foot sections**.

\$ _____

D. Unit Price Tank #2 – Roof Stiffener Replacement: Cost of replacement of **one (1) 3 foot** section of stiffener. Add to or deduct from the base bid of **ten (10) 3 lineal foot sections**.

\$ _____

1.03 TOTALS

A. Total Base Bid is to match total Base Bid price supplied in Bid/Agreement form.

1.04 ALTERNATE BIDS

A. Bidders are required to bid both Base and Alternate.

1.05 MISTAKES

A. Total of Schedule of Values should equal lump sum bid total. If addition of individual items does not match total, then each individual items will be proportionately changed to reflect total of values to match lump sum bid.

B. A mistake in addition for schedule items cannot be used to increase lump sum bid. Individual items will be proportionately changed downward to reflect lump sum price.

C. A mistake in Schedule of Values may be used as evidence of error in any request to withdraw bids because of error. Approval of request to withdraw bids is covered in

the prebid information. This section is not intended to conflict any portion of the bid package. This section is only to reflect one of the reasons to withdraw bids. Approval of bid withdrawal will be based solely on the owner's interpretation of the severity of the mistake.

1.06 CHANGES in SCHEDULE of VALUES by OWNER

- A. The owner reserves the right to delete any line item except for base bid painting work, at their sole discretion for any reason, budgetary or other. All contract general costs should be evenly distributed over these items (mobilization, demobilization, bonds, etc.)
- B. The bidder/contractor is advised not to overload any specific deletable line item. It could result in loss of profit if the overload item is deleted.
- C. This deletion of items or not including alternates is an expressly stated reservation (a contractually agreed automatic negotiation. Any deletion of specific line items will be completed before selection of the lowest acceptable bidder. Change will be reflected in the Notice of Award.

1.07 NON-DELETABLE WORK

- A. Bidders are advised that all line items except for base bid painting work may be deleted from the project prior to award.
- B. Any deletion of line items or increase or decrease in unit cost items deemed necessary after the Notice of Award will be completed through the Change Order procedure. Prices used in the Schedule of Values will be used in the Change Order adjustment. If work has begun on an item after the contract is executed, but before being deleted by Change Order, the contractor is entitled to costs incurred.

**STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT
2018 These documents have been modified by DIXON and should no
longer be considered an EJCDC document**

Modified and Supplemented by

Prepared by



Issued and Published Jointly by



This document will be known as General Conditions, 2018 edition.

The original document and formatting is the 2013 version of the EJCDC C-700 version of the General Conditions. DIXON modified these documents because we are a specialized firm in coating and structure repairs. The original documents are for multiple trade projects and the 2018 is even endorsed by NUCA, a Utilities and excavating association. Some terms and paragraphs that are not applicable to our industry were deleted. All Insurance Requirements were moved from Article 6 to SC-Article 6. Other parties are advised against using these General Conditions as they may not be sufficient for your project.

DIXON then added paragraphs in blue to increase the specificity to our projects. All additions were Supplemental DIXON Conditions moved to the General Conditions. If they were written by DIXON they will remain blue. Blue paragraphs are equivalent and will be enforced the same as black paragraphs.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

1.02 Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

- A. *Addenda* – Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
- B. *Agreement* – The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
- C. *Application for Payment* – The document prepared by Contractor in a form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
- D. *Bid* – The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- E. *Bidder* – An individual or entity that submits a Bid to Owner.
- F. *Bidding Documents* – The Bidding Requirements, the proposed Contract Documents, and all Addenda.
- G. *Bidding Requirements* – The Advertisement, Notice, or Invitation to Bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
- H. *Bulletin* – If time permits, a Bulletin is issued prior to a Change Order. A Bulletin is an inquiry of the Contractor of the cost to complete the work described in the Bulletin. It is intended as the basis of a Change Order if all parties reach agreement. A Bulletin may be considered as the same as a Change Proposal except that a Bulletin is generated by the Engineer because it generally requires specifications to be addressed.
- I. *Change Order* – A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
- J. *Change Proposal* – A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a Set-off against payments due; or seeking other relief with respect to the terms of the Contract.
- K. *Claim* – (a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an

adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

- L. *Constituent of Concern* – Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), **lead based paint (as defined by the HUD/EPA standard)** hazardous waste, and any substance, product, waste, or other material. **Lead, chrome, and other by-products of paint removal, as well as strippers, new coatings, and thinners, are to be included in this definition.**
- M. *Contract* – The entire and integrated written contract between the Owner and Contractor concerning the Work.
- N. *Contract Documents* – Those items so designated in the Agreement, and which together comprise the Contract.
- O. *Contract Price* – The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
- P. *Contract Times* – The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
- Q. *Contractor* – The individual or entity with which Owner has contracted for performance of the Work.
- R. *Cost of the Work* – See Paragraph 13.01 for definition.
- S. *Drawings* – The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
- T. *Effective Date of the Contract* – The date, indicated in the Agreement, on which the Contract becomes effective.
- U. *Electronic Document* – Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
- H. *Electronic Means* – Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
- I. *Engineer* – The individual or entity named as such in the Agreement. The terms Engineer and Project Manager are used interchangeable in these Contract Documents.

- J. *Field Order* – A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
- K. *Hazardous Environmental Condition* – The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
- L. *Hold Point* – A point in the construction sequence when the Contractor is required to stop work on that portion of the project until an inspection has been completed.
- M. *Laws and Regulations; Laws or Regulations* – Any and all applicable laws, statutes, rules, regulations, ordinances, codes, binding decrees and resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- N. *Liens* – Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
- O. *Milestone* – A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
- P. *Non-Conformance Report (NCR)* – A report written by the Engineer or Resident Project Representative to document the Contractor’s Work that does not meet requirements of the specifications or contract.
- Q. *Notice of Award (NOA)* – The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
- R. *Notice to Proceed (NTP)* – A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
- S. *Owner* – The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
- T. *Performance Specifications* – Specifications that require the manufacturer or supplier of equipment, materials, or systems to design, manufacture, deliver, and install products to achieve specific results under stipulated conditions of operation and in environments described in applicable Specification Sections.
- U. *Preconstruction Conference or Meeting* – are interchangeable terms.
- V. *Progress Schedule* – A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
- W. *Project* – The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
- X. *Project Manual* – This term is deleted in the 2018 edition.
- Y. *Ready for Final Payment* – This term is used to define a time when Liquidated Damages begin, separate from but possibly in addition to Liquidated damages for failure to meet Substantial Completion Date. All punchlist items are to be completed, Site cleaned and restored, and equipment removed within 30 days. Finalize and submit all paperwork for

Final Pay Request within 45 days of Substantial Completion. Failure to meet 30 day and/or 45 day requirements may individually trigger the charge of Liquidated Damages.

- Z. *Resident Project Representative* – The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
- AA. *Samples* – Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
- BB. *Set off* – A contracted remedy for the Owner for minor Contract breaches by the Contractor that results in additional and/or unnecessary costs or fees to the Owner.
- CC. *Schedule of Submittals* – A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
- DD. *Schedule of Values* – A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment. [The Schedule of Values Form is supplied in the Bidding Documents as Section 00 06 00. This Schedule is to be submitted with the Bid. Adjustment of Schedule of Values by Engineer to correct for front loading of bid \(without mathematical error\) will not change the total Bid as calculated by completing the Schedule of Values.](#)
- EE. *Shop Drawings* – All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
- FF. *Site* – Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
- GG. *Specifications* – The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
- HH. *Subcontractor* – An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
- II. *Submittal* – A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
- JJ. *Substantial Completion* – The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended.

The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof. On tank projects, date of substantial completion is the date the tank is, or would have been returned to service, except for voluntary delay by Owner. Date of Substantial Completion is after complete cure, disinfection, and testing.

KK. *Successful Bidder* – The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

LL. *Supplementary Conditions* – The part of the Contract that amends or supplements these General Conditions. These EJCDC Documents have been rewritten to merge or relocate Supplemental and General Conditions and are now a product of Dixon Engineering Inc. and not an EJCDC product. The terms Supplemental Conditions used in these General Conditions and Project Specific Supplemental Conditions are to be used interchangeable.

MM. *Supplier* – A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

NN. *Technical Data* – Revised

1. Those items, if any, expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
2. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.

OO. *Underground Facilities* – All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

PP. *Unit Price Work* – Work to be paid for on the basis of unit prices.

QQ. *Work* – The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

RR. *Work Change Directive* – A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.03 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

1.04 *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
 - d. All work completed that is rejected by an unresolved non-conformance report.

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Contract Price or Contract Times: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. Within ten (10) business days of Notice of Award, supply the Owner with three (3) original sets of separate Payment, Performance, and Maintenance Bonds. Supply three (3) original sets of Certificates of Insurance meeting requirements found herein and with the limits of insurance to be found in the Supplemental General Conditions. Failure to submit bonds and/or insurance within time frame will be considered a default, a failure to perform as required by the Bid Bond. The Owner, at his option, may waive default, delay default, or proceed with capture of the Bid Bond which will become the Owner’s property.
- B. Bonds and insurances are to be submitted to the Engineer for review. The Owner will within twenty (20) days of receipt of approved bonds and insurances from the Engineer execute the agreement and send a signed copy to the Contractor.
- C. *Evidence of Contractor’s Insurance* See Insurance Information for required limits in the Supplemental Conditions.
- D. *Evidence of Owner’s Insurance* Owner will not provide Certificate of Insurance to the Contractor. The Owner will not name Contractor additional insured.
- E. *Correction Requirements of Bonds and Insurance:* Bonds and Certificate of Insurances that fail the initial review and first subsequent review by a DIXON contract administrator will be returned to Contractor. All subsequent returns for insufficient material will be cause for Owner to Setoff DIXON recurring fees. Also failure of Bonds and Certificate of Insurance to meet Contract requirements during review by Owner’s insurance consultant will be cause for Set-off.

2.02 Copies of Documents

- A. Owner will furnish the Contractor one signed copy of the Contract Documents. Additional printed copies will be furnished upon request at the cost of reproduction or an electronic version will be supplied upon request and at cost.

- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer. **This is a copy of the signed document only. The copy to be used for all construction and legal disputes will have been sent after final design and retained by Owner in a sealed, marked envelope in a safe location.**

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Agreement (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. **Submitted with Bid** - a final Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. The Engineer may schedule a Preconstruction Conference to be attended by Owner, Engineer, and Contractor(s). When no organizational meeting is scheduled, the Contractor, prior to beginning any work, shall meet with the Engineer and, if prior submitted, review Project Schedule for the work. Once the Work has started, the Contractor shall carry the Progress Schedule to completion without delay, making adjustments to Schedule as Work progresses.
- B. Attend a Preconstruction Meeting that may be scheduled by the Owner at a mutually agreeable time after all contract preconditions and other requirements have been met.
- C. A corporate officer or someone with legal authority to obligate the company/corporation, project manager (if different from officer), and the intended foreman shall attend. If project foreman does not attend the meeting, it shall be the Contractor's responsibility to supply the information discussed at the meeting to the field foreman.
- D. The Owner will be represented by the project contact person, and the Engineer by the Project Manager or a senior Contract Administrator.
- E. Submit all required materials prior to the preconstruction meeting.
- F. The Preconstruction Conference will discuss all containment, personal hygiene, and lead control issues required in this contract and review. Be prepared to commit designated "competent person(s)" to responsibilities of confined space, scaffold rigging, lead, etc.

- G. At the Preconstruction Conference Owner and Contractor, each party shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.
- H. The Engineer may prepare Preconstruction Conference minutes and send to all attendees. All parties to the Preconstruction Conference will have five days from the postmarked, or email dated delivery of the minutes to protest any item of the minutes in writing. After five days the minutes will be considered not protested and will become part of the Contract documents per established Electronic Transmittal Protocol (See SC Paragraph 2.06).
- I. Preconstruction Conference minutes may serve to meet some of the “writing” requirements of this Article.

2.05 *Initial Acceptance of Schedules*

- A. All schedules are to be submitted prior to the preconstruction meeting. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor’s full responsibility therefor. Failure to meet Milestone or significant Progress Schedule dates may be cause for rejection of prior accepted Progress schedule and require an additional Progress meeting and new Progress Schedule to put Project back on an acceptable schedule. Cost of meeting, Owner’s and Engineer’s time will be considered the responsibility of the Contractor, subject to Set-off.
 - 2. Contractor’s Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals. All Submittals shall be included with the first submittal package and shall only be submitted by the Contractor and not by Suppliers or Subcontractors. If certain items cannot be submitted with the package, an acceptable Schedule of Submittals must be supplied to the Engineer.
 - 3. Contractor’s Schedule of Values (Section 00 06 00 to be completed and submitted with Bidding Documents) *will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.* If the Engineer determines the Schedule of Values is not acceptable, the Engineer will use the Contractor’s Schedule to reallocate values. The Engineer’s reallocation will be to maintain sufficient funds for work completed toward the end of the project to avoid frontloading values. The Engineer will assign values high enough to bring in another Contractor to finish work in case of default. The Contractor has five (5) days to appeal this reallocated Schedule of Values. Pay Requests shall be made based on the prices in the Schedule of Values as submitted unless adjusted by the Engineer and in that case the adjusted Schedule of Values.

2.06 *Electronic Transmittals – See Paragraph SC 2.06*

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all. *The Documents shall be given the following preference in order:*
1. *Addenda.*
 2. *Agreement.*
 3. *Special Conditions.*
 4. *Supplemental Conditions.*
 5. *Technical Specifications.*
 6. *Drawings. Figure dimensions shall govern over scaled drawings.*
 7. *General Conditions.*
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern. *If there is a conflict between written copies see Paragraph 2.02 B above.*
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by

implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies:

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof. *Contractor as Bidder was required to visit the site. Visible errors in the specifications, such as number of manholes, pits, etc. will be the responsibility of the Bidder to report.*

B. Resolving Discrepancies:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer

shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

- a. The provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
- b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs) or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 1. Have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 2. Have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times*

- A. The contract times are defined in the Project Summary in Section 00 00 40. A Notice to Proceed will be issued thirty (30) days prior to the start date if time permits. An email or verbal notice may be used to give thirty (30) days notice until all parties can sign the Notice to Proceed.
- B. The effective start date will be indicated in the Notice to Proceed. The start date may exceed sixty (60) days after bid opening. The Contract Dates will be maximum out-of-service time AND/OR the Project Completion Date. The start date may float to give the Contractor more flexibility with scheduling. Out of Service Date starts the maximum out of service time. Out of Service Date is the agreed date the tank or structure was removed from service. If the Contractor delays start so that the out of service date exceeds the Project Completion Date, the Project Completion Date becomes Primary and Out of Service Date is no longer applicable. Liquidated Damages starts then on the Contracted Project Completion Date.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date except as recommended immediately following. Contract time is governed by out-of-service time. The Contractor is encouraged to deliver equipment to the site prior to Contract Start. For tanks the site will be available up to two (2) weeks prior to agreed drainage date. (Out of Service Date)
- B. Contractor is also encouraged to rig the structure, complete containment installation, and complete weld repairs that do not affect the wet interior prior to draining of the tank. The amount of work completed shall have been approved at the preconstruction conference. Since the tank is not out of service these dates do not apply against Out of Service time.
- C. Delaying Work start until the next coating season for the convenience of the Contractor will require Owner to Set-off inflation increased Engineering expenses and Owner's costs against Contractor's Request for Payment.

4.03 *Reference Points N/A*

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process,

except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

C. See Technical Specifications for Scheduling RPR Services Section 00 91 19.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. Abnormal weather conditions: [Abnormal weather conditions are defined as weather conditions that are at variance with the routine or normal weather conditions. An example of the evaluation procedure and of the required Change Proposal follows.](#)
 - a. [Project length: 45 days](#)
 - b. [Substantial completion date: June 30th.](#)
 - c. [Start date: May 16th.](#)
 - d. [Three \(3\) years of data* 2019, 2018, 2017](#)
 - e. [Average number of rain/wind days: 9](#)
 - f. [Actual number rain/wind days**: 12](#)
 - g. [Claim for time extension: 3 days.](#)

[*Submit weather history from nearest weather reporting station for three \(3\) previous years from the same time period. Submit same data for current year. Submit formal, but simple Change Proposal \(use format above\).](#)

[**Rain/wind day is a rain or wind day where either rain and/or wind conditions exceeded safe work conditions or were outside the parameters of good paint](#)

practices. Wind days are winds in excess of 20 mph for over four (4) hours during normal work hours, and rain days having measurable precipitation.

- h. Change Proposal Evaluation: Engineer will evaluate Change Proposal and make sole determination as to whether days meet criteria. Engineer will disallow dates where work could have been completed on the interior; dates that result from the Contractor's work practices (i.e. complete wet interior first and then move to outside). Good weather days not used will count against Change Proposal.
- i. Claimed rain/wind days that extend beyond the scheduled Substantial Completion date or the extended Substantial Completion date will not be awarded. Days past substantial completion and good weather days that were not used because of sequencing of project work by Contractor will be considered "days within the control of the Contractor."

3. Acts or failures to act of utility owners or other third-party entities (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and checked
4. Acts of war or terrorism.

D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:

1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:

1. The circumstances that form the basis for the requested adjustment;
2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, and Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- H. The termination of Work during the winter season because of cold weather shall not be taken as entitling Contractor to any extension of Contract Time. If approved by Owner, Liquidated Damages being applied will cease through the winter and will begin again when the tank is removed from service. New Liquidated Damages are cumulative with any Liquidated Damages applied for Fall work.

ARTICLE 5 – SITE, SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage; [including car/paint damage claims](#), or injury claim is made by the Owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13.F, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
 - D. [Failure to continually maintain site or to immediately clean the Site after a complaint or at project completion may result in the Owner completing the cleaning by hire or by the Owner's forces. All cleaning costs are the responsibility of the Contractor, they will be collected by payment or Set off.](#)
 - E. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them. [Bent rails, ladder rungs, etc. occurring as a result of construction loading, shall be restored, or negotiated with Owner.](#)
 - F. [The Contractor shall provide adequate signs, barricades, red lights, and watchmen and take all necessary precautions for the protection of the work and the safety of the public. All barricades and obstructions shall be protected at night by signal from sunset-to-sunrise. Barricades shall be of suitable construction and shall be painted to increase their visibility at night. Suitable warning signs shall be so placed and illuminated at night as to show in advance where construction, barricades, or detours exist.](#)

- G. The Contractor shall at all times so conduct his work to insure the least obstruction to traffic and inconvenience to the general public and the residences in the vicinity of the work, and to insure the protection of persons and property in a manner satisfactory to the Engineer. No road or street shall be closed to the public except with the permission of the Engineer and proper governmental authorities. The Contractor shall confer with and keep police and fire departments of the municipality fully informed as to streets or alleys which are to be closed to traffic for construction purposes. Live fire hydrants on or adjacent to the work shall be kept accessible to fire fighting equipment at all times. Temporary provisions shall be made by the Contractor to insure the usability of sidewalks and the proper functioning of all street gutters, sewer inlets and drainage ditches.
- H. The Contractor shall have full charge of the premises and work under construction until completion and final acceptance of the Work under the Contract except as noted in the Special Conditions.
- I. The Engineer and Owner shall have full access to the Site and Contractor's personnel and equipment shall be available to the Owner and Engineer/RPR to expedite inspections. The Contractor shall be responsible for all injury to work in process of construction, and for all property or materials stored at the premises that may be damaged or stolen while the work is in his care, and shall make good all such damage or loss without expense to the Owner. The Contractor shall confine the apparatus, the storage of materials, and the operations of his workers to limits indicated by law, ordinance, permits, or direction of the Engineer, and shall not unreasonably encumber the premises with his materials or progression of Work.

5.03 *Subsurface and Physical Conditions*

A. *Coating and Repair Work:*

1. The coating and repair of steel or concrete structures does not involve reports and drawings and what can and cannot be considered Technical Data as an excavation Contract may. All of those General Conditions are deleted.
2. Underground work in the coating industry involves drilling for anchors for containment systems. The painting of pit piping may also be considered underground. For this type of Work the Contractor must rely on Utility Locating Services and not Technical Data from Owner, or in the case of pits, a visual inspection. Contractor shall notify each utility before digging for anchors or for any reason. Before starting, call in advance to 811 or as required by the individual agencies.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* In Paragraph 5.03 it is stated that based on the type of industry, that there would be no subsurface Technical data. Since there is no Technical Data or opinion proffered, it is impossible to have Differing Subsurface Conditions. But if Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site or **Underground Facility**, either is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then Contractor shall, promptly after becoming aware thereof and before further disturbing the physical conditions or performing any Work in connection therewith (except in

an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
 2. The Contractor is liable for all subsurface damages, Contractor may be entitled to an equitable adjustment if an unidentified Underground Facility is located but it will be determined on a project by project nature, based on what is known, should have been known or anticipated, since these situations are a rarity.
 3. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding

Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
 - d. **Rough Surfaces in the Wet Interior:** The wet interiors of steel structures are subject to corrosion. Based on the age of the tank, maintenance history of the tank, and other factors, the inside of the tank may be pitted. The degree or severity or extent of this pitting will not be considered a hidden condition. No claim of extra for blasting or coating application will be accepted or reviewed. If pit welding or pit filling is completed, that will be done at the bid unit price or a negotiated price. The Owner and Engineer will determine and authorize the extent of pit filling. There will likely be as many or more, unfilled pits than the number authorized for repair. Contractor cannot rely on pit filling to eliminate some of the application techniques needed for pitted tanks. Back rolling of a spray application may be necessary and will be considered Good Painting Practice and not a Differing Physical Condition.
 - e. The Contractor is also advised that older tanks may have been previously blasted and pit filled. The more difficult blasting also does not qualify as a hidden condition. Reducing blasting requirements and leaving some filler residue in the pit may be reviewed on a case by case basis.
4. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 5. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities:* See Paragraph 5.04

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. complying with applicable state and local utility damage prevention Laws and Regulations;
 - c. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;

- d. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
- e. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor:* See Paragraph 5.04

5.06 *Hazardous Environmental Conditions at Site*

- A. There are no known hazardous environmental conditions on-site for exceptions see D below. No reports or drawings related to Hazardous Environmental Conditions are known to the Owner or Engineer. There is the possibility of lead in soils or other Constituents of Concern related to the coating industry from past projects. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work or eventually identified as being caused or created by the Contractor. (i.e. Contractor spills thinner and during the cleanup of the thinner, soil containing lead is also removed, then the Owner pays only for the cleanup that can be cost differentiating, not a cost sharing principle.)
- B. Reports and Drawings: The Supplementary Conditions identify:
 - 1. those reports or drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
 - 2. Technical Data contained in such reports and drawings, and the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
- C. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- D. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Article 14); Engineer or RPR has full authority to STOP Work until the Owner and PM are contacted, and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a

Set-off against payments to account for the associated costs. **Authority to STOP Work in this instance is expanded to include potential environmental contamination.**

- E. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- F. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a Set-off.
- G. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 5.06.H do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Maintenance Bonds (Not Bid Bonds)*

- A. Contractor shall furnish a Performance Bond and a Payment Bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by these General Conditions or Supplementary Conditions or other specific provisions of the Contract.

- B. Supply a Maintenance (Warranty) Bond for two (2) years at 50% of the contract price to ensure any repair work required after the one (1) year Post Construction observation within thirteen (13) months (unless stated elsewhere) under the Maintenance Bond.
1. The Post Construction observation will be completed under the Performance Bond. All required Post Construction repairs shall be completed under the Performance Bond.
 2. If repair scheduling is delayed several months for Contractor's schedule (and agreed to by the Owner) the Performance Bond is extended until all required post construction repairs are completed. This Maintenance Bond is to remain in effect until repairs have been completed and accepted or after two years expiration of Performance Bond.
 3. If repair scheduling is delayed several months for Owner's schedule, then the Performance Bond upon request will be allowed to expire and work will be performed.
 4. Per Technical Specifications, if repairs exceed 10% of any area, then the Warranty period and Maintenance bond shall be extended until inspection and repair work if any is completed.
 5. The maintenance (warranty) bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.
- C. Performance, Payment, and Maintenance bonds shall all be Condition Precedent to Contract award. The Contract will not be signed until all three bonds are submitted, reviewed and included in the Contract Documents.
- D. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond. Use forms acceptable to AIA Industry Standards, or use forms specifically required by the Owner. Supply three (3) original signed and properly executed bonds for each type of bond and documented Power of Attorney for those parties executing Bonds.
- E. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts. Surety Companies must, in addition to State license, be incorporated and originating from within the United States. Offshore companies or internet companies are not acceptable. Supply bonds and insurance from companies with a Class A- VII rating or better (rating listed in latest edition and by A.M. Best Co.).
- F. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where

any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above. **No Pay Requests will be accepted until new Bonding is approved as acceptable per Bond Requirements and Owner's satisfaction.**

- G. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- H. Upon written request, Owner will provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.
- I. Owner is under no obligation to furnish Surety Co with copies of Bids, Change Orders, or Project Status updates.
- J. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

NOTE to OWNER & CONTRACTOR – All paragraphs related to Insurance were moved to Supplemental Condition, so that project specific and general requirements are in one location.

6.02 *Insurance – General Provisions* *Moved to SC-6.02*

6.03 *Contractor's Insurance* *Moved to SC-6.03*

6.04 *Builder's Risk and Other Property Insurance* *Moved to SC-6.04*

6.05 *Property Losses; Subrogation* *Moved to SC-6.05*

6.06 *Receipt and Application of Property Insurance Proceeds* *Moved to SC-6.06*

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 Contractor's Means and Methods of Construction

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.
- C. Resident Superintendent shall be fluent in English to the level of competency to complete requirements of 7.01.A and 7.02.A. Superintendent shall also be fluent or have access to a translator for the primary language of the majority of workers. Degree of fluency to be sufficient so that Superintendent can adequately complete his duties under 7.01.A.
- D. No employee of Contractor, Subcontractor, or Supplier may be on the Project Site who cannot be directed by a Superintendent, or translator in regards to work assignments, safety issues, or who cannot understand safety signage.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.
- D. The Owner may revoke any written or verbal consent if Contractor's performance of the Work results in complaints by neighbors.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence

(including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *“Or Equals”*

- A. The majority of material or equipment furnished under these contracts are coating related, or fabricated. Engineer maintains a coating program developed and maintained by Engineer. Coatings which have met or exceeded quality and ASTM parameters are listed in the Technical Specifications. No “or equal” coating products will be reviewed as “or equal.” Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified for noncoating and nonproprietary “or equals”.
- B. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an “or equal” item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - 1. In the exercise of reasonable judgment Engineer determines that:
 - 2. it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 3. it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 4. it has a proven record of performance and availability of responsive service; and
 - 5. it is not objectionable to Owner.
 - 6. Contractor certifies that, if approved and incorporated into the Work:
 - a. there will be no increase in cost to the Owner or increase in Contract Times; and
 - b. it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- C. Contractor’s Expense: Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.
- D. Engineer’s Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Engineer will be the sole judge of acceptability. No “or-equal” item will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an “or-equal,” which will be evidenced by an approved Shop Drawing or other written

communication. Engineer will advise Contractor in writing of any negative determination.

- E. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- F. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material (**excludes coating**) or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review will be set forth by the Engineer as they decide appropriate for the specific substitution request.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use.
 - a. will identify all variations of the proposed substitute item from that specified, and
 - b. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
 - c. **Additional information required may consist of completing Engineer's vendor checklist, field mock-ups, special samples, pilot testing, or other special requirements that Engineer determines necessary to assess if the item of material or equipment proposed is an acceptable substitute to that named.**
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner (Set-off) for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner (Set-off) for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
1. Engineer's minimum cost for reviewing a substitute will be \$400 (2 hrs. equivalent).
 2. Engineer exceeds two hours for review their rate will be \$200 per hour.
- E. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal but is liable for fee regardless of Engineer's determination.

7.07 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other

- individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
 - G. “Subcontracting” – This project requires prequalification. This prequalification requirement extends to Subcontractors.
 - H. The Contractor agrees not to sublet or assign this work without the written consent of the Owner. Violation of this condition shall be grounds for immediate dismissal of the Subcontractor or Contractor to which the work was sublet or assigned and if a satisfactory (Engineer’s opinion) replacement is not on the site working within forty-eight (48) hours, the violations shall then be grounds for Contract termination and Performance Bond forfeiture.
 - I. Lump sum payments to employees instead of hourly wage will be prima facie evidence of subcontracting. The Owner reserves the right to review payroll records and pay stubs. If subcontracting is approved, no more than 30% of the project may be subcontracted.
 - J. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor’s own acts and omissions.
 - K. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
 - L. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
 - M. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
 - N. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
 - O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others.
- B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner will assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work
- B. [The only permits not included are environmental air quality, and permits from health agencies for interior painting, which the Owner will procure if needed.](#)
- C. [Display all wage requirements and other permits on a temporary board.](#)
- D. [Attach to the Resident Superintendent's copy of the specifications, copies of other permits which do not require display.](#)

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.
- D. Claims or Change Proposals made for extra costs resulting from laws and regulations that become effective after the opening of Bids or (EDA), will be reviewed based on the exposure and publication of the law or regulation in advance. There will be no adjustment in Contract Price or Contract Time for environmental or safety regulations, or other laws and regulations with similar public notice and public hearing/review procedures. It is the Contractor's responsibility to be aware of industry specific changes in OSHA or environmental issues.
- E. Regulations dealing with labor rates have a known expiration date. Everyone can safely assume there will be a cost increase with each new issue. If these rates are scheduled to expire during Contract Time, then increase labor costs in Bid for the expected manhours by local cost-of-living factor. If rates increase more than cost-of-living, a Change Order will be reviewed for difference between cost-of-living and actual inflation adjusted wage of new rate above the adjusted old rate. Copy of payroll will be used to determine increase in wage only, not associated taxes, insurance, and benefits. The Contractor is responsible for requesting extra Change Proposal and supplying documentation establishing extra. All consideration for an increase ends on Substantial Completion, either original or Change Order extended date.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, approved Shop Drawings, and Non-Conformance Reports. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.
- B. Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor alone shall be responsible for the safety, efficiency, and adequacy of his plans, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operations. Submit a copy of

all OSHA reportable or recordable injuries or illness, and all OSHA citations relative to this project at project completion.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work; all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- C. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- D. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions may identify any Owner's safety programs that are applicable to the Work. Failure to identify specific program does not relieve the Contractor from safety program adherence requirement. If safety requirement is for a program not identified in the Supplemental Condition and is more restrictive than OSHA and it interferes with Contractor's Methods of Operation then Contractor may submit a Change Proposal for Contract Time and/or Contract Price.
- E. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- F. All damage, injury, or loss to any property referred to in Paragraph 7.13.A.1 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- G. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed.
- H. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.
- I. Lead/chrome paint removal, and painting of structures are recognized as very hazardous work, and it is further recognized that the painting industry has extensive safety training programs available.
- J. Monitor and be responsible for all safety on job site. The Engineer and Owner will not monitor safety practices and will not assume any responsibility for safety.
- K. The Owner and Engineer have historically followed the Contractor's safety plan when on the site. There have been occasions where the Contractor's safety plan has proven inadequate. The specifications may require safety features for the Owner and Engineer which are now the Contractor's contractual obligation to provide. These include such items as safety cables suspended from the roof for inspection of the interior roof, and safety clips on the bottom of the bowl for fall protection cables. (Legged tanks only) We encourage the Contractor to modify his fall protection plan and to provide additional cables and fall protection grabs for his personnel. Items such as roof railings are provided for the Owner's safety. Do not rig from the railings – a separate painter's rail is provided for rigging.
- L. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs. Contractor's Safety Representative shall have the authority to supersede Contractor's foreman and shall stop work if the Work being completed is in violation of Contractor's or Owner's safety program, or OSHA.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of Safety Data Sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 Submittals

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and

other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance nor approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention

in writing to revisions other than the corrections called for by Engineer on previous submittals.

2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than **two** submittals. Engineer will record Engineer's time for reviewing a **third** or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a Set-off against payments due to Contractor to secure reimbursement for such charges.
 3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a Set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.
 4. **All submittals shall be sent to the Engineer as one package (unless a separate Schedule of Submittals is included and approved by the Engineer). All required resubmittals are also to be resubmitted as one package and any delinquent resubmittal must be identified by a new Schedule of Submittals. Failure to include a Schedule of Submittals for delinquent items will be justification by Engineer to consider submittal complete. Delinquent items will be considered reviewed and rejected.**
 5. **The Engineer's minimum cost for issuing a second request will be \$400 (2 hours equivalent).**
 6. **Engineer's hourly rate and reviews requiring more than 2 hours will be completed at the rate of \$200/hr.**
 7. **Submit all material to Engineer's office in Lake Odessa, MI to allow fastest review time.**
- E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs
1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
 3. [Normal wear and tear does not apply to wet interior coating below the high water line. After one \(1\) year, zero \(0\) failure or deterioration is acceptable.](#)
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. the end of the correction period established in Paragraph 15.08;

8. any inspection, test, or approval by others; or
 9. any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.
- 7.18 *Indemnification Both Paragraphs A and B moved to SG6.07 under the Insurance Requirements*
- 7.19 *Delegation of Professional Design Services This Article rewritten for clarity*
- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
 - B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
 - C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
 - D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
 - E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 1. Checking for conformance with the requirements of this Paragraph 7.19;
 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
 - F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
 - G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8 - OTHER WORK AT THE SITE

8.01 *Other Work* *Some of this Article rewritten for clarity*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor ~~written~~ notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be provided at the Preconstruction Meeting or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. An itemization of the specific matters to be covered by such authority and responsibility; and
 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in this Contract, the Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a **Set-off** against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this **Paragraph 8.03.B**.
 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a **Set-off** against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor

- shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.
- D. If overhead power lines present an unsafe work condition as determined by OSHA, Owner or Utility; Contractor at his expense and coordination, shall have the Utility temporarily relocate, move, or cover lines, eliminating the hazard. Contractor will determine problems with utility lines during his prebid site visit and include anticipated costs in his bid.
 - E. Unless stated differently in Contract Documents, protect all antennas, controls, cables, and associated property of Owner's or Telecommunication Carrier's equipment or material on, in, or near the structure during work. Design construction procedures to maintain operation of antenna system.

ARTICLE 9 - OWNER'S RESPONSIBILITIES

9.01 Communications to Contractor

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 Replacement of Resident Project Representative

- A. Owner may at its discretion replace Resident Project Representative (RPR) with another RPR. The replacement RPR status under the Contract Documents shall be that of the former RPR.
- B. Contractor may request replacement of RPR for failure to perform safely, timely and /or professionally by submitting a complaint to Dixon that clearly delineates how the RPR failed to perform. Removal is the discretion of the Engineer or the Owner. If requested removal is because of disputes with Contractor, Owner may remove RPR and/or Contractor's Resident Superintendent. If an RPR is removed, they will be replaced with another RPR from DIXON.
- C. Project Manager may request removal of Resident Superintendent or any crew member for unprofessional performance and/or confrontational and /or aggressive attitude.
- D. The Contractor's Safety Representative can be removed but is not relieved of his responsibilities until a new Safety Representative is on Site.

9.03 Furnish Data

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

- 9.04 *Pay When Due*
- A. Owner will make payments to Contractor when they are due as provided in the Agreement.
- 9.05 *Lands and Easements; Reports, Tests, and Drawings*
- A. Owner's duties with respect to providing lands and easements are set forth in Article 5.
- 9.06 *Change Orders*
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.07 *Inspections, Tests, and Approvals*
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.08 *Limitations on Owner's Responsibilities*
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.09 *Undisclosed Hazardous Environmental Condition*
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.10 *Safety Programs*
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 - ENGINEER'S STATUS DURING CONSTRUCTION

- 10.01 *Owner's Representative*
- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in their Contract.
- 10.02 *Visits to Site*
- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed

toward providing for Owner a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work, and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07.

10.03 Resident Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as directed by Engineer, and limitations on the responsibilities thereof will be as provided in Paragraph 10.07.
- B. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.
- C. **Moved from SC. Verbiage is all EJCDC.** The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
 - 1. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
 - 2. Safety Compliance: Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
 - 3. Liaison
 - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
 - 4. Review of Work; Defective Work
 - a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Observe whether any Work in place appears to be defective.
 - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.

5. Payment Requests: Review Applications for Payment with Contractor.
 6. Completion
 - a. Participate in Engineer's visits regarding Substantial Completion.
 - b. Assist in the preparation of a punch list of items to be completed or corrected.
 - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
 - d. Observe whether items on the final punch list have been completed or corrected.
- D. The RPR will not:
1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
 5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
 7. Authorize Owner to occupy the Project in whole or in part.

10.04 Engineer's Authority

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.
- E. Engineer's authority as to Applications for Payment is set forth in Article 15.
- F. Engineer/RPR shall have the authority to stop work in the event continuation of Work is under a noncompliance situation, such as incomplete containment, which may result in the violation of environmental laws, or which may result in the covering of defective or unaccepted work product. Authority transfers back to the Owner after the Owner has been notified and returns to the Site.

10.05 Determinations for Unit Price Work

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 Determinations on Requirements of Contract Documents and Acceptability of Work

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, **will** create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for, or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents. **Any plan or method of accomplishing the work suggested to the Contractor by the Engineer or other representative of the Owner, but not specified or required, may be used but shall be used at the Contractor's own risk and responsibility. The Owner and Engineer assume no responsibility.**
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 shall also apply to the Resident Project Representative, if any.

10.08 Compliance with Safety Program

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 --CHANGES TO THE CONTRACT

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11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

11.02 Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.
- C. If Owner and Contractor are unable to agree on a price for Change Order work, do not proceed with Work unless ordered in writing by the Engineer or Owner as a Work Change Directive.
- D. If work involved is not essential to the scope of the project and/or there is sufficient time, a Bulletin will be issued and recommended by the Engineer. The Bulletin will request a price for proposed work, and/or any adjustment in Contract Times. If the

price as offered or as later negotiated is acceptable, the Bulletin will become the basis of the Change Order. By Owner acceptance and signing, the Bulletin offered by the Contractor may become a combined document: Bulletin #___/Change Order #___, or a new separate Change Order may be prepared.

11.03 *Work Change Directives:*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.
- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Time or Contract Price is necessary, then Owner shall submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders:*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.
- C. A Field Order is written by the Engineer and issued to the Contractor, copied to Owner. If the Contractor, or Owner does not object to the Field Order within three days of issuance and delivery, the Field Order is automatically accepted.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document,

Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents.

- C. Nothing in paragraph 11.05 shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.
- D. Owner authorized changes in the Work that do not require review of the Engineer would be things like i.e. forgiveness of some ground level punchlist item. The Owner shall advise the Engineer of such changes, the Contractor's notification will not be accepted.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 - 1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 - 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.7 or
 - 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 10 percent;

- b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
- d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.05. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05
- C. *A delay from one season to the next (Fall to Spring) may only be changed by Change Order. All additional charges generated are a Set off to the Contract Price.*

11.09 *Change Proposal*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall

specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. Change Proposal Procedures

1. Submittal: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
2. Supporting Data: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. Engineer's Initial Review: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
4. Engineer's Full Review and Action on the Change Proposal: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor.

If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. Binding Decision: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

- C. Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the

parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

- D. **Post-Completion:** Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change
- B. **Acceptance of Bonds tendered by Contractor to Owner neither creates nor does Owner accept any and all obligations that the Bonding Company may attempt to transfer to Owner even if specified by Bonding Company as a Condition of the Bond. The Contractor is advised he will be assuming any responsibility that the Contractor's Surety tries to impose on the Owner.**

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. **Claims Process:** The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
 - 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. **Submittal of Claim:** The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full **and fair** amount to which Contractor is entitled.
- C. **Review and Resolution:** The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim

through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation:*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – Cost of the Work; Allowances; Unit Price Work

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled

only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- d. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
- e. Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- f. With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price (“changed Work”), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor’s fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.

- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded*: The term Cost of the Work shall not include any of the following items:
 - 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools. For purposes of this paragraph, "small tools and hand tools" means any tool or equipment whose current price if it were purchased new at retail would be less than \$500.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
 - 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - c. When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.

d. When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2. Contractor's Fee:

E. Documentation and Audit: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract

Price. Payments to Contractor for Unit Price Work will be based on actual quantities. The Schedule of Values may refer to unknown quantities as “Estimated Figures.”

1. Claims made because of reduction of over 25% of estimated quantity of pit filling, or pit sealing, or roof seam sealing will be limited to reasonable (<25% cost of material) material restocking charge.
 2. Claims made because of reduction of over 25% of estimated quantity of pit welding, seam welding, or repairs will not be accepted if mobilization of welder for other repairs was required. Claims for reduction where repair was limited to reduced item will be limited to remaining percentage of mobilization costs.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor’s overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer’s preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer’s written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Adjustments in Unit Price
1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor’s unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
 2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor’s costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
 3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK, STOP WORK

14.01 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide the **Owner and Engineer and Resident Project Representative**, proper and safe conditions and equipment for such access and advise them of Contractor’s safety procedures and programs so that they may comply therewith as applicable. **Reasonable times means at times that would not burden the**

Contractor with an entire workforce, waiting to go back to work. Between job functions, at scheduled times, or Contractor breaks are reasonable times.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. **Correction of Failed Inspections, Non-Conformance Reports**
 - 1. **Non-Conformance Reports (NCR):** The Engineer/RPR will issue a Non-Conformance Report for every performance item, material, or equipment supplied, and/or environmental situation that fails to meet requirements of the specifications.
 - 2. **Correct all work in Non-conformance before proceeding.**
 - 3. **Immediately correct all environmental non-conformance to prevent accidents. If an incident has already occurred, contact the proper governmental environmental agency and conduct an immediate clean-up per their direction. Notify Engineer/RPR of environmental release and of the environmental agency's requirements for cleanup.**

4. If issued non-conformance reports are not corrected, the failure will be considered a breach of contract by the Contractor entitling the Owner to damages as follows, items listed in Paragraph 14.02.E.4.b will be treated as Set off:
 - a. Work in non-conformance: If the Contractor refuses to correct, the bonding company will be notified to finish the project. At that point, payment to the Contractor for all completed work will stop until the bonding company authorizes payment, or payment may be made to the bonding company after they have proven assumption of the contract. This clause does not give either party rights to a greater payment than detailed elsewhere in these documents.
 - b. Equipment specified but never supplied, or broken equipment not repaired or replaced: 125% of the rental value of equipment in non-conformance (i.e. non-working decontamination trailer, hand wash facilities, air filtration units, etc.). Environmental issues: 125% of the estimate of compliance. *The cost of items 4.a. above is calculated by damage estimates. The cost of equipment will be the rental charge from a reputable local dealer with 35% extra, being for operation cost. Cost of environmental compliance is the estimated cost of compliance. In no situation will the Owner assume liability.
- F. Costs of failed inspections as defined in the Technical Specifications, are the responsibility of the Contractor. Owner will pay Engineer and recover costs by Set-off to the Contractor.
- G. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- H. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense. (See Hold Points in Specifications.)

14.03 Defective Work

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective. **With coatings it is recognized that removing topcoat will damage underlying coats. Repair and recoat per written directive of Engineer.**

- E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable Set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the **coating**, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable Set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.
- D. Article 14.05 will be used only where applicable, such as insulation over fill pipe, work that can be viewed after it is uncovered. These paragraphs do not apply to coating because “uncovering” the topcoat will subsequently damage the underlying coatings. With coating removal, all work will be considered defective and Paragraph Article 14.05.C.1 shall apply. Article 14.05.C.2 shall not be used with coating removal.

14.06 *Owner, Engineer/RPR May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.
- B. Engineer/RPR may stop work if continued Work would result in the Contractor covering defective Work, or if continued operations will result in an environmental release. Engineer/RPR’s authority to stop Work ceases after notification of Owner and sufficient time for Owner to issue directives or to appear on site. (See 14.06 A)

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor’s services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner’s representatives, agents and employees, Owner’s other contractors, and Engineer and Engineer’s consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as Set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work

of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work [Engineer's fees and Owner's expenses](#).

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 2. [Engineer will consider that material stored on-site has no value until properly applied. Engineer will not recommend payment for materials in storage.](#)
 3. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.4.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 2. [If Contractor fails to submit required documentation material with application for payment, Engineer will notify Contractor of missing documents. If after second submittal material is still missing, Engineer may submit pay application to Owner withholding all moneys relative to missing data, or to contact](#)

Contractor again. Contractor is responsible for all increased engineering costs to the Owner as a Set-off after second submittal.

3. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
4. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
5. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
6. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.3.

7. Engineer will recommend reductions in payment (Set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
 - f. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum;
 - g. Reasonable evidence that the work cannot be completed within the contract time, or;
 - h. Damage to Owner or another Contractor;
 - i. Persistent failure to carry out the work in accordance with the Contract Documents;
 - j. Amount withheld to complete work calculated at cost of hiring another Contractor to complete work in case of default;
 - k. Legal claims have been made, or Engineer has reasonable knowledge of anticipated claims;

D. *Payment Becomes Due:*

1. Thirty days, or Owner's normal check processing schedule, after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

1. In addition to any reductions in payment (Set-offs) recommended by Engineer, Owner is entitled to impose a Set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

- c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits [to complete field observations that were determined to be a failed observation](#);
 - f. the Work is defective, requiring correction or replacement including additional inspection costs;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any Set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion.

Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. On tank projects, date of Substantial Completion is the date the tank is, or would have been returned to service, except for voluntary delay by Owner. Date of Substantial Completion is after complete cure, disinfection, and testing. A voluntary delay by Owner in filling the tank does not extend the Substantial Completion Date.
- C. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
 - 1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable Set-off against payments due under this Article 15.
- D. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its

intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through F for that part of the Work.
2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto. **Note: If an item on the punchlist interferes with return of structure to service then the structure cannot be considered Substantially Complete.**

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
- e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- f. A complete Submittal of Application for Final Payment fulfills all requirements and terminates the Liquidated Damages that may be assessed against Ready for Final Payment date.

B. *Engineer's Review of Application and Acceptance:*

- 1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any Set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. Contractor is responsible for security, safety, etc. on the site until all his equipment is removed and all keys are returned.

Final Payment Becomes Due: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall Set-off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to Set-offs for liquidated damages and Set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, Set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within **thirteen months** after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
1. correct the defective repairs to the Site or such other adjacent areas;
 2. correct such defective Work;
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay. **Notice of Claim may also be made to the bonding company, and will include requirement that the Maintenance Bond remain in effect.**
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
 5. [When, in the opinion of the Engineer, the Non-Conformance Reports and daily reports indicate the Contractor is unable or unwilling to complete the contract within the terms of the contract.](#)
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable Performance Bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of

the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any Payment Bond or Performance Bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a Performance Bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.
- H. Because of health, safety, and security concerns, this contract requires prequalification of Contractors. Termination procedures in this General Conditions are part of this contract. The bonding surety when taking over this Contract is required to complete work with another prequalified Contractor.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner

and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.
 4. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18 - MISCELLANEOUS

18.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.
3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is

due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Modified by



DIXON C-800 (2018), SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

This document was prepared using the guidelines for Supplemental Conditions prepared by the EJCDC (Document Committee). They have been edited to supplement General Conditions prepared by DIXON and are referred to as DIXON General Conditions 2018. In those documents DIXON merged all applicable supplemental conditions with the general conditions where appropriate. Issues that may change on a project to project basis were removed from the general conditions and placed in their entirety in the Supplementals. Items like Insurance where the Owner has to approve all of the Insurance paragraphs, not just those usually located in the supplemental. Electronic Document Transmittal (EDT) was also moved to the Supplemental.

**SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION
CONTRACT**

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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement DIXON 2019 Standard General Conditions of the Construction Contract Section 00 07 00. The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, “Paragraph SC-4.05.”

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

No suggested Supplementary Conditions in this Article.

ARTICLE 2 - PRELIMINARY MATTERS

SC 2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

A. The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol (“EDP” or “Protocol”) for exchange of electronic transmittals. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.

B. *Electronic Documents Protocol*

Delete paragraphs 2.06.B through 2.06.D from the General Conditions

1. *Basic Requirements - Include Project Engineer in this Protocol*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.

- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
 - 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is ten (10) MB. Attachments larger than that may be exchanged using large file transfer functions or physical media.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.
- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.

- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
- h. The Owner will operate a Project information management system (also referred to in this EDP as “Project Website”) for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information. The following conditions and standards will govern use of the Project Website:
 - 1) Describe the period of time during which the Project Website will be operated and be available for reliance by the parties;
 - 2) Provide any minimum system infrastructure, software licensing and security standards for access to and use of the Project Website;
 - 3) Describe the types and extent of services to be provided at the Project Website (such as large file transfer, email, communication and document archives, etc.); and
 - 4) Include any other Project Website attributes that may be pertinent to Contractor’s use of the facility and pricing of such use. If a Contractor creates a Website the Owner is not required to participate. If Owner, or

Engineer at Owner's request, creates a Project specific Website, Protocol will be established at the Preconstruction Meeting.

C. Software Requirements for Electronic Document Exchange; Limitations

1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
3. Software and data formats for exchange of Electronic Documents will conform to the following requirements, including software versions, if listed:

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contactors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	

a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			
Key				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format readable by Adobe® Acrobat Reader Version 9.0 or later			
DWG	Autodesk® AutoCAD .dwg format Version 2013			
DOC	Microsoft® Word .docx format Version 2010			
EXC	Microsoft® Excel .xls or .xml format Version 2010			
DB	Microsoft® Access .mdb format Version 2010			

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

D. Requests by Contractor for Electronic Documents in Other Formats

1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor (“Request”) in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner’s response to the Request, and to the following conditions to which Contractor agrees:
 - a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer’s purposes solely, and is being provided to Contractor on an “AS IS” basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor’s application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications,

undocumented intermediate revisions, and other devices that may affect subsequent reuse.

- b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.
 - c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
 - d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$150 per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

ARTICLE 5 – SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 *Subsurface and Physical Conditions*

- A. There are no known Technical data or Drawings available for this site.

SC-5.06 *Hazardous Environmental Conditions*

- A. There are no known reports or site conditions which would or could indicate that the site is a hazardous environmental site.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.02 *Insurance—General Provisions*

- A. Contractor shall obtain and maintain insurance as required in this Article of the Supplementary Conditions.

- B. All insurance required by the Contract to be purchased and maintained by Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. All companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better. Insurance Companies must, in addition to State license, be incorporated and originating from within the United States. Offshore companies or internet companies are not acceptable. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract.
- D. Contractor shall deliver to Owner, with copies to each named insured and additional insured, minimum three (3) copies (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner to demand such certificates or other evidence of the Contractor's full compliance with these insurance requirements, or failure of Owner to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the Contractor's obligation to obtain and maintain such insurance.
- F. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- G. If Contractor does not purchase or maintain all of the insurance at the specified level by the Contract, Contractor shall notify Owner in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- H. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16 of the General Conditions.

- I. Without prejudice to any other right or remedy, if Contractor has failed to obtain required insurance, Owner may elect to obtain equivalent insurance to protect Owner's interests at the expense of the Contractor who was required to provide such coverage, and the Contract Price shall be adjusted accordingly with a set off.
- J. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and DIXON (and any other individuals or entities identified in these Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- K. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- L. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability, or that of its subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract.
- M. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the Contractor. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.
- N. All policies apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable

SC-6.03 Contractor's Insurance

- A. Required Insurance: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions
 - 1. *Workers' Compensation and Employer's Liability:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, stop-gap employer's liability coverage for monopolistic state, claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees.

Workers' Compensation and Related Policies	Policy limits of not less than:
Workers' Compensation	
State	Statutory
Bodily injury by accident—each accident	Statutory

2. *Commercial General Liability*

- a. *Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for
- 1) Damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employee
 - 2) Damages insured by reasonably available personal injury liability coverage, and
 - 3) Damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- b. *Form and Content:* Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:
- 1) Products and completed operations coverage.
 - Such insurance must be maintained for three years after final payment.
 - Contractor shall furnish Owner and each other additional insured (as identified in these Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter. Insurance shall remain in place as specified but delivery of Certificates of Insurance submittal for three years only required if specified here in the Supplemental Conditions.
- c. *Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
- Any modification of the standard definition of "insured contract"
 - Any exclusion for water intrusion or water damage.
 - Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01
 - Any exclusion of coverage relating to earth subsidence or movement.
 - Any exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than worker's compensation)
 - Any limitation or exclusion based on the nature of Contractor's work

3. *Automobile Liability*: Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Bodily Injury	
Each Person	\$1,000,000
Each Accident	\$1,000,000
Property Damage	
Each Accident	\$1,000,000
[or]	
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000

4. *Umbrella or Excess Liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$5,000,000
General Aggregate	\$5,000,000

- *Using umbrella or excess liability insurance to meet cgl and other policy limit requirements*: contractor may meet the policy limits specified for employer’s liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy’s policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of the specified amount after accounting for partial attribution of its limits to underlying policies, as allowed above.

- B. *Additional Insureds*: The Contractor’s commercial general liability, automobile liability, employer’s liability, umbrella or excess, and unmanned aerial vehicle liability policies, if required by this Contract, must:
1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;

3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
4. not seek contribution from insurance maintained by the additional insured; and
5. As to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

SC-6.04 Builder's Risk and Other Property Insurance

- A. **Builder's Risk:** Unless otherwise provided in these Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. **Property Insurance for Facilities of Owner Where Work Will Occur:** Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined.
- C. **The builder's risk insurance must be written on a builder's risk "all risk" policy form that at a minimum includes insurance for physical loss or damage to the Work. Material in storage or transit is at risk and protected as Contractor determines. The Owner does not take responsibility for storage, transit or while on site until installed. The policy may or the Contractor may self-insure for vandalism and malicious mischief; debris removal; and water damage (other than that caused by flood).**
 - a. Such policy will include an exception that results in coverage for ensuing losses from physical damage or loss with respect to any defective workmanship, methods, design, or materials exclusions.
 - b. Policy shall allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.
 - c. Allow for partial occupancy or use by Owner by endorsement, and without cancellation or lapse of coverage.
 - d. be maintained in effect until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first
 - e. Either insure or self-insure for all "soft cost" losses, the Owner is not responsible for Soft Losses which result from an insurable event.

SC-6.05 Property Losses; Subrogation

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its

consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

- B. Contractor waives all rights against Owner and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

SC-6.06 *Receipt and Application of Property Insurance Proceeds*

If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

SC- 6.07 *Indemnification (moved from GC-7.18)*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual

or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph SC 6.07.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- A. Owner is exempt from payment of sales and compensating use taxes of the State of Michigan and of cities and counties thereof on all materials to be incorporated into the Work.
1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

ARTICLE 8 – OTHER WORK AT THE SITE

8.02 *Coordination* – If there is other Work to be completed it will be discussed in Section 00 00 40 Project Explanation of the Specifications.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

ARTICLE 11 – CHANGES TO THE CONTRACT

ARTICLE 12 – CLAIMS

ARTICLE 13 – COST OF WORK; ALLOWANCES, UNIT PRICE WORK

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

ARTICLE 15 – PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

ARTICLE 17 – FINAL RESOLUTIONS OF DISPUTES

ARTICLE 18 – MISCELLANEOUS

SECTION 00 91 18
DEFINITIONS for TECHNICAL SPECIFICATIONS

PART 1 – GENERAL

1.01 DEFINITIONS FOR TECHNICAL SPECIFICATIONS

- A. Wet Interior: Internal surfaces, excluding inaccessible areas, to the roof, shell, bottom, accessories, and appurtenances that are exposed to the stored water or its vapor. Examples are the interior of the roof, sidewall, floor.
- B. Exterior: External surfaces, excluding inaccessible areas, of the roof, sidewall, accessories, and appurtenances that are exposed to the elemental atmosphere.
- C. Inaccessible Areas: Areas of the finished structure that, by virtue of the configuration of the completed structure, cannot be accessed to perform surface preparation or coating application (with or without the use of scaffolding, rigging, or staging). Inaccessible areas include such areas as the contact surfaces of roof plate lap joints, underside of roof plates where they cross supporting members, top surface of rafters directly supporting roof plates, contact surfaces of bolted connections, underside of column baseplates, contact surfaces of mating parts not intended to be removed or disassembled during routine operation or maintenance of the structure, and underside of the floor plate for ground supported flat bottom tanks.
- D. Sidewall: Vertical walls to the weld seam of the roof.
- E. Roof: Very top of the structure, including top seam of sidewall.
- F. Floor: Lower area of the tank proper shaped like a flat plate.

SECTION 00 91 19.01
ADDITIONS to GENERAL CONDITIONS
SCHEDULING for RPR SERVICES

PART 1 - COMMUNICATION

1.00 RESIDENT PROJECT REPRESENTATIVE (RPR) SERVICES

- A. DIXON provides three types of RPR services or any combination of the three:
1. Hold Point Site Visits (sometimes called Critical Phase Visits) where RPR Services are for defined Hold Point, where Work stops until that portion of Work is reviewed on Site by a professional RPR.
 2. Full Time RPR is a professional RPR staying in lodging away from home and living on per diem expenses.
 3. Daily RPR is a professional RPR living at home and traveling to Site on a daily basis.
 4. Based on the type of project the RPR services may change from Daily or Full Time to Hold Point or from Hold Point to Daily or Full Time.
 5. Intended Beneficiary: The onsite observation services for this project are for the benefit of the Owner. There are no intended benefits to the contractor, or any other third parties. Contractor still provides quality control (QC).

1.01 HOLD POINT OBSERVATIONS and MEETINGS

- A. Each hold point requires an onsite visit for Observation. If the contractor coats over or otherwise makes work inaccessible for Observation, the Work will be considered failed. Remove Work and recoat in accordance with this specification. At least two (2) new hold points, surface preparation and coating, may be created when Work fails after the primer has been applied.
- B. Stop Work and schedule Observation times for the following Hold Points as a minimum. Additional Hold Points may be determined at the Preconstruction Meeting. Each Hold Point requires a Site visit and observation. Schedule of Hold Points – Preliminary:
1. Hold Point Meeting: The Preconstruction Meeting is included because it is a meeting but also the primary hold Point. The Preconstruction Meeting will not be scheduled until five (5) days after all required submittals are received and reviewed by the Engineer and no exceptions are taken to the shop drawings.
 2. Hold Point - Prior to draining tank:
 - a. To ensure all Section of 01 50 00 and 01 53 43 environmental requirements are met.
 - b. To ensure all containment, ventilation, decontamination, and blasting equipment are on-site and in working order.
 3. Hold Points – Section 03 01 00.01 – Concrete Foundation Repairs.
 - a. To locate or quantify repairs as necessary.
 - b. To review surface preparation prior to concrete or grout installation and review all products prior to installation.
 - c. After concrete or grout application is complete for quality assurance.
 4. Hold Points – Section 05 00 00 – Metal Repairs:

- a. To locate or quantify repairs as necessary.
- b. To review surface preparation prior to welding and review all products prior to installation.
- c. After welding is complete for quality assurance.
- 5. Hold Points – Sections 09 97 13 – Steel Coating and 09 97 13.10 Steel Coating Surface Preparation:
 - a. After completed erection of containment if applicable.
 - b. Prior to surface preparation to set the standard.
 - c. Prior to primer application to verify cleanliness, profile, thoroughness, and ambient conditions for coating application.
 - d. Prior to application of each successive coat for quality assurance and ambient conditions for the next coat.
 - e. Prior to final coat to verify all non-conformance issues have been resolved.
 - f. Scheduled pre-final Observation: Allow engineer access to all locations so a complete punch list can be prepared. Final coat on ladders or other access points can be delayed until after this Observation and included as a punch list item.
 - g. Scheduled final Observation: After ALL punch list items have been completed (including painting ladders), provide access to all items on the punch list.

1.02 SCHEDULING for RPR SERVICES for HOLD POINT OBSERVATIONS

- A. Prior to First Observation 48 hours advance Notice is required
- B. All Subsequent Hold Points shall be scheduled 12 Hours (previous Day) in advance.
 - 1. Scheduling with a Central Contract Administrator.
 - a. The Contract Administrator in charge of Scheduling for all projects is:
Aaron Eckert (269)-838-0622
 - b. Second Contract Administrator scheduling for all projects is:
Craig Springer (630)-417-6769
- C. The Contract Administrator may be contacted by cell phone. If no answer a voice mail may be left with all details of RPR request included, or
- D. The Contract Administrator may be contacted by text to their cell phone.
- E. If the Contract Administrator is not available DIXON's base office for the Project may be contacted during regular working hours.
- F. Contacting a Project Manager for assistance shall be the last alternative.
- G. Scheduling through an RPR is not an alternative for Hold Point Observation.

1.03 SCHEDULING FOR RPR SERVICES for FULL TIME of DAILY OBSERVATIONS

- A. Productive Work
 - 1. Do not start, continue, or complete any Productive Work if RPR is not present on the project site.
 - 2. Productive Work includes, but is not limited to, all elements of abrasive blast cleaning, power washing, high pressure water jetting or high/low pressure water cleaning, power tool cleaning, rigging, painting, punch list, and clean-up.

3. Preparation, mobilization, and containment erection, and other non-productive work does not require observation if completed before the structure is removed from service, nor does demobilization after tank is returned to service.
4. But if containment erection is completed while other productive work progresses, an RPR is required.
5. If welding is completed for contracted work (antenna rails, painter's rails, ladders, etc.) during containment erection welding, then contracted work is considered Productive Work and an RPR shall be present. Any spot painting during containment erection is also considered Productive Work.
6. After the project has been completed and after all punch list items have been completed, cure time and site clean-up, excluding any waste coating or abrasive issues, are not considered Productive Work.
7. After the Project has been completed; complaints from Owner or neighbors concerning health, environmental, or damage issues, or if there are still waste coating or waste abrasive issues, these are considered Productive Work requiring an RPR even after the structure is returned to service.
8. Essentially all work completed between out-of-service date and Substantial Completion Date, excluding cure and disinfection, is considered Productive Work and requires the presence of an RPR.

1.04 SCHEDULING WITH A CENTRAL CONTRACT ADMINISTRATOR

- A. The Contract Administrator in charge of Scheduling for all projects is: Aaron Eckert (269)-838-0622
- B. Second Contract Administrator scheduling for all projects is: Craig Springer (630)-417-6769
- C. The Contract Administrator may be contacted by cell phone. If no answer a voice mail may be left with all details of RPR request included or
- D. The Contract Administrator may be contacted by text to their cell phone.
- E. If the Contract Administrator is not available DIXON's base office for the Project may be contacted during regular working hours.
- F. Scheduling through a Project Manager is not an alternative.

1.05 SCHEDULING THROUGH ONSITE RPR

- A. Scheduling through on site RPR completing Full Time or Daily RPR Services may be considered a properly completed Request if completed by the foreman and RPR before leaving site. If not completed on site then schedule through the Central Contract Administrator.

1.06 SUMMARY OF SCHEDULING HOLD POINT OBSERVATIONS

- A. Aaron Eckert (269)-838-0622
 1. by phone
 2. by text
 3. by voice mail
- B. Craig Springer (630)-417-6769
 1. by phone

- 2. by text
- 3. by voice mail
- C. Base Office during work hours
 - 1. by phone
 - 2. NO voicemail
- D. Project Manager
 - 1. by phone

1.07 SUMMARY OF SCHEDULING FOR FULL TIME OR DAILY OBSERVATIONS

- A. Aaron Eckert (269)-838-0622
 - 1. by phone
 - 2. by text
 - 3. by voice mail
- B. Craig Springer (630)-417-6769
 - 1. by phone
 - 2. by text
 - 3. by voice mail
- C. Base Office during work hours
 - 1. by phone
 - 2. NO voicemail
- D. RPR on site
- E. Do NOT contact Project Manager

1.08 CONTRACTOR'S RESPONSIBILITIES

- A. The Engineer and Owner shall have full access to the Site at reasonable times for their Observation, testing, and Contractor's personnel and equipment shall be available to the Owner and Engineer/RPR to expedite Observations. Provide Owner, Engineer/RPR proper and safe conditions for such access, including rigging, and advise them of contractor's site safety procedures and programs so that they may comply as applicable.
- B. Contractor is responsible for all of Contractor's manpower needs and scheduling and Work to be completed. RPR is to be available to expedite the project and complete their services with minimal interference of the Contractor's Work. Successful project completion is dependent on Contractor's proper scheduling and use of RPR services.
- C. Contractor is financially responsible for efficient scheduling of RPR services, See Section 00 91 19.02.

1.09 DELAY in ARRIVAL of RPR

- A. RPRs for Hold Point, Full – Time or Daily observations may be delayed by traffic or other reason from arriving at the scheduled time. Contractor shall contact Contract Administrator immediately if the RPR has not arrived at the scheduled time.
- B. The Contract Administrator will locate the missing RPR, return to the Contractor with a revised arrival time, and discuss with Contractor what other Work can be completed until RPR arrives for Observation.

1.10 REJECTED DEFECTIVE WORK

- A. All Productive Work completed without an RPR present shall be considered Defective Work and rejected per the General Conditions. This includes Work completed:
 - 1. Without proper scheduling an RPR
 - 2. Prior to the scheduled arrival of the RPR
 - 3. When Day has been scheduled as a No Workday
 - 4. When RPR is delayed and Contract Administrator has not been notified.

1.11 NON-CONFORMANCE REPORTS (NCR)

- A. The RPR will issue a non-conformance report for every performance item, material, or equipment supplied, and/or environmental situation that fails to meet requirements of the specifications.
- B. All Work in non-conformance will be considered Defective Work to be replaced, repaired per terms of the General Conditions.
- C. Do not start Work until all required equipment and RPR is on-site.
- D. Immediately correct all environmental non-conformance to prevent an accident. If an incident has already occurred, contact the proper governmental environmental agency and conduct an immediate clean-up per their direction.
- E. If the Nonconformance is issued because of equipment specified but not delivered, repaired or replaced then the financial Set-off will be 140% * of the rental value of equipment in non-conformance (i.e. non-working decontamination trailer, hand wash facilities, are filtration units, etc.).
- F. If the Nonconformance issued is because of noncompliance with environmental equipment or practices the Set-off will be 140%* of the estimated cost of compliance.
*The costs of items E. and F. above are damage estimates. The cost of equipment will be the rental charge from a reputable local dealer with 40% extra being for operation cost. Cost of environmental compliance is the estimated cost of compliance. The extra 40% is potential risk to the owner for non-conformance. In no situation will the Owner assume liability.
- G. All additional Engineering/RPR expenses incurred because of a nonconformance report is subject to Set off by Owner.

00SECTION 00 91 19 .02

ADDITIONS to GENERAL CONDITIONS

CONTRACTOR'S FINANCIAL RESPONSIBILITY FOR RPR

PART 1 - PROGRESS SCHEDULE and RPR SCHEDULE

1.00 Contractor is Financially Responsible for the Proper and Efficient use of RPR Services

1.01 Progress Schedule

- A. Per the General Conditions a Progress Schedule is required to be submitted. At the Preconstruction meeting the Contractor shall submit a preliminary Progress Schedule. This General Conditions of this contract as-bid restricts Work to 40 hours/ 8 hours per day, 5 days per week. If the Owner has prior approved a more open schedule it is noted in the Project Summary. Either prior approved in the Project Summary or not; a Progress Schedule more aggressive than Monday through Friday, regular working hours, will require submittal and discussion, at Preconstruction Meeting.
- B. Once the Owner, at the Preconstruction meeting accepts a more aggressive schedule the Contractor is responsible for all of the Contractor's manpower scheduling and Critical Path Work to maintain the Schedule.
- C. Contractor shall complete a minimum 8 hours per day of Productive Work, which should be calculated into the Schedule.

1.02 Contractor is Responsible for Proper and Efficient use of Hold Point RPR Services

- A. Fees for Hold Point RPR Services are contracted with the Owner at a Unit Price and are calculated to include the following: travel time to and from Site, reimbursable expenses, observation and report time. Time required for Contractor to repair or redo small areas that failed Observation, are not included in the unit price. Failure may be minimal compared to all Work observed, but failed Work still must be observed before proceeding. For minor failures that can be quickly repaired, the Contractor may entirely at their option:
 - 1. Accept a Non-Conformance for failed Observation
 - 2. Request, the RPR wait for a reasonable period while repairs are completed.
 - 3. Proceed with the next phase for all areas which have not failed, and "work around" failed areas. The failed areas would then be observed at the next Hold Point.
- B. The Fee for extended onsite time, or a new Hold Point is the responsibility of the Contractor.

1.02.1 Contractor's Responsibility for Proper and Efficient Use of Full Time or Daily RPR Services

- A. It is the intention of the Owner, that the RPR fees be used to observe Productive Work. Productive Work is defined in previous Section 00 91 19 .01 Scheduling for RPR Services, with examples. The Owner will pay for all RPR service fees generated observing Productive Work that meets specification requirements. Normally this will

be the first time for most observations. But if Observation fails, then the Owner pays for second observation, if it passes.

- B. The Contractor will pay all RPR and/or Engineer fees generated by failed Observations of Productive Work.
- C. Availability of RPR and RPR's ability to timely perform the required Services are dependent on Contractor's communication. RPR is to be available to meet the Progress Schedule demands and complete RPR services with minimal interference of the Contractor's Work, if Contractor properly scheduled RPR Services.

1.02.2 Contractor is Responsible for Proper and Efficient Use of Daily or Full Time RPR Services

- A. Contractor Pays for RPR or Engineering Services resulting from:
 - 1. Productive Work on a Holiday
 - 2. Failed or Improper Scheduling,
 - 3. Failure to Request Observation per Section 00 91 19 .01,
 - 4. Less than 8 hours per day or On-Call Time as a result of:
 - a. Premature Request for RPR Services,
 - b. No show or late start,
 - c. Rejection of Work and/or Non-Conformance reports,
 - d. Equipment failure, insufficient manpower, materials or equipment
 - e. Weather reasons per 1.04.B.03

1.03 RPR Fee Calculation for Failed Observations

- A. The basis for Fees assessed to Contractor is based on the Owner/DIXON contract. Fees will be calculated in the same manner as in Owner/Engineer Agreement, i.e. if the RPR is working at an overtime rate for Owner, then fee for unproductive services will be documented at the same rate
 - 1. Hold Point for Welding or Coating Observation, or extra Progress Meetings
 - a. The same Unit Price Fee as would be charged to Owner for each respective Observation or meeting. Note the fee will be determined by the Contract and may vary between types of Hold Point services.
 - b. Extended time at site charged at Regular Rate (See definition below)
 - 2. Daily Observation shall be the same fee as charged to Owner from the Owner/DIXON contract.
 - a. Minimum workday is 8 hours plus travel time
 - b. reimbursable mileage
 - 3. Fulltime Observation Fee shall be the same as charged to Owner for the same Service.
 - a. Minimum workday is 8 hours
 - b. Minimum work week is 40 hours
 - c. Reimbursable expenses/ Per Diem
 - 4. Fees common to Full Time, Daily and Hold Points with extended stays, and On-Call Time
 - a. Regular Pay for RPR is charged at the rate matching the RPR's experience and qualifications.
 - b. Overtime Rate is 1.5 times Regular Rate

- i. For all time worked on the actual holiday
 - ii. Weekend work by RPR
 - iii. For time over 40 hours. (The standard work week for overtime (over 40) begins on Monday as Sunday is already paid at overtime rate.)
- B. Fees of misused or unnecessary Engineer/RPR Services will be documented and submitted to the Owner for Set off.
- C. The right to Set-off is a contracted right of Owner per the General Conditions, or Additions to General Conditions, and the right to enforce those rights are at the Owner's discretion.

1.04 On-Call Time

- A. RPR's are professional personnel that get paid a minimum of 8 hours per day even though the Contractor's operations or methods results in less than an 8 hour day.
- B. If the Contractor has scheduled a Workday, and if RPR is not free to spend the day at RPR's discretion or to be reassigned; then the RPR will be considered On-Call.
 - 1. The RPR will be considered, if scheduled, on-call every morning and day unless work is cancelled per Section 00 19 91.01.
 - 2. For Daily observation the On - Call time will not exceed 8 hours, any travel time should occur within that 8 hours.
 - a. Late Starts - Agreed start time will be scheduled with the Contract Administrator at the Preconstruction Meeting.
 - b. The RPR's on-call time starts at the agreed start time, if RPR is on Site and available to Work, and On Call time continues until Work starts.
 - 3. For weather reasons
 - a. 8 hours if adverse weather conditions were clearly forecast
 - b. Two hours plus time worked up to 8 hours or actual time worked if greater; if forecast was less than 20% weather meeting definition of a weather day.
 - 4. For reasons other than weather, eight (8) hours will be considered minimum On-Call Time. This includes, but is not limited to, equipment failure, insufficient materials, damaged containment, etc.
- C. Actual charged on-call time will be eight (8) hours, minus the number of hours actually worked.
- D. Overtime, Weekend, Holiday pay requirements apply to all on-call time pay. On-call hours will count towards forty (40) hour week triggering overtime at forty (40) hours.
- E. If Work is cancelled per requirements in Section 00 19 91.01 (by prior night) in advance and RPR is notified in advance, there is no on call time.
- F. If contractor schedules days off per Scheduling requirements, the inspector will return to his/her home base and there will be no show time charges. Based on the Contract the RPR may be entitled to Mobilization or Demobilization.

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SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES and UTILITIES

PART 1 – GENERAL

1.01 SUMMARY

- A. The Contractor is fully responsible to provide and maintain temporary facilities and utilities required for construction as described herein, and to remove the same upon completion of work.

1.02 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. National Fire Protection Association (NFPA): NFPA No. 70-93.
 - 2. National Electrical Code (NEC) and local amendments thereto.
 - 3. Comply with any and all federal, state, and local codes and regulations, and utility company requirements.

PART 2 – PRODUCTS

2.01 TEMPORARY ELECTRICITY and LIGHTING

- A. Supply temporary lighting sufficient to enable contractor to safely access all work areas.
- B. Electrical requirements shall be the responsibility of the contractor. No service available to contractor.
- C. Provide, maintain, and remove temporary electric service facilities.
- D. Facilities exposed to weather shall be weatherproof-type and electrical equipment enclosure locked to prevent access by unauthorized personnel.
- E. Contractor is to pay for and arrange for the installation of temporary services.
- F. Patch affected surfaces and structures after temporary services have been removed.
- G. Provide explosion-proof lamps, wiring, switches, sockets, and similar equipment required for temporary lighting and small power tools.

2.02 WATER for CONSTRUCTION

- A. Owner will provide water required for cleaning and other purposes.
- B. Water use shall not exceed usage that might endanger the owner's water system's integrity.

2.03 SANITARY FACILITIES

- A. Provide temporary sanitary toilet facilities conforming to state and local health and sanitation regulations, in sufficient number for use by contractor's employees.

- B. Maintain in sanitary condition and properly supply with toilet paper.
- C. Remove from site before final acceptance of work.

2.04 TEMPORARY FIRE PROTECTION

- A. Provide and maintain in working order a minimum of two (2) fire extinguishers and such other fire protective equipment and devices as would be reasonably effective in extinguishing fires.

2.05 DAMAGE to EXISTING PROPERTY

- A. Contractor is responsible for replacing or repairing damage to existing buildings, sidewalks, roads, parking lot surfacing, and other existing assets.
- B. Owner has the option of contracting for such work and having cost deducted from contract amount if the contractor is not qualified to complete repairs or fails to act in a timely manner.

2.06 SECURITY

- A. Security is not provided by owner.
- B. Contractor shall be responsible for loss or injury to persons or property where work is involved and shall provide security and take precautionary measures to protect contractor's and owner's interests.

2.07 TEMPORARY PARKING

- A. Parking for equipment and Contractor employees shall be designated and approved by owner.
- B. Make arrangements for parking area for employees' vehicles.
- C. Any costs involved in obtaining parking area shall be borne by the contractor.

PART 3 – EXECUTION

3.01 GENERAL

- A. Contractor shall maintain and operate all temporary systems to ensure continuous service.
- B. Contractor shall modify and extend systems as work progress requires.

3.02 REMOVAL

- A. Completely remove temporary material and equipment when no longer required.
- B. Clean and repair damage caused by temporary installation or use of temporary facilities.
- C. Restore existing or permanent facilities used for temporary services to specified, or original condition.

3.03 BARRIERS and ENCLOSURES

- A. The contractor shall furnish, install, and maintain as long as necessary, adequate barriers, warning signs or lights at all dangerous points throughout the work for protection of property, workers, and the public. The contractor shall hold the owner harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the work under the contract.

SECTION 01 53 43
PROTECTION of ENVIRONMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. Contractor in executing work shall maintain work areas, on-and-off site, free from environmental pollution that would be in violation of federal, state, or local regulations.
- B. The Contractor is responsible for any and all clean-up that may be necessary and all applicable costs for the same.

1.02 LAWS and REGULATIONS –

- A. Environmental regulations may be met with different available technologies. It is the Contractor's sole responsibility to comply with these and all applicable environmental regulations.
- B. If a contamination occurs work will stop until cleanup is complete.

1.03 PROTECTION of SEWERS

- A. Take adequate measures to prevent impairment of operation of existing sewer system. Prevent construction material, pavement, concrete, earth, or other debris from entering sewer or sewer structure.

1.04 PROTECTION of WATERWAYS

- A. Observe rules and regulations of local and state agencies, and agencies of U.S. government prohibiting pollution of any lake, stream, river, or wetland by dumping of refuse, rubbish, dredge material, or debris therein.
- B. Provide containment that will divert flows, including storm flows and flows created by construction activity, to prevent loss of residues and excessive silting of waterways or flooding damage to property.
- C. Comply with procedures outlined in U.S. EPA manuals entitled "Guidelines for Erosion and Sedimentation Control Planning and Implementation," Manual EPA-72-015 and "Processes, Procedures, and Methods to Control Pollution Resulting from all Construction Activity," Manual EPA 43019-73-007.

1.05 DISPOSAL of EXCESS EXCAVATED and OTHER WASTE MATERIALS

- A. Dispose waste material in accordance with federal and state codes, and local zoning ordinances.

- B. Unacceptable disposal sites include, but are not limited to, sites within wetland or critical habitat, and sites where disposal will have detrimental effect on surface water or groundwater quality.
- C. Make arrangements for disposal subject to submission of proof to engineer that owner(s) of proposed site(s) has valid fill permit issued by appropriate government agency and submission of haul route plan, including map of proposed route(s).
- D. Provide watertight conveyance for liquid, semi-liquid, or saturated solids that have potential to leak during transport. Liquid loss from transported materials is not permitted, whether being delivered to construction site or hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at selected disposal site.
- E. Waste generated by abrasive blast cleaning is detailed in Section 09 97 13.

1.06 PROTECTION of AIR QUALITY

- A. Contain paint aerosols and VOCs by acceptable work practices.
- B. Minimize air pollution by requiring use of properly operating combustion emission control devices on construction vehicles and equipment used by contractor, and encouraging shutdown of motorized equipment not actually in use.
- C. Trash burning not permitted on construction site.
- D. If temporary heating devices are necessary for protection of work, they shall not cause air pollution.

1.07 PROTECTION from FUEL and SOLVENTS

- A. Protect the ground from spills of fuel, oils, petroleum distillates, or solvents by use of containment system.
- B. Total paint, thinner, oils, and fuel delivered to and stored on-site cannot exceed supplied capacity of spill containment provided (i.e. fuel and oil to be sized to exceed possible spill).
- C. Provide proper containment unit under fuel tank and oil reservoirs for all equipment and fuel storage tanks.
- D. Barrels of solvents, even for cleaning, are prohibited. Do not deliver paint thinners in containers greater than five (5) gallons.
- E. Disposal of waste fluids shall be in conformance with federal, state, and local laws and regulations.

1.08 USE of CHEMICALS

- A. Chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must show approval of U.S. EPA, U.S. Department of Agriculture, state, or other applicable regulatory agency.

- B. Use of such chemicals and disposal of residues shall be in conformance with manufacturer's written instructions and applicable regulatory requirements.

1.09 NOISE CONTROL

- A. Conduct operations to cause least annoyance to residents in vicinity of work, and comply with applicable local ordinances.
- B. Equip compressors, hoists, and other apparatus with mechanical devices necessary to minimize noise and dust. Equip compressors with silencers on intake lines.
- C. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.
- D. Route vehicles carrying materials over such streets as will cause least annoyance to public and do not operate on public streets between hours of 6:00 P.M. and 7:00 A.M., or on Saturdays, Sundays, or legal holidays unless approved by owner.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

3.01 HAZARDOUS MATERIALS PROJECT PROCEDURES

- A. Applicable Regulations:
 - 1. RCRA, 1976 – Resource Conservation and Recovery Act: This federal statute regulates generation, transportation, treatment, storage and disposal of hazardous wastes nationally.
- B. Use the Uniform Hazardous Waste Manifest (shipping paper) to use an off-site hazardous waste disposal facility.
- C. Federal, State and local laws and regulations may apply to the storage, handling and disposal of hazardous materials and waste.

SECTION 03 01 00
FOUNDATION REPAIRS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Repair of concrete foundation.
- B. Repair of grout.

1.02 REFERENCES

- A. Codes, specifications, and standards referred to by number or title shall form a part of this specification to the extent required by the references thereto. Latest revisions shall apply in all cases.
 - 1. “Building Code Requirements for Structural Concrete (ACI 318) and Commentary (ACI 318R),” American Concrete Institute.

1.03 PRODUCT DELIVERY, STORAGE and HANDLING

- A. The contractor shall be responsible for the delivery, storage, and handling of products.
- B. Deliver in accordance with ASTM C94.
- C. Promptly remove damaged or unsuitable products from the job site. Replace products with undamaged, suitable products.

1.04 WORK INCLUDED

Tank #2:

- A. Repair foundation spall.
- B. Application of grout.

1.05 UNIT PRICES

- A. Work of this Section is per unit prices specified in Section 00 43 73 Schedule of Values.
 - 1. Unit prices apply to authorized work covered by estimated quantities.
 - 2. Unit prices apply to authorized additions to and deletions from the Work as authorized by Change Orders.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Apply all repair material within manufacturer’s guidelines.

1.07 COORDINATION and SCHEDULING

- A. Contractor shall notify engineer a minimum of twenty-four hours before placing concrete or grout repair material.
- B. Do not place any repair material until surface preparation has been reviewed and approved by engineer.

1.08 SUBMITTALS

- A. Submit the following ten (10) days prior to the preconstruction meeting:
 - 1. Safety Data Sheets (SDS) and Product Data Sheets:
 - a. Furnish from all suppliers Safety Data Sheets and product data sheets for all applicable materials including, but not limited to, concrete, grouts admixtures, sealers.
 - b. Provide for employees one (1) copy of all data sheets at the job site for employee access.
 - c. Provide one (1) hard copy and an electronic copy to the engineer.
 - d. No work may commence without the complete filing. All SDS shall conform to requirements of SARA (EPCRA) Right-to-Know Act.

PART 2 – PRODUCTS

2.01 GROUT REPAIR

- A. The standard to fill holes is a grout Sika 212 Grout as manufactured by Sika Corporation.
- B. Where backer rod is required, use ITP standard closed cell polyethylene foam manufactured by Industrial Thero Polymers, Ltd., 2316 Delaware Ave., Suite 216, Buffalo, NY 14216, 1-800-387-3847.

2.02 PATCHING MORTAR – SPALL REPAIR

- A. Patching Mortar Requirements:
 - 1. Only use patching mortars that are recommended by manufacturer for each applicable horizontal, vertical, or overhead use orientation.
 - 2. Coarse Aggregate for Patching Mortar: ASTM C 33/C 33M, washed aggregate, Size No. 8, Class 5S. Add to patching-mortar mix only as permitted by patching-mortar manufacturer.
- B. Cementitious Patching Mortar: Packaged, dry mix for repair of concrete.
 - 1. Approved material is Sika Repair SHB as manufactured by Sika Corp. or approved equal.

PART 3 – EXECUTION

3.01 CONCRETE REPAIR – SPALL

- A. Remove all deteriorated concrete, dirt, oil and grease from the concrete.
- B. Remove all loose concrete by saw cutting around the perimeter of the repair area a minimum of ½ inch deep. Remove the remaining concrete out to the saw cut using hand tools.
- C. Abrasive blast clean the concrete surface to create a profile and abrasive blast clean any exposed rebar to a SSPC-SP6 commercial standard.
- D. Mix product in accordance with manufacturer’s recommendations.
- E. Apply a scrub coat or bonding agent to the surface as required by the manufacturer. Blasted rebar to receive prime coat of bonding agent.
- F. Fill all pores and voids. Force the material against the edge of the repair working toward the center. Finish to match the existing concrete.
- G. The repair area is to be cured per manufacturers recommendations.
- H. Payment is a separate line item “Spall Repair” based on the quantity of 1 cubic foot which the owner reserves the right to increase, decrease or delete.

3.02 GROUT REPAIR

- A. Remove all loose, soft, or mottled grout from the between the baseplate(s) and tops of the foundations. Removal of grout shall be hand, hammer, or chisel.
- B. Pressure wash the grout using a minimum nozzle tip pressure of 2,000 psi. All surfaces shall be free of all standing water or frost in accordance with the manufacturer’s recommendations. Surface to be Saturated Surface Dry (SSD)
- C. Properly and thoroughly mix the grout in accordance with the manufacturer’s recommendations as a dry mix.
- D. Place and tamp the grouting material between the baseplate and the foundation to ensure there are no voids. Make vertically flush with the baseplate.
- E. Payment is a separate line item “Grout Repair” based on the quantity of 80 lineal feet which the owner reserves the right to increase, decrease or delete.

SECTION 03 30 53

MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation and installation of concrete.

1.02 REFERENCES

- B. Codes, specifications, and standards referred to by number or title shall form a part of this specification to the extent required by the references thereto. Latest revisions shall apply in all cases.
 - 2. "Building Code Requirements for Structural Concrete (ACI 318) and Commentary (ACI 318R)," American Concrete Institute.

1.03 WORK INCLUDED - STANDPIPE

- A. Concrete replacement.

1.04 SUBMITTALS

- A. Submit the following ten (10) days prior to the preconstruction meeting:
 - 2. Safety Data Sheets (SDS) and Product Data Sheets:
 - e. Furnish from all suppliers Safety Data Sheets and product data sheets for all applicable materials including, but not limited to, concrete, grouts admixtures, sealers.
 - f. Provide for employees one (1) copy of all data sheets at the job site for employee access.
 - g. Provide one (1) hard copy and an electronic copy to the engineer.
 - h. No work may commence without the complete filing. All SDS shall conform to requirements of SARA (EPCRA) Right-to-Know Act.
 - 3. Design Mixtures: For each concrete mixture.

1.05 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.
- B. Comply with the following sections of ACI 301, unless modified by requirements in the Contract Documents:
 - 1. "General Requirements."
 - 2. "Formwork and Formwork Accessories."
 - 3. "Reinforcement and Reinforcement Supports."
 - 4. "Concrete Mixtures."
 - 5. "Handling, Placing, and Constructing."

- C. Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

PART 2 - PRODUCTS

2.01 FORMWORK

- A. Furnish formwork and formwork accessories according to ACI 301.

2.02 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

2.03 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout Project:
 - 1. Portland Cement: ASTM C 150, Type I/II
 - a. Fly Ash: ASTM C 618, Class C or F.
 - B. Normal-Weight Aggregate: ASTM C 33, crushed limestone, graded, 1 ½ inch nominal maximum aggregate size.
 - C. Water: ASTM C 94.
 - D. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494, Type A.
 - 2. Retarding Admixture: ASTM C 494, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.

2.04 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.

2.05 CONCRETE MIXTURES

- A. Comply with ACI 301 requirements for concrete mixtures.
- B. Normal-Weight Concrete: Prepare design mixes, proportioned according to ACI 301, as follows:
 - 1. Minimum Compressive Strength: 4000 psi at 28 days.
 - 2. Maximum Water-Cementitious Materials Ratio: 0.50.
 - 3. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.

4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of trowel-finished floor slabs to exceed 3 percent.

2.06 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.
 1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.01 DEMOLITION

- A. Remove the concrete slab around the entire standpipe. The slab is around the entire circumference and is approximately 24-30 inches wide.
- B. Remove all concrete and rebar and any deteriorated grout. All removed material is to become the property of the Contractor for proper disposal.

3.02 FORMWORK

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301.
- B. The finished slab height is to match the existing slab (not to extend over the sidewall).

3.03 STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.04 CONCRETE PLACEMENT

- A. Comply with ACI 301 for placing concrete.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- C. Do not add water to concrete during delivery, at Project site, or during placement.
- D. Consolidate concrete with mechanical vibrating equipment.
- E. Replace the deteriorated grout between the new slab and the standpipe per section 03 01 00. Cost of the grout is incidental to slab replacement.

3.05 FINISHING FORMED SURFACES

- A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch.
 1. Apply to all concrete surfaces.
- B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.06 FINISHING UNFORMED SURFACES

- A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.

3.07 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 for hot-weather protection during curing.
- B. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- C. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3.08 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections on the concrete forming, rebar layout and on the concrete prior to placement.
- B. Tests: Perform according to ACI 301.
 - 1. Testing Frequency: One composite sample shall be obtained for each day's pour.

3.09 REPAIRS

- A. Remove and replace concrete that does not comply with requirements in this Section.

SECTION 05 00 00 **METAL REPAIRS**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Steel Repair.

1.02 REFERENCES

- A. AWWA D100 Weld Standard
- B. AWS Weld Standard
- C. API 650 Standard

1.03 OMISSIONS

- A. The specifications include all work and materials necessary for completion of the work. Any incidental item(s) of material, labor, or detail(s) required for the proper execution and completion of the work are included.

1.04 DEFINITIONS

- A. Ground Flush: Ground even with adjacent metal, no transition.
- B. Ground Smooth: Ground welds to the point that no cuts or scratches occur when rubbing your hand over the weld. Rebuild with weld any concavity discovered during grinding.

1.05 WORK INCLUDED

Tank #1:

- A. Replace manway gaskets.
- B. Install swing gate at the step-off platform.
- C. Install cathodic clips and coupling.
- D. Install roof couplings with rigging clips.
- E. Roof stiffener replacement.

Tank #2:

- A. Replace manway gasket.
- B. Install swing gate at the roof handrail.
- C. Install cathodic clips and coupling.
- D. Install roof couplings with rigging clips.
- E. Roof stiffener replacement.
- F. Install sidewall manway.
- G. Install roof handrail.

Standpipe:

- A. Replace manway gasket.
- B. Install roof couplings with rigging clips.
- C. Replace vent with a frost-free roof vent.
- D. Repair level indicator.

1.06 WORKMANSHIP

- A. Provide material and workmanship necessary to produce a first class job.
- B. All weld spatter is to be removed.
- C. All removed items are to be ground flush with surrounding surface. All new welds are to be ground smooth.

1.07 WELDER QUALIFICATIONS

- A. Certified for type and position of weld specified.
- B. The welder shall be specialized in industrial or heavy commercial welding, and experienced in rigging and elevated work.

1.08 SUBMITTALS

- A. Safety Data Sheets (SDS) – for all items as required by law.
- B. Welder’s certification.
- C. Submit materials at least one (1) week prior to preconstruction meeting.

1.09 WORK SEQUENCING

- A. The following is NOT a ways-and-means decision of the contractor. It is accepted and good painting practice and shall be completed by the contractor in this specified fashion:
 - 1. Complete ahead of all cutting and welding all surface preparation, such as removal of heavy metal bearing coating in the immediate area.
 - 2. Complete all welding repairs prior to commencement of any power washing or abrasive blast cleaning.
 - 3. Remove existing items that are not to be painted after water cleaning (i.e. roof vent), store in a secure location.
 - 4. Remove fall prevention devices in areas to be coated before painting, and reinstall after completion. Supply temporary fall prevention devices with steel cables during blasting and painting.

PART 2 – PRODUCTS

2.01 STEEL PLATING and OTHER STRUCTURAL SHAPES

- A. General: ASTM – A36.
- B. Rebar for ladder rungs: A706 Weldable Rebar.

2.02 BOLTS and NUTS

- A. Stainless Steel
 - 1. ASTM F594G – 316 Stainless Steel Bolts.
 - 2. ASTM F594G – 316 Stainless Steel Nuts.
- B. Galvanized Steel
 - 1. ASTM A307 Grade A zinc coated Steel Bolts.
 - 2. ASTM A307 Grade A zinc coated Nuts.

2.03 WELDS

- A. Final – E70XX Electrodes.
- B. Root – E60XX Electrodes.
- C. Wire – ER70S Electrodes.

2.04 CATHODIC CLIPS and COUPLING

- A. Corrpro clips and coupling for interior, buoyant-type cathodic protection system 1-866-CORRPRO.

2.05 VENT SCREEN

- A. Aluminum wire 24 mesh with minimum diameter of 0.014 inches.

2.06 SWING GATE

- A. Universal Swing Gate as manufactured by SafeRack of Sumter, SC 866-761-7225.

PART 3 - EXECUTION

3.01 COATING REPAIRS – EXTERIOR STANDPIPE

- A. Complete all welding and cutting prior to any surface preparation for painting to avoid contamination of surfaces.
- B. Remove any residue and weld smoke by solvent cleaning.
- C. Power tool clean to a SSPC-SP11 finish all areas damaged by welding.
- D. Use 3M Scotch-Brite Clean'n Strip Discs.
- E. Feather edges of adjacent coating a minimum of ½ in. from exposed steel.

F. Apply repair system at 2.0 to 3.0 mils as follows:

<u>Manufacturer</u>	<u>System</u>
Tnemec	N69(spot)/N69/1074/1074U
Induron	PE-70(spot)/PE-70/I-6600/i-6600

G. Contractor to follow the relevant items from Sections 09 97 13 and 09 97 13.10.

H. Cost is incidental to weld repairs.

3.02 MANWAY GASKETS – ALL TANKS

A. Replace the sidewall manway gaskets with new $\frac{3}{8}$ in. flat neoprene gasket material.

There are two gaskets to replace on Tank #1 and one on Tank #2.

B. Gaskets to meet ASTM D2000-86E, Type BC with a 70A durometer rating and black color.

C. Cost is incidental to wet interior painting.

3.03 SWING GATE – BOTH 1,250,000 GALLON TANKS

A. Furnish and install a swing gate at the roof.

B. The device is to be installed at the step-off platform opening on Tank #1, the device is to be installed at the existing roof handrail opening on Tank #2.

C. Install gate per manufacturers recommendations.

D. Install a 2 x $\frac{1}{4}$ inch tab as a catch for the swing gate as needed. Field determine length needed and weld with a $\frac{3}{16}$ inch full fillet. Round off the corners.

E. Contactor is responsible for any installation of additional structure and welding needed for mounting. Any cutting will require approval from the engineer.

F. Payment is a separate line item “Swing Gate” which the owner reserves the right to delete.

3.04 CATHODIC CLIPS and COUPLING – BOTH 1,250,000 GALLON TANKS

A. Weld clips and pressure fitting for a cathodic protection system (future installation by others).

B. Supply recommended quantity of clips and locate as directed by the supplier.

C. Weld clips with $\frac{1}{4}$ in. fillet welds all around. No area may be left that may be susceptible to crevice corrosion.

D. Weld a 3,000 psi coupling inside and outside with a $\frac{1}{4}$ in. fillet weld all around, and cap fitting as directed by supplier.

E. Surface prepare and coat in accordance with Sections 09 97 13 and 09 97 13.10.

F. Payment is a separate line item “Cathodic Clips and Coupling” which the owner reserves the right to delete.

3.05 ROOF COUPLINGS with RIGGING CLIPS – ALL TANKS

- A. For the 1,250,000 gallon tanks install extra heavy couplings with rigging clips spaced approximately every 12 ft. and located approximately 18 ft. (estimated one half tank radius) from the center of the roof. Install 10 clips.
- B. For the 15,000 gallon standpipe install 3 clips spaced 90 degrees apart near the edge of the roof (starting 90 degrees from the roof hatch).
- C. Plug each coupling with a hex head steel plug. All couplings and plugs to be threaded per NPT standard.
- D. The hole cut in the roof is to be caulked. All threaded fittings to be coated with pipe joint compound.
- E. See Drawing 01.
- F. Surface prepare and coat in accordance with Sections 09 97 13 and 09 97 13.10.
- G. Cost is incidental to wet interior painting.

3.06 ROOF STIFFENERS – BOTH 1,250,000 GALLON TANKS

- A. Remove and replace damaged sections of the roof stiffeners as directed by the engineer after abrasive blast cleaning is completed.
- B. Contractor is to temporarily shore the roof either side of the repair area during replacement.
- C. Bevel the new section ends and cut ends and welded with a bevel groove weld. Weld the roof plate to the new section using 3/16 full fillet weld on both sides.
- D. The stiffeners on Tank #1 are 4 x 3 x 5/16 inch angles and are curved. The contractor is to field verify size.
- E. The stiffeners on Tank #2 are beams, S10x25.4. The contractor is to field verify size.
- F. See Drawing 02.
- G. Payment is a separate unit cost “Roof Stiffener Replacement”, provide unit cost based on 3 feet of replacement with 10 sections to be replaced for a total of 30 lineal feet. The owner reserves the right to decrease this amount or eliminate this item completely.

3.07 SIDEWALL MANWAY – TANK #2

- A. Install a 30 in. diameter manway in the sidewall.
- B. Install new $\frac{3}{8}$ in. flat neoprene gasket material. Gaskets to meet ASTM D2000-86E, Type BC with a 70A durometer rating and black color.
- C. Surface prepare and coat in accordance with Sections 09 97 13 and 09 97 13.10.
- D. See Drawing 03a-03c.
- E. Payment is a separate line item “Sidewall Manway” which the owner reserves the right to delete.

3.08 ROOF HANDRAIL – TANK #2

- A. Install a railing from the existing sidewall railing up to and around the roof vent in the center of the roof.
- B. Use 2.5 in. x 2.5 in. x ¼ in. angle iron for the vertical posts, supports, top rail, and mid-rail.
- C. Use 4 in. x ¼ in. steel plate for the kick plate.
- D. Use 6 in. x 6 in. x ¼ in. steel plates for the base-plates.
- E. All welds will be $\frac{3}{16}$ in. fillet welds.
- F. Surface prepare and coat in accordance with Sections 09 97 13 and 09 97 13.10.
- G. See Drawing 04.
- H. Payment is a separate line item “Roof Handrail” which the owner reserves the right to delete.

3.09 FROST-FREE ROOF VENT - STANDPIPE

- A. Remove the existing roof vent. Vent to become property of the Contractor for proper disposal.
- B. Furnish and install a new frost-free roof vent on a new bolted flange that has been cut and constructed as shown on the drawings.
- C. See Drawings 05a-05d.
- D. Payment is a separate line item “Roof Vent” which the Owner reserves the right to delete.

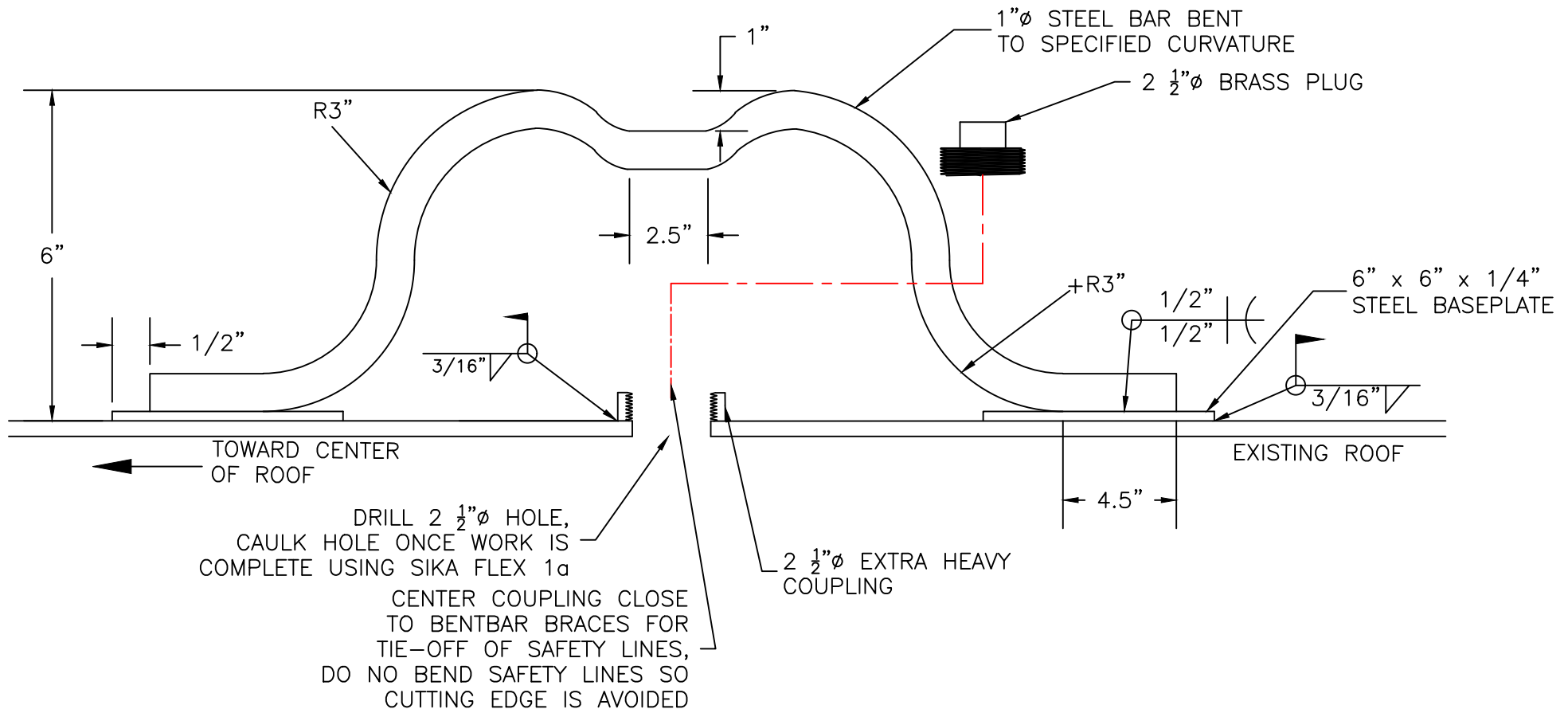
3.10 LEVEL INDICATOR REPAIR - STANDPIPE

- A. Replace the cable on the mechanical level indicator.
- B. The new cable is to be galvanized steel, size is to match the existing cable. Lubricate the pulleys.
- C. Payment is a separate line item “Level Indicator Repair” which the Owner reserves the right to delete.

PART 4 – SPECIAL PROVISIONS

4.01 WELD PREPARATION PRIOR to COATING

- A. Prepare all new welds per NACE RPO 0178 prior to coating application. Grind welds to category D.



ROOF RIGGING CLIP W/ RIGGING COUPLING

NOTE:

1. THREADED CONNECTIONS ARE TO BE SEALED WITH PIPE JOINT COMPOUND (OATEY GREAT WHITE OR APPROVED EQUAL).
2. CONTRACTOR TO PROVIDE CABLE SAFETY LINE WITH GRAB AT EVERY SAFETY COUPLING FOR INSPECTION OF THE WET INTERIOR.
3. DO NOT RIG EQUIPMENT OTHER THAN SAFETY LINES THROUGH THE COUPLINGS.

Note: Drawing Not to Scale.



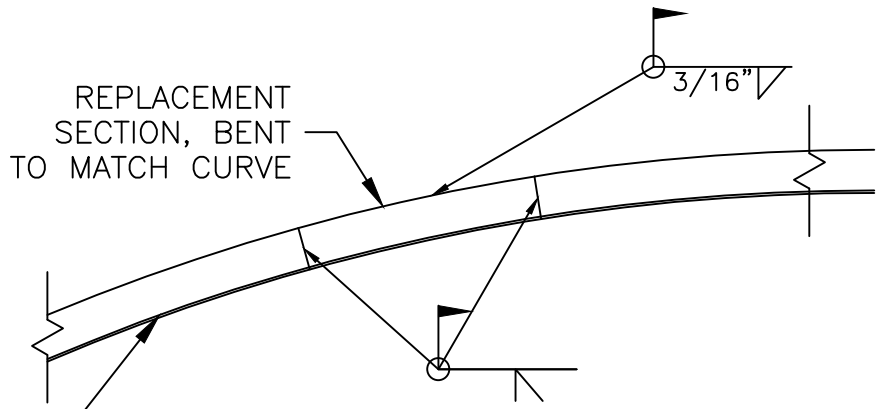
Water Service Corp of Kentucky

All Tanks

Roof Coupling with Clip

Drawn By: TMF Date: 04/29/20

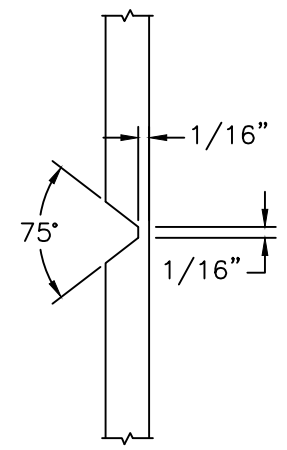
Checked By: WJD DWG: 01



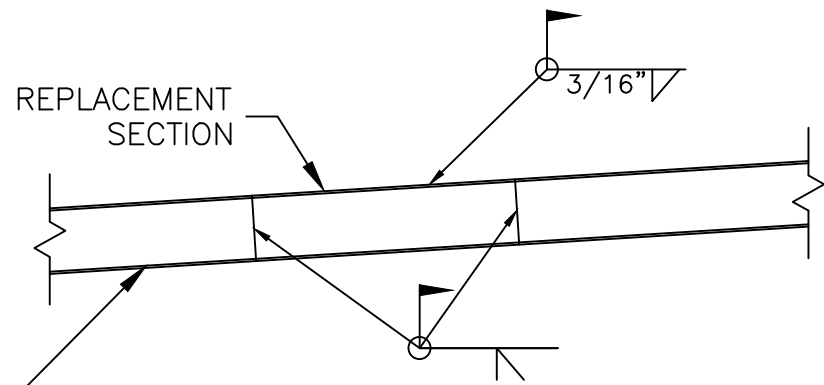
REPLACEMENT SECTION, BENT TO MATCH CURVE

EXISTING ROOF STIFFENER $\angle 4 \times 3 \times 5/16$, FIELD VERIFY SIZE

TANK #1



WELD DETAIL



REPLACEMENT SECTION

EXISTING ROOF STIFFENER S10x25.4, FIELD VERIFY SIZE

TANK #2

Note: Drawing Not to Scale.

Water Service Corp of Kentucky	
Both Tanks	
Roof Stiffeners	
Drawn By: TMF	Date: 04/29/20
Checked By: WJD	DWG: 02

3/4"φ (42) GALVANIZED STEEL BOLTS IN 7/8" HOLES WITH NUTS AND WASHERS ON EACH SIDE MIN. (2) THREADS EXPOSED WHEN TIGHTENED

BOLT HOLE PATTERN DIAMETER IS "P"

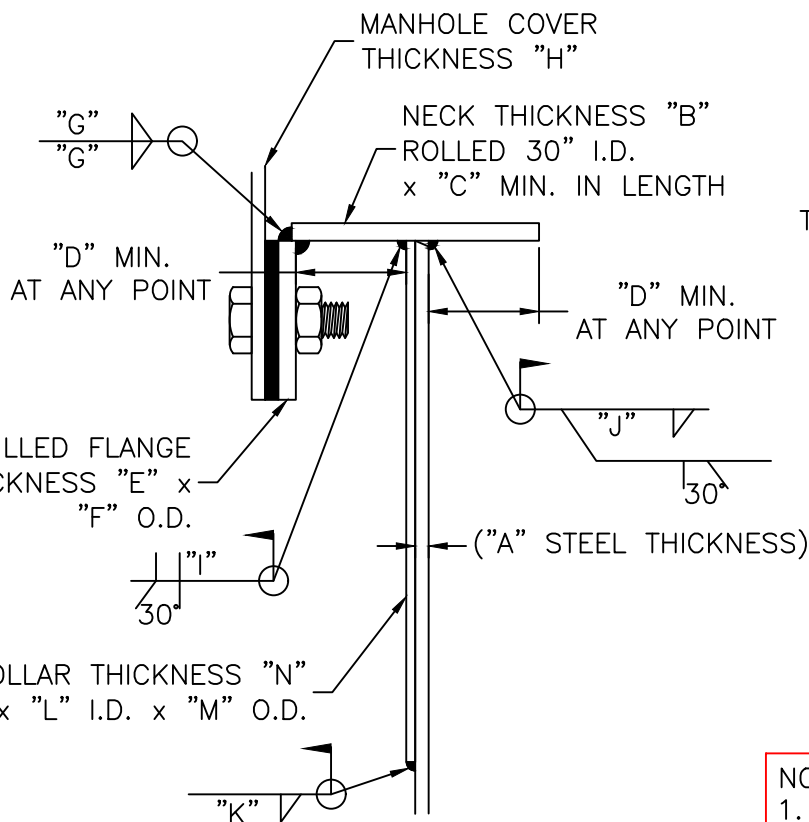
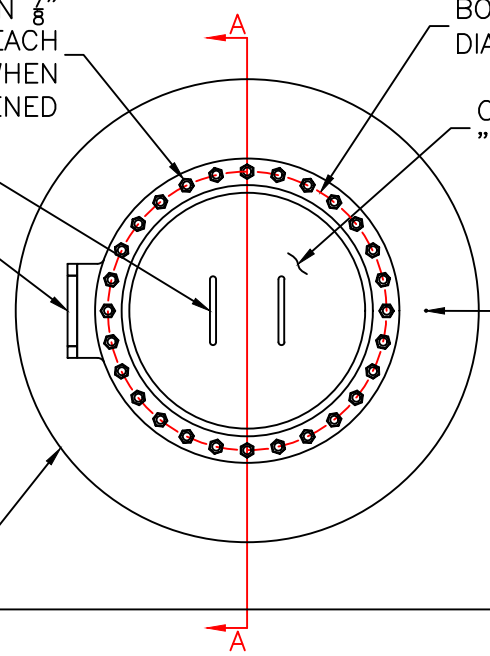
COVER PLATE THICKNESS "H" WITH "F" O.D.

ONE 1/4" TELLTALE HOLE PER SECTION IN REINFORCING PLATE ON CENTERLINE. DRILL, TAP, AND PLACE BRASS PLUG IN HOLE AFTER WELDING REINFORCING PLATE TO SHELL.

COLLAR REINFORCEMENT THICKNESS "N" WITH "L" I.D. x "M" O.D. ROLLED TO TANK RADIUS

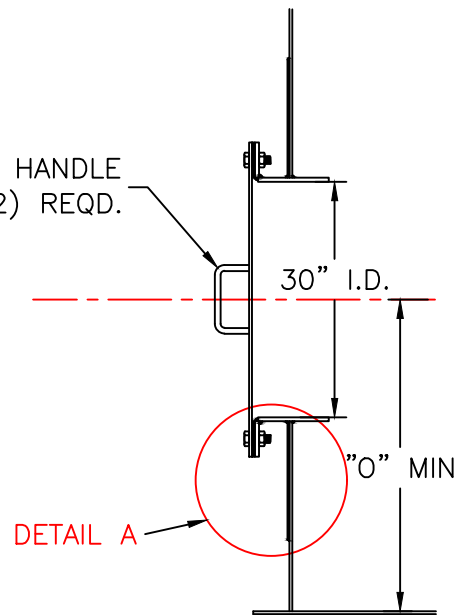
3/4"φ HANDLE TYP OF (2) REQD.

HINGE SEE DWG. 03c



DETAIL A

3/4"φ HANDLE TYP OF (2) REQD.

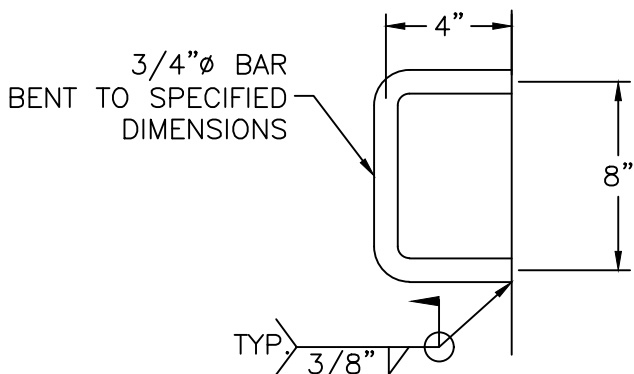


SECTION A-A

NOTES:

1. SEE SHEET 03b FOR SIZING TABLE
2. 3/8" NEOPRENE GASKET MATERIAL IS REQUIRED BETWEEN BOLTED HATCH AND FLANGE.
3. MANHOLE IS TO BE CLEAR OF TANK LAP SEAMS.
4. ROUND AND GRIND SMOOTH ALL SHARP CORNERS.

Note: Drawing Not to Scale.



COVER HANDLE



Water Service Corp of Kentucky

Tank #2

30" Bolted Manway


Drawn By: TMF Date: 04/29/20

Checked By: WJD DWG: 03a

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	EXISTING STEEL THICKNESS	NECK THICKNESS	NECK LENGTH	NECK PROTRUSION IN & OUT	MILLED FLANGE THICKNESS	FLANGE & COVER O.D.	FLANGE TO NECK WELD	COVER THICKNESS	NECK TO COLLAR OR OUTSIDE TANK WELD	NECK TO INSIDE TANK WELD	COLLAR O.D. WELD	COLLAR I.D.	COLLAR O.D.	COLLAR THICKNESS	EDGE TO CENTER OF MANWAY	BOLT HOLE LOCATION
1	5/8"	3/4"	13"	4"	5/8"	40"	5/8"	5/8"	1/4"	1/4"	3/8"	31 1/2"	58"	3/8"	37"	37"
2	5/8"	7/8"	15"	5"	5/8"	40"	5/8"	5/8"	1/4"	1/4"	1/4"	31 3/4"	58 1/2"	1/4"	37"	37"

NOTES:
 1. CONTRACTOR TO INDICATE WHICH ROW (1 OR 2) IS TO BE USED TO DETERMINE INSTALLED MANWAY MEASUREMENTS. ATTACH WITH SUBMITTAL PACKAGE WITH SELECTED ROW.
 2. *F.D.* (FIELD DETERMINE)

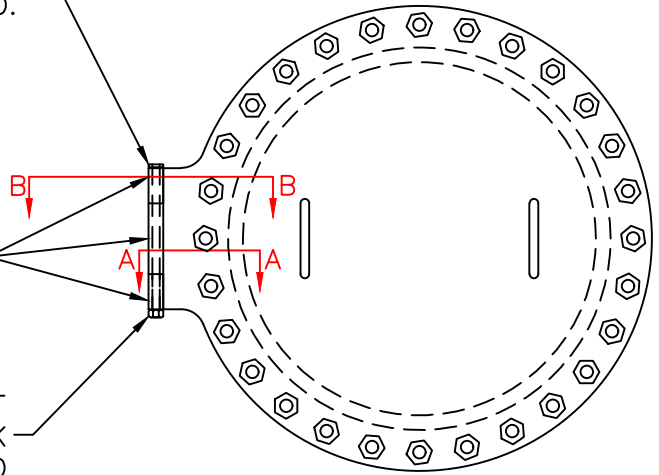
Note: Drawing Not to Scale.

	
Water Service Corp of Kentucky	
Tank #2	
30" Bolted Manway Chart	
Drawn By: TMF	Date: 04/29/20
Checked By: WJD	DWG: 03b

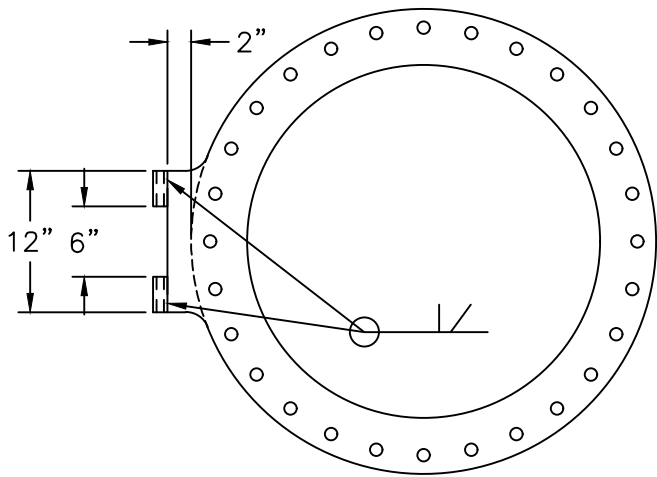
1"Ø S.S. ROD X
13 1/2" LG. W/ 1/4"
S.S. PLATE WASHER
WELDED TO UPPER END.

2"Ø S.S. BARS
WITH 1 1/32"Ø HOLES
DRILLED & REAMED
SMOOTH, ADJUST
HOLE SIZE IF
REQUIRED

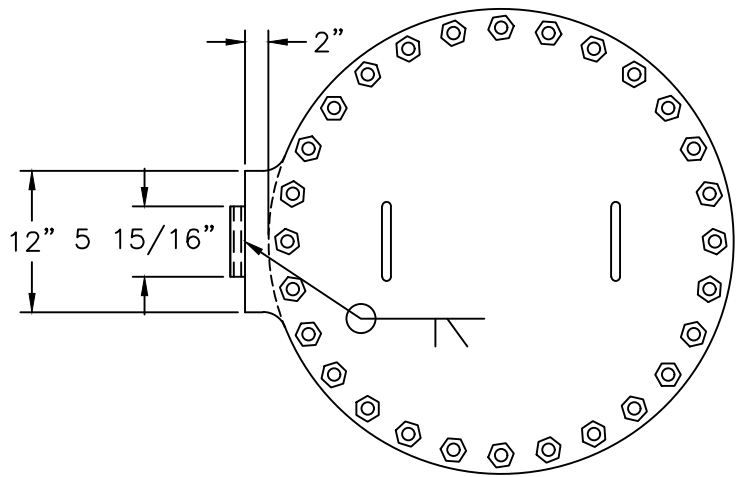
1"Ø S.S. NUT
AND WASHER, TANK
WELDED IN THE FIELD



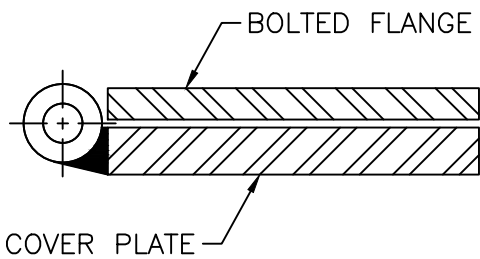
MANWAY HINGE



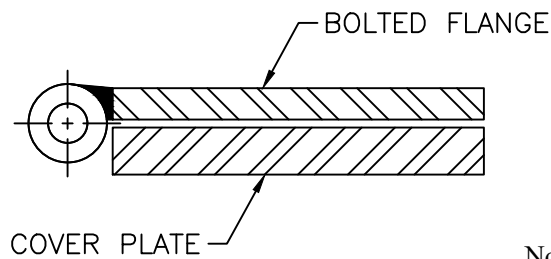
BOLTING FLANGE



COVER PLATE



SECTION A-A



SECTION B-B

- NOTES:
1. GRIND SMOOTH ALL SHARP CORNERS.
 2. COVER NOT TO SAG GREATER THAN 1/2" AND TO CLOSE EVENLY.

Note: Drawing Not to Scale.



Water Service Corp of Kentucky

Tank #2

Manway Hinge Details

Drawn By: TMF Date: 04/29/20

Checked By: WJD DWG: 03c

1" X 45°
CHAMFER

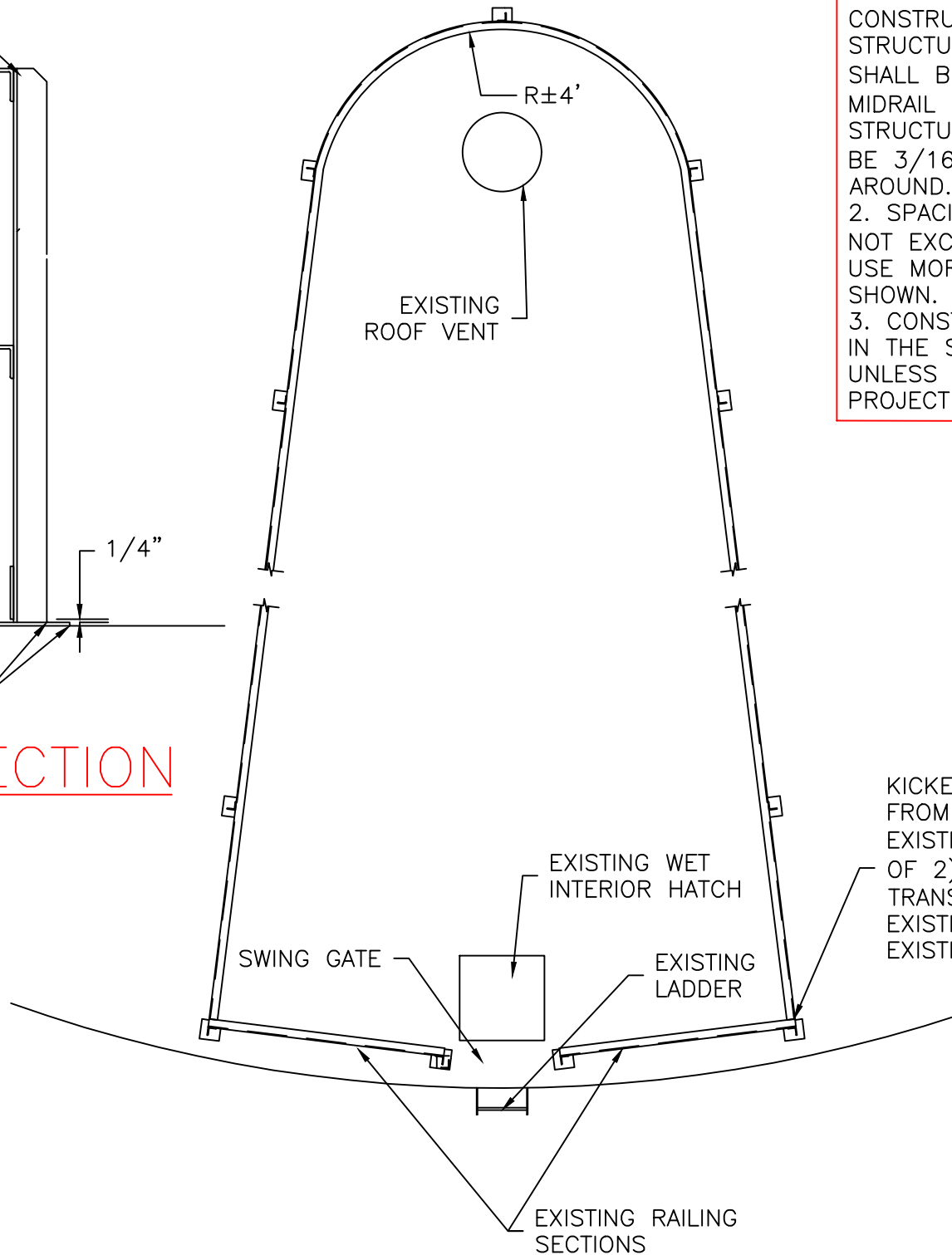
3'-6"

1'-9"

1/4"

TYP 3/16"

RAIL SECTION



NOTES:

1. HANDRAIL AND POSTS ARE TO BE CONSTRUCTED OF 2 1/2" x 2 1/2" x 1/4" STRUCTURAL STEEL ANGLE. POST BASE PLATES SHALL BE 6" x 6" x 1/4" PLATE STEEL. MIDRAIL SHALL BE 2 1/2" x 2 1/2" x 1/4" STRUCTURAL STEEL ANGLE. ALL WELDS SHALL BE 3/16" CONTINUOUS FILLET WELDS; ALL AROUND.
2. SPACING BETWEEN MOUNTING PODS SHALL NOT EXCEED 6'. IT WILL BE NECESSARY TO USE MORE THAN THE NUMBER OF PADS SHOWN.
3. CONSTRUCT, BLAST & PRIME THE HANDRAIL IN THE SHOP AND MODIFY IN THE FIELD UNLESS THERE IS EXTERIOR BLASTING ON THE PROJECT.

KICKER TO BE REMOVED FROM THE END OF THE EXISTING SECTION (TYP. OF 2). CREATE A SMOOTH TRANSITION FROM THE EXISTING RAILING TO THE EXISTING RAILING

Note: Drawing Not to Scale.



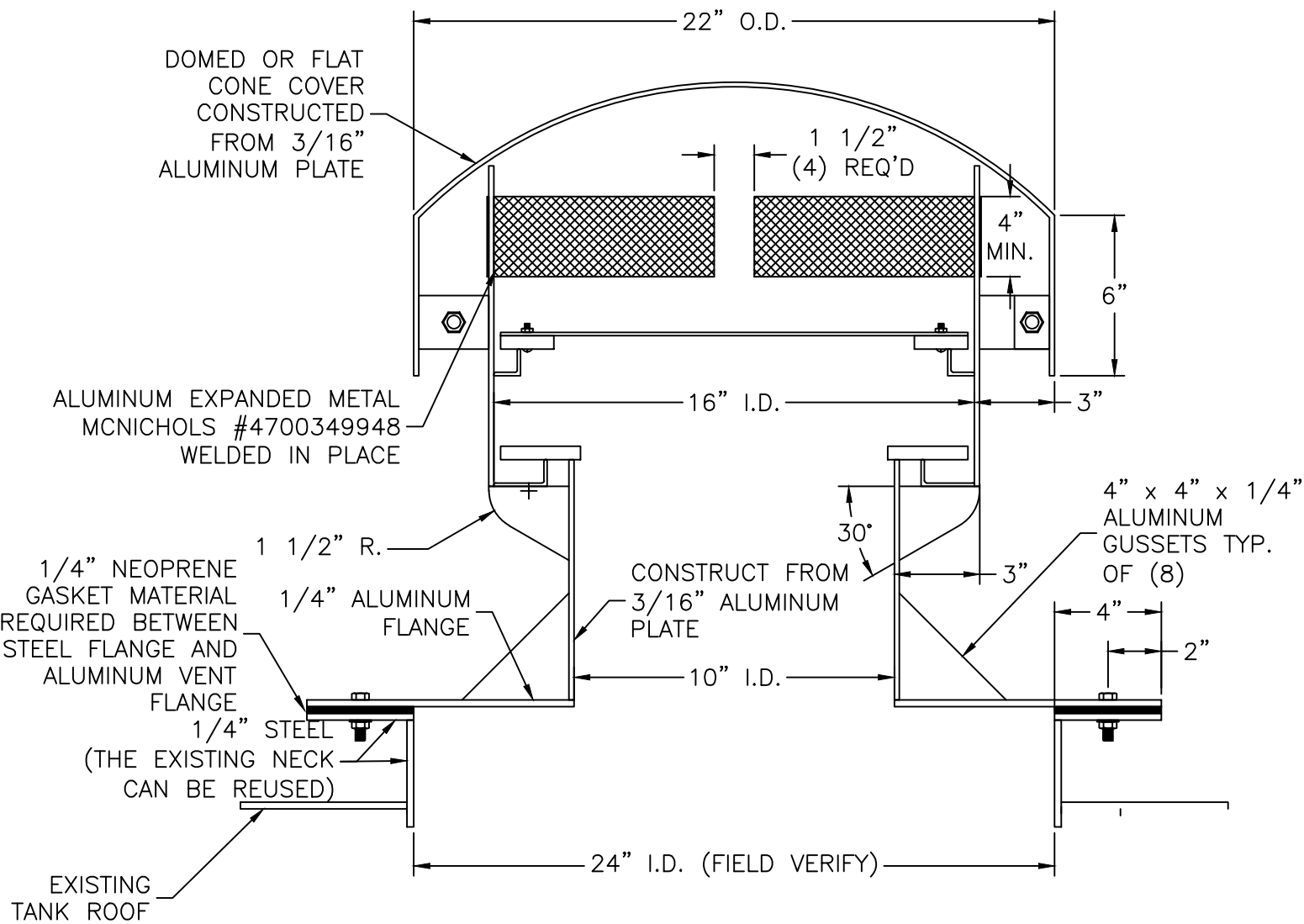
Water Service Corp of Kentucky

Tank #2

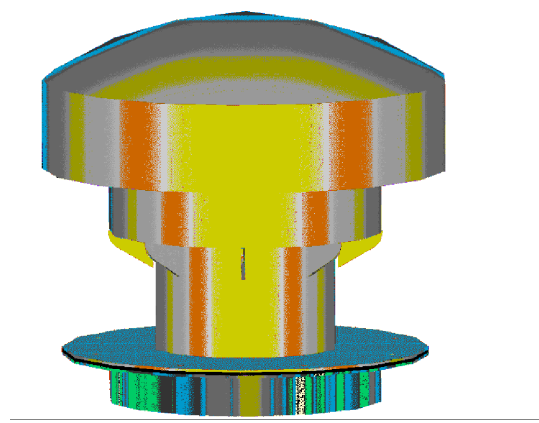
Roof Railing

Drawn By: TMF | Date: 04/29/20

Checked By: WJD | DWG: 04



ALUMINUM FROST FREE ROOF VENT w/ PAINTER'S HATCH



ISO VIEW

Note: Not to Scale



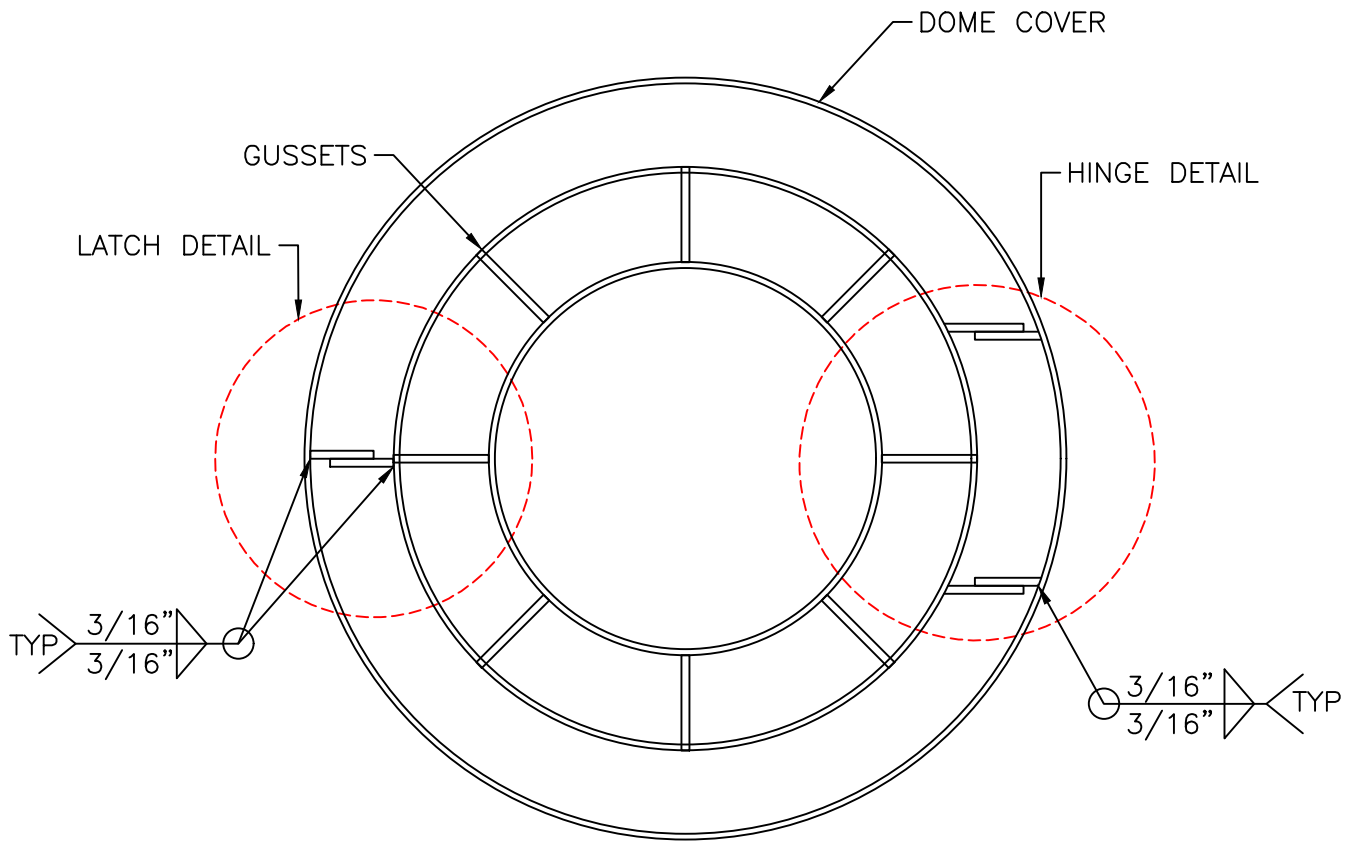
Water Service Corp of Kentucky

10" Frost Free Roof Vent w/ Painter's Hatch

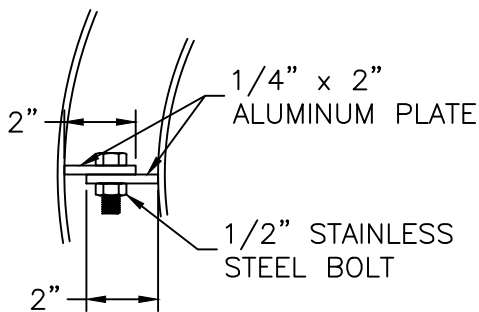
File Name: a_vent.dwg

Drawn By: TMF Date: 04/29/20

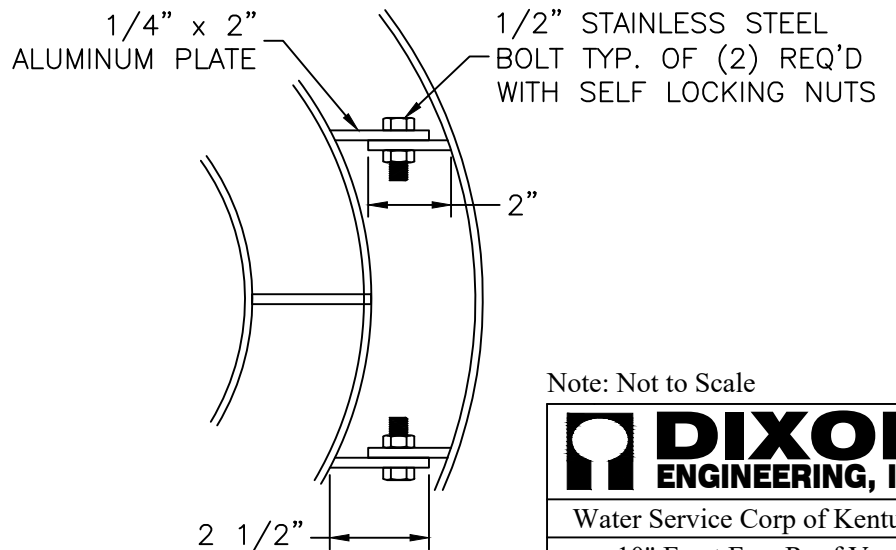
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PLAN VIEW



LATCH DETAIL



HINGE DETAIL

Note: Not to Scale



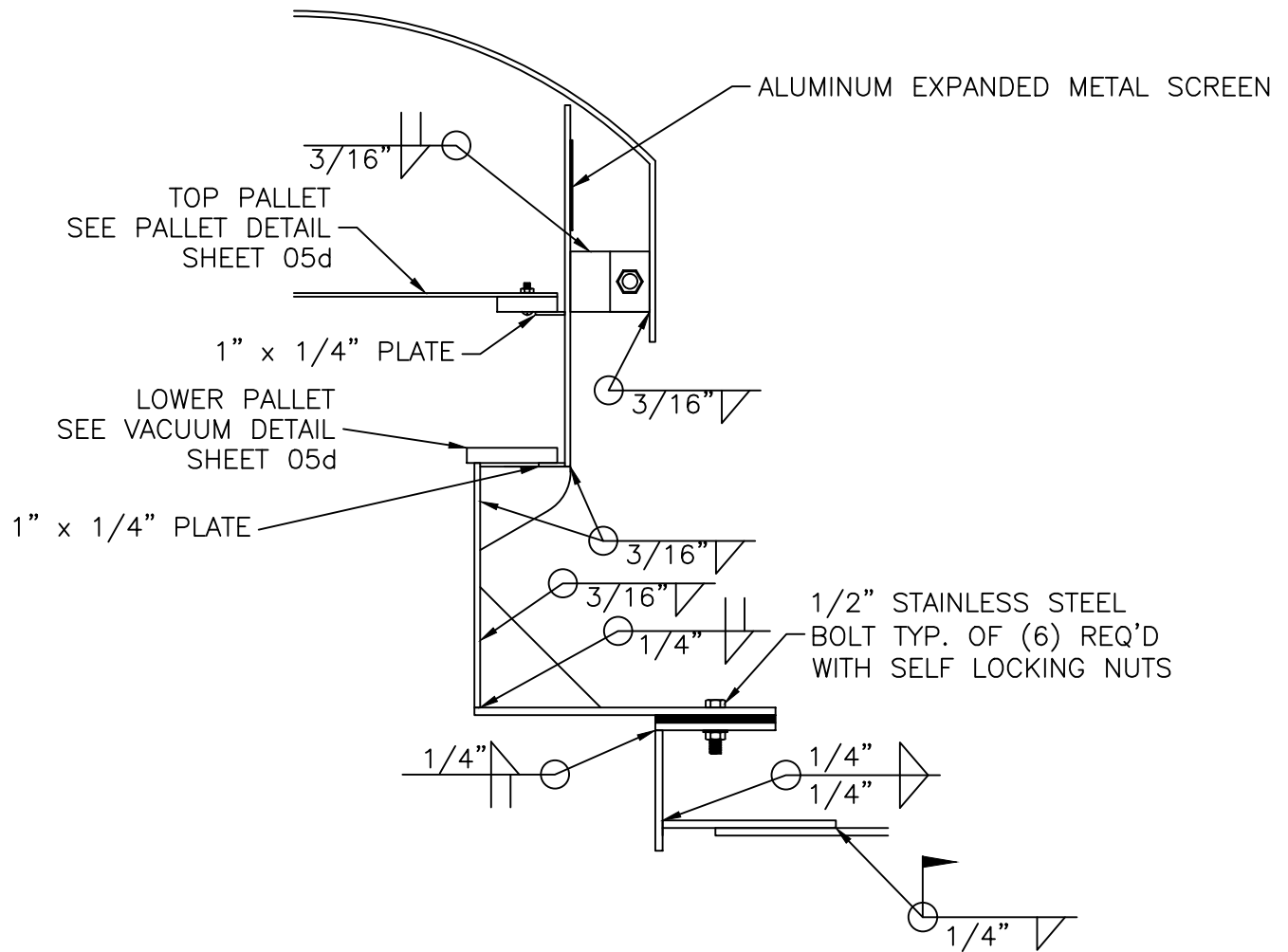
Water Service Corp of Kentucky

10" Frost Free Roof Vent

File Name: b_vent.dwg

Drawn By: TMF Date: 04/29/20

Checked By: WJD DWG: 05b



WELDING DETAIL

Note: Not to Scale



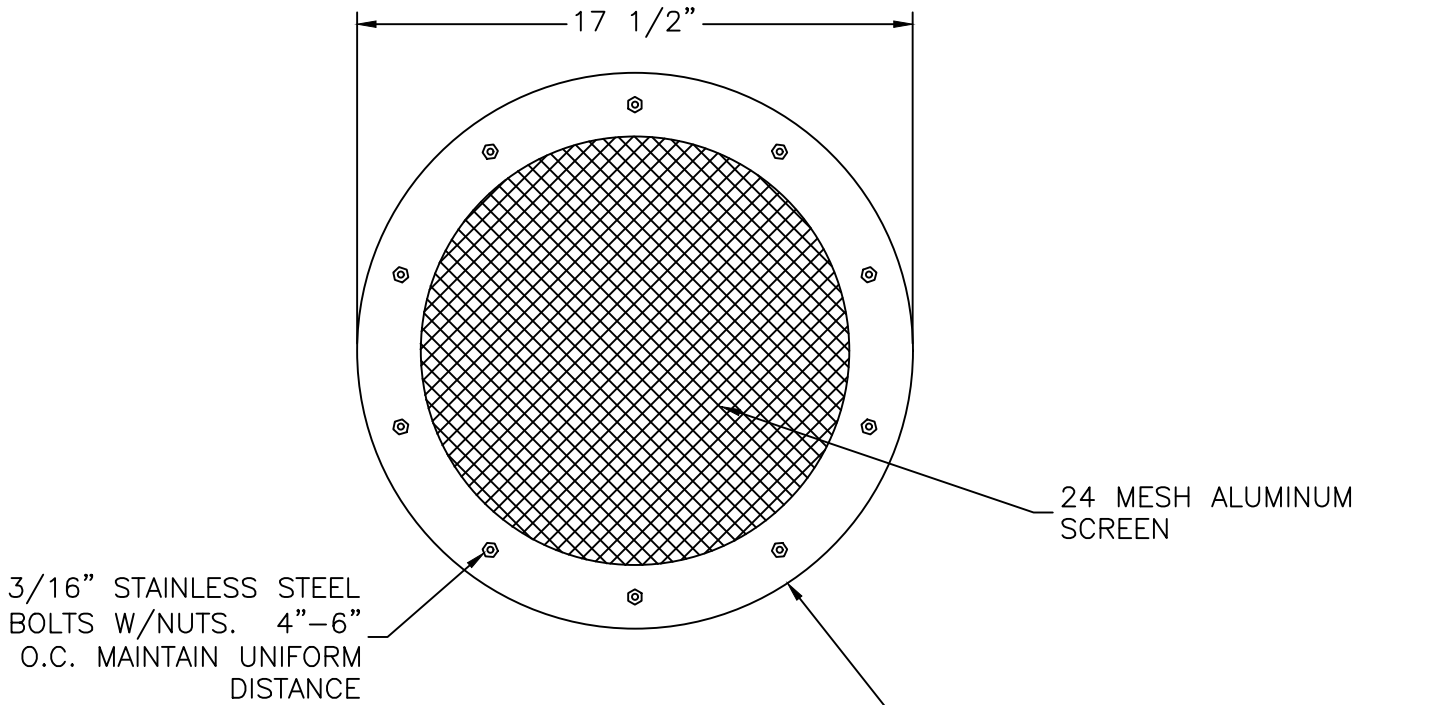
Water Service Corp of Kentucky

10" Frost Free Roof Vent

File Name: c_vent.dwg

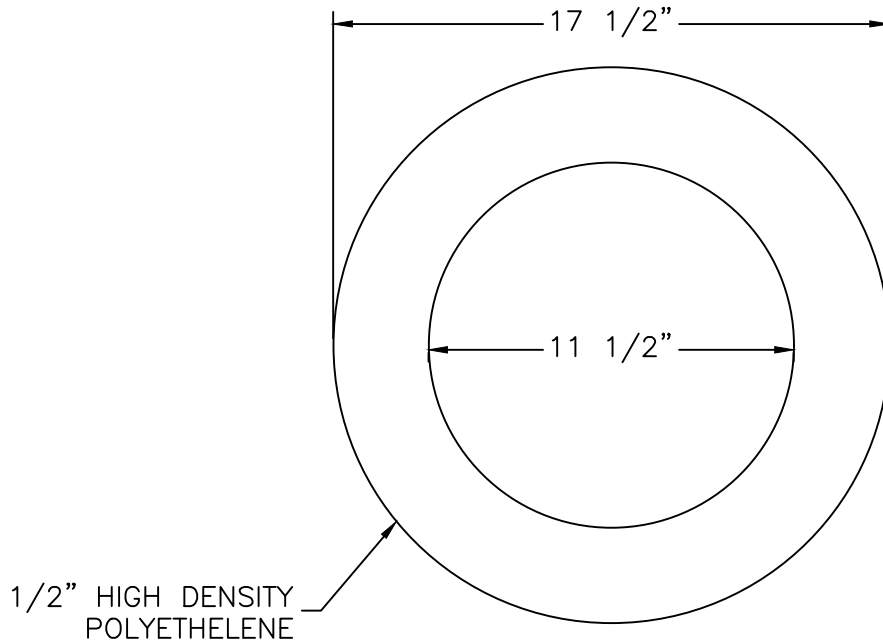
Drawn By: TMF Date: 04/29/20

Checked By: WJD DWG: 01c




TOP PALLET

1/2" x 2" WIDE HIGH DENSITY POLYETHELENE TYPICAL OF TWO SECTION, SCREEN TO BE SANDWICHED BETWEEN THE TWO RINGS



VACUUM PALLET

Note: Not to Scale

	
Water Service Corp of Kentucky	
10" Frost Free Roof Vent	
File Name: d_vent.dwg	
Drawn By: TMF	Date: 04/29/20
Checked By: WJD	DWG: 05d

SECTION 09 97 13 **STEEL COATING**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting of steel structures.
- B. Interior cleaning and disinfection.

1.02 REFERENCES

- A. AWWA Standards:
 - 1. D102 – 17 Painting Steel Water Storage Tanks.
 - 2. C652 – Disinfection of Water Storage Facilities.

1.03 WORK INCLUDED

Tank #1 and Tank #2:

- A. Wet Interior: Apply a three (3) coat zinc epoxy system.
- B. Exterior: Apply a three (3) coat epoxy urethane system.
- C. Exterior - Alternate: Apply a three (3) coat epoxy fluoropolymer urethane system.

Standpipe:

- A. Wet Interior: Apply a three (3) coat zinc epoxy system.

1.04 EXISTING CONDITIONS

Tank #1

- A. Exterior: Urethane system applied in 2005 surface preparation is unknown but presumed to have been an overcoat. The system is known to be lead free.
- B. Wet Interior: Spot repairs performed in 2005, coating is presumed to be an epoxy system.

Tank #2

- A. Exterior: Urethane system applied in 2004, surface preparation is unknown but presumed to have been a full blast. The system is known to be lead free.
- B. Wet Interior: System is presumed to be an epoxy system that was applied in 2004.

Standpipe

- A. Exterior: Urethane system presumed to be free of heavy metals..
- B. Wet Interior: System is presumed to be an epoxy system presumed to be free of heavy metals.

1.05 OMISSIONS or INCIDENTAL ITEMS

- A. It is the intent of these specifications to coat the structure for the purpose of corrosion protection on wet interior surfaces. It is the intent to coat the exterior for corrosion protection and aesthetics.
- B. Any small or incidental items not specifically detailed in the schedule, but obviously a part of the work are included in the work at no additional cost to the owner.
- C. Engineer, as interpreter of the specifications, will determine if disputed items fall under this category. Prevailing custom and trade practices will be considered in this determination.

1.06 PAINTER QUALIFICATIONS – NON-LEAD PROJECTS

- A. Contractor shall complete all coating and surface preparation.
- B. Painter shall be specialized in industrial or heavy commercial painting.
- C. ALL CONTRACTORS SHALL BE PREQUALIFIED with Dixon Engineering for projects of this size and complexity.

1.07 SUBMITTALS

- B. Submit the following with your annual prequalification:
 - 1. Occupational Safety and Health Programs and certification that all site personnel have been trained as required by law.
- C. Submit the following ten (10) days prior to the preconstruction meeting:
 - 1. Safety Data Sheets (SDS) and Product Data Sheets:
 - a. Furnish from all suppliers Safety Data Sheets and product data sheets for all applicable materials including, but not limited to, paints, thinners, cleaners, degreasers, and abrasive materials.
 - b. Provide for employees one (1) copy of all data sheets at the job site for employee access.
 - c. Provide one (1) hard copy and an electronic copy to the engineer.
 - d. No work may commence without the complete filing. All SDS shall conform to requirements of SARA (EPCRA) Right-to-Know Act.
 - 2. Ventilation Design Plan. Include airflow calculations and model, and number of fans.
 - 3. Dehumidification/Heat Design Plan. Include airflow calculations, model, number of units used, connection details, and power source.
 - 4. Fall Prevention Plan and Site Specific Fall Hazard Evaluation:
 - a. Site specific plan to contain a generic drawing of the existing structure and appurtenances of this structure and reflect safety changes specified for this project.
 - b. Certifications for all spiders, scaffolding, stages, etc. to be used on the project. All certifications to be current, less than one year old.

- D. Submit the following at the preconstruction meeting:
 - 1. Designated OSHA Competent Person and qualifications, if not previously submitted.
- E. Submit the following within two (2) weeks of project completion with final pay request:
 - 1. Waste manifest, waste hauler and disposal facility.
 - 2. Waivers of lien.
 - 3. Copies of any formal worker safety or environmental citations received on the project.

1.08 OWNER RESPONSIBILITY

- A. Drain the structure with seven (7) days notice, after contractor meets all precedent conditions of the contract.
- B. Fill the tank and draw samples and test after chlorination; responsibility of good results remains with the contractor. Poor test results could result in added costs to contractor, including rechlorination, cost of water, plus possible liquidated damages.

1.09 DELIVERY and STORAGE of MATERIAL

- A. Submit manufacturer's invoice, with or without paint cost, to the engineer for review. This submittal will be used to identify the quantity of paint recommended by the manufacturer for a job of this size and design, and will be used to check the quantity actually delivered to the project.
- B. Cover bulk materials subject to deterioration because of dampness, weather, or contamination, and protect while in storage.
- C. Maintain materials in original, sealed containers, unopened and with labels plainly indicating the manufacturer's name, brand, type, grade of material, and batch numbers.
- D. Remove from the work site containers that are broken, opened, water marked, and/or contain caked, lumpy, or otherwise damaged materials. They are unacceptable.
- E. Store the material in a climate controlled designated area where the temperature will not exceed the manufacturer's storage recommendations. Heat the storage area to the manufacturer's recommended minimum mixing temperature.
- F. Keep equipment stored outdoors from contact with the ground, away from areas subject to flooding, and covered with weatherproof plastic sheeting or tarpaulins.
- G. Store all painting materials in a location outside the structure.
- H. Do not store or have on-site unapproved material, material from different manufacturers, or materials from different projects.

1.10 ACCESS and INSPECTOR SAFETY

- A. Provide access to all portions of the project where work is being completed. Access must be close enough and secure enough to allow inspector to use inspection equipment without extensions.
- B. Provide personnel to assist with access and to ensure contractor's access equipment is safely used.
- C. Provide separate fall protection devices and safety lines for the owner and inspectors. Limit fall to 5 ft. vertically.
- D. New safety tie-off points have been added as part of this project, see Section 05 00 00 Metal Repairs. Tie-off points are located on the roof for interior safety. Do not rig equipment from these points. Provide separate fall protection cables and safety grabs for each tie-off point.
- E. These specifications require the contractor to supply a separate fall protection cable and safety grab for each tie-off point for the inspector's use. The contractor is encouraged to provide a separate cable and tie-off for each worker. The cables may be connected to the same tie-off point as the inspector's, but a separate cable and safety grab are required for each user.

1.11 INSPECTION and TESTING

- A. Prior to the scheduled inspection, remove all dust, spent abrasive, and foreign material from the surface to be coated.
- B. The contractor is to furnish an instrument for measuring the wet film thickness, and also a calibrated instrument for measuring dry film thickness of each field coat of paint. The dry film thickness testing gauge shall be the magnetic type as manufactured by Elcometer Co., or the Nordson Gauge Co.; spring loaded model with two percent (2%) accuracy margin over a range of one-to-twenty-one (1-21) mils or equal.
- C. The engineer will furnish and operate inspection equipment for their own use as quality assurance.
- D. Certify to the owner that the specified paint has been applied at the paint manufacturer's recommended coverage, and to the specified thickness required. Also, certify that the paint has been applied in accordance with this contract.
- E. Take all necessary steps, including dry striping by brush or roller, to ensure a holiday-free coating system.
- F. The owner reserves the right to perform low voltage holiday tests on all areas including the exterior. The wet interior coatings are subject to low voltage holiday testing.
- G. The owner and engineer reserve the right to perform destructive testing under conditions deemed necessary. Testing may include, but is not limited to, the Tooke

thickness test and adhesion testing. Any damage caused by these tests will be corrected to specifications at the contractor's expense.

1.12 CLIMATIC CONDITIONS

- A. Do not apply paint when the temperature, as measured in the shade, is below the manufacturer's required ambient and surface temperatures.
- B. Do not apply paint to wet or damp surfaces, or during rain, snow, or fog.
- C. Do not apply paint when it is expected the relative humidity will exceed 85%, or the surface temperature is less than 5° above dew point, or the air temperature will drop below the manufacturer's requirements for proper cure. Anticipate dew or moisture condensation, and if such conditions are prevalent, delay painting until the inspector is satisfied the surfaces are dry.

1.13 APPLICATION

- A. Complete all painting and surface preparation in strict accordance with these specifications, approved paint manufacturer's specifications, and good painting practices per SSPC.
- B. Apply each coating at the rate and in the manner specified by the manufacturer. Check the wet film thickness every 200 sq. ft. to ensure each coat applied meets the dry film thickness range requirements.
- C. Allow sufficient time for each coat of paint to dry and cure. Allow a minimum of twenty-four (24) hours between coats, unless product requirements have a maximum time less than 24 hours.
- D. Apply exterior coating by brush and roller only. Spray application is not permitted without prior approval of the engineer. Even with prior approval, responsibility for damage still remains with the contractor.
- E. Painting may be delayed because of poor coverage or the potential damage from overspray and/or dry spray. In all cases, responsibility for damages rests with the contractor.
- F. The contractor is responsible for the appearance of the finished project, and is warned to prevent contact with any freshly applied coating. Removal of rigging shall be completed so not to mar or damage the coating.
- G. Coatings shall be applied using methods to eliminate roller or spray marks in the finished product on the exterior.
- H. Stripe the wet interior prior to application of final coat.
- I. Additional coats required for coverage or to eliminate roller marks, spray marks and to repair dry spray and overspray are the responsibility of the contractor at no additional cost to the owner.
- J. Use of pole extension on spray guns is prohibited for all paint application.

- K. Mixing of partial kits is not permitted. All partial cans of coating must be removed from the site.
- L. Mixing blades to be clean. The engineer has the right to reject mixing blades based on cleanliness or paint build-up. Do not use the same mixing blade for different coatings (i.e. epoxy and urethane coatings).

PART 2 – PRODUCTS

2.01 COLOR

A. Exterior Coatings:

1. Supply the engineer with a color chart to allow the owner ample time for the exterior topcoat color selection.
2. Factory tint the intermediate coat(s) for all areas of the structure if similar to the finish coat. Tinting shall be sufficient to allow visibility of the dissimilar color from 1 ft., and from 100 ft.
3. After evaluating the bids, the owner shall select the color. All bids shall be based on common Pantone 288 Color Dark Blue. The owner recognizes the additional cost for deep color paints. After the color has been selected, document the difference in cost and quantity used for the selected color and the owner will issue a Change Order for the exact cost differential only.
4. Documentation of additional cost is the responsibility of the contractor, and must be supplied two (2) weeks before application. If necessary documentation is not supplied, any additional cost will be borne by the contractor. If selection/application time is less than two (2) weeks, then as soon as possible. The owner has the right to switch to a less expensive color; therefore, the contractor must submit cost before ordering paint.

B. Wet Interior Coatings:

1. The color is to be a different tint between coats. Tinting to be performed in the factory.

2.02 SUBSTITUTIONS

- A. All coatings specified and approved herein have met or exceeded a specified list of ASTM standards. The materials specified are the standard to which all others shall be compared.
- B. The purpose is to establish a standard of design and quality, and not to limit competition.
- C. Other manufacturers wishing to have their products approved have also had their coatings tested using the same representative of Dixon Engineering, Inc., and the same test methods.

- D. Approval by ANSI/NSF Standard 61 is also a requirement for potable water contact coatings.
- E. The selection of coatings also has taken into consideration the manufacturer's current and past performance on availability, stocking, and shipping capabilities, ability to resolve disputes, and any applicable warranties.

2.03 DEHUMIDIFICATION and HEATING – WET INTERIOR – BOTH 1,250,000 GALLON TANKS

- A. Supply dehumidification/heating units capable of maintaining dew point temperature lower than 15° below surface temperature during blasting and lower than 5° during coating application and cure, and steel temperature maintained above the manufacturer's printed requirements.
- B. Supply a dehumidifier designed with a solid desiccant having a single rotary desiccant bed capable of continuous operation, with full automatic operation. Do not use liquid desiccant, granular, or loose lithium chloride drying systems. Refrigerant systems may be used in conjunction with desiccant units.
- C. Plumbing, noise control, insulation, venting, and all incidental items needed to provide proper ambient conditions shall be included as one package.
- D. Supply and maintain a power source for the dehumidifier and heater, unless otherwise specified.

2.04 DUST COLLECTORS – AIR FILTRATION UNITS – BOTH 1,250,000 GALLON TANKS

- A. Furnish and use a dust collector during all blasting work.
- B. Units to be equal in filtration capacity to Eagle Industries dust collectors. Other units may be used, but their substitution will be evaluated on efficiency at 0.5 micron size and airflow movement.
- C. Use 40,000 CFM minimum for wet interior work.
- D. Substitution of steel grit blasting may decrease the requirements above. New requirements will be defined by the engineer based on the efficiency of the contractor's equipment.
- E. Furnish HEPA filters for dust collection.
- F. Number of dust collectors shall be sufficient to supply a 50 ft./minute downward draft at most areas. An average may be considered. Determination of actual containment plan will be the deciding factor. Calculations of airflow shall be included in the containment submittal.
- G. Use only new filters or filters certified clean.

2.05 EQUIPMENT COVERING

- A. Use material that is 8 – 10 mils thick, and 100% impermeable to all vulnerable equipment.
- B. Use material resistant to tear and/or rip by mechanical action from abrasive blasting during blasting operations.
- C. Make coverings airtight by use of duct tape at the openings, or other suitable measures.
- D. Meet with representative of equipment owner to verify covering will not damage equipment. Damage is the contractor's responsibility. This includes not only the owner's equipment, but also telecommunication antennas, cables, buildings, controls, etc.

2.06 AIR DRYER for COMPRESSOR

- A. Use air dryers sufficient to remove 98% of the moisture from the compressed air. Size the dryers on total cfm using manufacturer supplied charts. Upon request, supply charts to engineer for verification.
- B. If the dryer fan is not operable, cease all blasting until the dryer is replaced or repaired.
- C. Supply air dryer with an air draw-off valve to check air for dryness, oil contamination, and cleanliness on the outlet side of the air dryer.
- D. For cleaning operations, draw clean air from the outlet side of the air dryer.

PART 3 – EXECUTION

3.01 DISINFECTION

- A. Disinfect the completely painted structure in accordance with AWWA Standard C652 Chlorination Method No. 3.
- B. Furnish the material and labor necessary to disinfect the structure in the required manner. Assist owner during filling.
- C. Do not allow water to enter the distribution system until satisfactory bacteriological test results are received.
- D. Owner is responsible to collect two consecutive bacteriological samples, 24 hours apart, following disinfection. Satisfactory results are required before the tank can be returned to service.
- E. Water vented to waste may not contain any substances in concentrations that can adversely affect the natural environment. No total residual chlorine may be measured in water discharged to surface water.
- F. Pay all additional expenses if it is necessary to repeat the testing and disinfection procedure as a result of defective work.

3.02 PROTECTION of NON-WORK AREAS

- A. Protect all non-blasted/painted surfaces prior to all abrasive blast cleaning/painting.
- B. Thoroughly cover the fill/drain pipe, overflow pipe, and all other openings. Do not permit abrasive or paint chips to enter into the piping or distribution system. Use watertight seals on the pipes.
- C. Protect and seal all controls and electrical components (even if they are not in the immediate work area) that are in danger from the project. Coordinate with the owner so all controls are shut down and/or vented if necessary.

3.03 DEHUMIDIFICATION/HEATING - BOTH 1,250,000 GALLON TANKS

- A. Control the environment with dehumidification equipment twenty-four (24) hours a day during blast cleaning, coating operations, and 48 hours after the topcoat (including holiday touch-ups and repairs are performed) as a minimum to maintain ambient conditions until cure completion.
- B. Supply sufficient dry air to assure the air adjacent to surfaces to be abrasive blast cleaned or coated does not exceed minimum required humidity at any time during the blasting, coating, or curing cycle.
- C. Monitor and record ambient conditions twenty-four (24) hours a day throughout abrasive blast cleaning and painting work (use Polygon Exact Aire, DRYCO ClimaTrack, DH Tech HOB0U30 data logger, or approved equal). Monitor to be capable of being programmed with condition parameters and of alerting contractor, engineer and owner via phone or e-mail of condition or equipment failures.
- D. Contractor to manually test interior ambient conditions three (3) times a day, or more often with rapid weather changes. Record daily readings. Adjust or add equipment as required to maintain steel temperatures, dew point, and humidity. (This is in addition to the monitor with recorder noted above).
- E. Use a minimum 6,500 CFM dehumidification capacity for all wet interior work.
- F. The contractor may subdivide the interior into smaller sections to reduce dehumidification capacity.
- G. Surround the units with noise suppressant enclosures, unless units are sound attenuated or have noise suppressants. More extensive enclosure requirements are required in residential areas where the machines must run all night. Noise suppressant level needed will depend on the size of the dehumidification units, their efficiency, and their locations. Provide noise suppressant enclosures of sufficient height and thickness to lower noise to an acceptable level for neighbors. Also provide noise suppressant enclosures for generators.
- H. Auxiliary heaters may be necessary to maintain the surface temperature at a level acceptable to the coating manufacturer's application parameters. The auxiliary equipment must be approved for use by the manufacturer of the dehumidification

equipment and shall meet the following requirements. Auxiliary ventilation equipment and/or dust collection equipment can affect the exchange rate.

1. Heaters shall be installed in the process air supply duct between the dehumidifier and the work, as close to the work as possible. Air heaters are not acceptable as a substitute for dehumidification without approval.
 2. Use only electric or indirect gas fired auxiliary heaters. No direct fired space heaters will be allowed during blasting, coating, or curing phase.
- I. Seal off the work, allowing air to escape at the bottom of the space away from the point where the dehumidified air is being introduced. Maintain a slight positive pressure in the work unless the dust from the blasting operation is hazardous.
 - J. Where necessary to filter the air escaping the space, design the filtration system to match the air volume of the dehumidification equipment in such a way that it will not interfere with the dehumidification equipment's capacity to control the space as described herein. Do not re-circulate the air from the work or from filtration equipment back through the dehumidifier when coating or solvent vapors are present. Outside air is to be used during those periods.
 - K. Securely attach duct work to the equipment and work to minimize air loss. Design hoses with sufficient capacity and minimal bends to reduce friction loss.
 - L. Dehumidification and its operating power source are incidental to the respective painting project (wet or dry interior).
 - M. Set-up and operate equipment twenty-four (24) hours (or earlier) prior to start of blasting.

3.04 DUST CONTAINMENT – INTERIOR

- A. Do everything within the contractor's power to minimize dust as a nuisance.
- B. No visible dust release is allowed from roof openings and other access openings. Seal or close all openings prior to blasting (see ventilation requirements).
- C. Connect the air filtration unit directly to a manhole extension.
- D. Design the manhole extension to allow access of hoses through a side exit that is sealable after hoses are in-place. Install the air filtration unit directly to the end of the extension.
- E. Seal of the side exit will be tested by holding a smoke agent 6 in. outside the seal with the air filtration unit operating. If smoke is drawn to the seal area, additional sealing will be necessary.
- F. The contractor may reverse this operation by connecting the air filtration unit to the roof manhole and sealing around the hose. Also seal the roof vent. A sealed semi-rigid structure also may be used where employees have access through a side door. 90% of the air draw must be from the tank proper.

- G. Construct the semi-rigid structure from 8 ft. x 8 ft. x 6 ft. high scaffold framing and cover with tarps, with all edges lapped 2 ft. minimum and an overlapped entranceway.

3.05 VENTILATION REQUIREMENTS - BOTH 1,250,000 GALLON TANKS

- A. Supply mechanical ventilation sufficient to change air in the tank six (6) times each hour.
- B. In calculating air exchange, the dust collector air capacity can be considered a part of the air being changed up to 50% of ventilation requirements.
- C. Use the roof or sidewall manways with fans to move the required air.
- D. Ventilate wet interior areas a minimum of seven (7) days after completion of painting, or longer until the wet interior coating has fully cured. Maintain ventilation at the rate of two (2) complete air changes per hour. The owner reserves the right to perform a MEK Solvent Double Rub Test per ASTM D 4752 to verify the cure of the coating film prior to returning the tank to service.
- E. Cost of ventilation is incidental to the project.
- F. Additional ventilation openings may have to be installed by the contractor. Submit size, details, and location(s) for approval by the owner prior to cutting any opening. All costs associated with repairs by a certified welder are incidental
- G. Connect the air filtration unit per this Section, Dust Containment – Interior. All fans on the roof and sidewalls must blow in. If all openings are not needed for ventilation, seal them. Zero release to the atmosphere will be permitted.

3.06 HAND WASH FACILITY

- A. Provide OSHA approved hand wash facility with running water. Hot water is not required.
- B. Stock facility with soap and towels, and keep supply replenished.
- C. Test water and dispose of properly after job is completed.

3.07 LIGHTING of WORK SPACE

- A. Provide durable lighting fixtures designed for the intended work environment for use during blasting, painting, and during all inspections.
- B. Encase portable lamps in a non-conductive, shatterproof material. Use only heavily insulated cable with an abrasive resistant casing.
- C. Install all temporary electrical items in accordance with all local, state, and federal codes, including OSHA.
- D. Protect from paint overspray and damage from abrasive materials.
- E. Measure required illumination during surface preparation and coating application at the work surface. Supply 20 ft. candles minimum illumination during blasting and painting, and 30 ft. candles minimum prior to and during inspection, per SSPC-Guide

12. Inspect the prepared surface at the higher illumination prior to calling for inspection. All work must conform to specification requirements prior to the scheduled inspection.
- F. Measure the illumination at the work surface in the plane of the work.

PART 4 – SPECIAL PROVISIONS

4.01 NAMEPLATE – BOTH 1,250,000 GALLON TANKS

- A. Remove the existing nameplate, clean the area behind, and paint the same as the exterior system.
- B. Remove the existing coating from the nameplate without destroying lettering on the nameplate. Apply a clear coat to the nameplate using Rust-Oleum Automotive Clear Enamel Spray Paint or approved equal.
- C. Reattach with stainless steel fasteners or using the existing fasteners after painting has been completed.
- D. Cost is incidental to exterior coating.

4.02 FILL PIPE – BOTH 1,250,000 GALLON TANKS

- A. Both tanks have a small section of the fill pipe that routes from the ground and elbows into the sidewall. The contractor is to surface prepare and coat the piping per Exterior Alternate 1 or Exterior Alternate 2 requirements if accepted.
- B. The contractor will need to dig around the pipe approximately 3 inches surface prepare and coat then backfill.
- C. Tank #1 has a section of foil lined batt insulation around the pipe. Contractor is to remove the insulation surface prepare and reinstall new insulation to match existing conditions.

4.03 SCHEDULING

- A. Complete all welding and any other work that damages the coating before paint operations begin, including surface preparation. The exception is paint removal in the weld area.
- B. If contractor wants a variance in this schedule, request the change and give reason in writing to the owner. The project manager will reply with a written Field Order if change is approved. Engineer reserves the right to put further restrictions in Field Order. If contractor objects to restrictions, he may revert to the original specifications.

4.04 GRASS RESTORATION

- A. The contractor is to report any damaged ground at the construction site in writing prior to mobilization of equipment, otherwise all repairs to the damaged ground will be the responsibility of the contractor.
- B. Refill all holes, ruts etc. with clean topsoil, and level area around the construction site to the original grade.
- C. Fill material to be clean soil, no gravel, rocks or construction debris is to be used as fill material without the owners consent.
- D. Bring soil to a friable condition by disking, harrowing, or otherwise loosening and mixing to a depth of 3 in. – 4 in. Thoroughly break all lumps and clods.
- E. Rake area to be seeded. Sow seed at a minimum rate of 220 lbs/acre. Use seed intended for the climate.
- F. Work to be completed to the owner's satisfaction.
- G. Cost is incidental to exterior painting.

SECTION 09 97 13.10

STEEL COATING SURFACE PREPARATION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Full Field Abrasive Blasting.
- B. Power Tool Cleaning.
- C. High Pressure Water Cleaning.

1.02 REFERENCES

- A. AWWA Standards:
 - 1. D102-17 Painting Steel Water Storage Tanks.
- B. SSPC and NACE Standards:
 - 1. SP11 – Power Tool Cleaning to Bare Metal.
 - 2. SP10/NACE No. 2 – Near-White Metal Abrasive Blast.
 - 3. SP12/NACE No. 5 – High and Ultra High Pressure Water Jetting.
 - 4. VIS 1 (Visual standard for abrasive blasted metal).
 - 5. VIS 3 (Visual standard for hand and power tool cleaned metal).

1.03 WORK INCLUDED – SURFACE PREPARATION

Tank #1 and Tank #2:

- A. Wet Interior: Abrasive blast clean to a SSPC-SP10 near-white metal standard.
- B. Exterior and Exterior Alternate: High pressure water clean (5,000 to 10,000 psi) spot power tool clean to a SSPC-SP11 standard.

Standpipe:

- A. Wet Interior: Abrasive blast clean to a SSPC-SP10 near-white metal standard.

1.04 WASTE SAMPLING

- A. Sample waste from each portion of the project and keep waste segregated. Send to a NLLAP certified lab and test for TCLP for eight (8) metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver).
- B. The owner reserves the right to collect samples and to send them to their selected lab. This will be determined at the preconstruction meeting.
- C. Pay all lab fees for eight (8) metals TCLP analysis on waste samples and any subsequent testing if clean-up is warranted.

PART 2 – PRODUCTS

2.01 EXTERIOR TANK CLEANER

- A. United 727 Weather-Zyme as manufactured by United Laboratories, 320 37th Ave., St. Charles, IL 60174 1-800-323-2594.

2.02 ABRASIVE – COAL SLAG

- A. The coal slag shall be 20-40 grade, or 30-60 grade.
- B. The abrasive shall be free of moisture, water soluble contaminants, dust, and oil.
- C. The abrasive shall be stored and covered to prevent moisture contamination.
- D. All leaking or spilling bags shall be removed, and affected areas properly cleaned.
- E. All slag abrasive shall meet the requirements of SSPC-AB1 “Mineral and Slag Abrasive” June 1, 1991-Grade 3.
- F. The use of silica sand, flint sand, and glass beads is prohibited.
- G. All abrasive and grit material used, and all equipment supplied shall be subject to approval of the engineer. The abrasive or grit shall be sharp enough and hard enough to remove the mill scale, rust, and paint.

2.03 RECYCLABLE STEEL GRIT – CONTRACTORS OPTION

- A. Use recyclable steel grit size G-25 or G-50.
- B. The abrasive is to be free of moisture, water soluble contaminants, dust, and oil.
- C. The abrasive is to be stored and covered to prevent moisture contamination.
- D. All leaking or spilling containers are to be removed, and affected areas properly cleaned.
- E. All recyclable steel grit shall meet requirements of SSPC-AB1 “Metallic Abrasive” June 1, 1991.
- F. All abrasive and grit material used, and all equipment supplied shall be subject to approval of the engineer. The abrasive or grit shall be sharp enough and hard enough to remove the mill scale, rust, and paint.

PART 3 – EXECUTION

3.01 PRE-SURFACE PREPARATION – WET INTERIOR – ALL TANKS

- A. Low pressure water clean at 4,000 psi all surfaces and appurtenances to remove sediment, minerals, soot, and other contaminants.
- B. Staining may remain in place prior to abrasive blast cleaning, engineer to approve cleanliness.

3.02 NEAR-WHITE METAL (SSPC-SP10) DRY BLAST – WET INTERIOR – ALL TANKS

- A. Abrasive blast clean all surfaces and appurtenances to a near-white metal finish (SSPC-SP10), latest edition thereof.
- B. Maintain a profile of 2.0 – 3.0 mils on abrasive blast cleaned surfaces.
- C. All interior abrasive blast cleaning is to be completed and all spent abrasive removed, and surfaces thoroughly cleaned prior to any primer application.
- D. Once an area is acceptable for painting, apply all coats and allow coating to cure to touch prior to resumption of blasting or blast the entire tank before painting, use dehumidification to hold the blast. It is the contractor's discretion and responsibility to determine if the entire tank is to be blasted, or what size is to be blasted and coated (all coats).
- E. The contractor is responsible for supplying heat and dehumidification to maintain blast conditions.

3.03 HIGH PRESSURE WATER CLEANING – EXTERIOR - BOTH 1,250,000 GALLON TANKS

- A. Solvent clean all visible grease, oil, salt, algae, and residue in accordance with SSPC-SP1.
- B. High pressure water clean all exterior surfaces and appurtenances at 5,000 – 10,000 psi to remove all dirt, chalk, algae, other foreign material, and all brittle or loose coating, rust, and mill scale. Operational pressure will be determined by the engineer based on field conditions.
- C. Maintain a water jet nozzle distance of 2 in. – 10 in. away from the surface.
- D. Hold the water jet nozzle with 0° - 15° tip perpendicular (90°) to the surface at all times.
- E. Only use machines rated at and capable of achieving and maintaining 10,000 psi. Use of a rotating/reciprocating nozzle during water cleaning is permitted but not to increase the pressure of a washer rated lower than required.
- F. Do NOT exceed a rate of 10 sq. ft./minute.
- G. The gauge measuring time of use must be operational on the unit, if not operational the contractor may be shut down and/or deducted price for rental of an operational unit from the final payment.
- H. Feather all edges using power tools per this specification.

3.04 POWER TOOL CLEAN (SSPC-SP11) – EXTERIOR - BOTH 1,250,000 GALLON TANKS

- A. Solvent clean all visible grease, oil, salts, and residue.
- B. Power tool clean all surfaces and appurtenances to bare metal (SP11) in areas where steel is exposed or rusted, or where coating is abraded.

- C. Retain or produce a surface profile. Surface profile shall be greater than 1.0 mil.
- D. Edges of adjacent coating shall be feathered a minimum of ½ in. from the exposed steel with 3M Scotch-Brite Clean'n Strip discs.

3.05 WASTE DISPOSAL – NON-HAZARDOUS

- A. If after testing of the spent abrasive material the TCLP tests indicate the abrasive is not a hazardous waste, dispose the abrasive in a waste disposal facility.
- B. All waste shall be handled by a licensed hauler. Supply the owner with all proper documentation of the final disposal site. The actual bill of lading and all manifests will be required prior to any payment.
- C. Payment for non-hazardous waste disposal is incidental to interior or exterior painting.

3.06 WASTE DOCUMENTATION

- A. Supply proper documentation of storage, transportation, and treatment, or disposal of the waste to the owner. The owner will retain sufficient funds from the contractor to pay for hazardous waste transportation, treatment, and any possible fines until all documentation has been received. This retainage will be held, even if the waste has tested non-hazardous.

3.07 TESTING and CLEAN-UP of WASTE

- A. Daily collect all spent abrasive from the ground tarps and dispose in the required receptacles. Prior to receiving test results, spent abrasive shall be stored on ground tarps. The spent abrasive is to be covered and weighted down so no dust can be released.
- B. Furnish containers with proper labels for storage of the spent debris. Containers shall meet requirements of the EPA (or their local counterpart) for hazardous waste disposal. The spent abrasive will be moved directly from the tank into the waste containers. The containers will remain until final test results have been received. Furnishing containers with covers will be incidental to respective repaint, and will not be affected by the owner's final selection of respective interior or exterior disposal.
- C. Waste to remain on-site in covered receptacles until waste test results are received.

SECTION 09 97 13.13.16

WET INTERIOR STEEL COATING – THREE COAT ZINC EPOXY

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting the wet interior of all tanks.

1.02 REFERENCES

- A. SSPC and NACE Standards:
 1. PA1 – Paint Application.
 2. PA2 – Measurements and Calibration.
 3. NACE RP 0178 Surface Finish Requirements.

1.03 WORK INCLUDED

- A. Application of a three (3) coat zinc epoxy system.

PART 2 – PRODUCTS

2.01 ZINC EPOXY – 3 COAT SYSTEM

- A. Three (3) coat zinc epoxy system meeting all National Sanitation Foundation certification standards for potable water contact.

- B. Approved suppliers and system for the roof:

<u>Manufacturer</u>	<u>System</u>
Tnemec	94H ₂ O/N140/N140(stripe)/22
Induron	Indurazinc MC-67/PE-70/PE-70(stripe)/TL70

- C. Approved suppliers and system for the sidewall and floor.

<u>Manufacturer</u>	<u>System</u>
Tnemec	94H ₂ O/N140/N140(stripe)/N140
Induron	PE-70/PE-70/PE-70(stripe)/PE-70

PART 3 – EXECUTION

3.01 ZINC EPOXY – 3 COAT SYSTEM

- A. Apply a three (3) coat high build epoxy paint system to all prepared surfaces.
- B. Abrasive blast cleaning and paint requirements have been previously defined in Section 09 97 13.10.

C. Apply each coat at the following rates for the roof:

<u>Coat</u>	Minimum <u>D.F.T.(mils)</u>	Maximum <u>D.F.T. (mils)</u>
Primer	2.5	3.5
Intermediate	4.0	6.0
Stripe Coat	1.5	2.5
Topcoat	<u>16.0</u>	<u>20.0</u>
Total	22.5*	29.5*

*Total does not include stripe coat.

D. Apply each coat at the following rates for the sidewall and floor.

<u>Coat</u>	Minimum <u>D.F.T. (mils)</u>	Maximum <u>D.F.T. (mils)</u>
Primer	2.5	3.5
Intermediate	4.0	6.0
Stripe Coat	1.5	2.5
Topcoat	<u>4.0</u>	<u>6.0</u>
Total	10.5*	15.5*

*Total does not include stripe coat.

- E. Stripe coat to be applied to all welds, angles, and sharp edges throughout the structure, including above the high water line and all roof beams, etc.
- F. Each full coat to be a different color from the previous coat and is to be approved by the engineer. No color bleed through should occur if proper application rates are observed.
- G. Apply all coats in uniform color and sheen without streaks, laps, runs, sags, cloudy, or missed areas. Correct all defects before application of the successive coat.
- H. Allow a minimum of twenty-four (24) hours between coats (including stripe coat). Additional time may be necessary if low temperatures require an increase in the necessary cure time.
- I. MAINTAIN FORCED VENTILATION A MINIMUM OF SEVEN (7) DAYS AFTER TOPCOAT APPLICATION, time required for cure is dependent on the coating manufacturer and temperature. Record variations of the standard procedures (roof hatch closure because of rain, etc.), and submit to the engineer. Heat is required if, in the opinion of the engineer, the integrity of the coating is endangered by cold weather, or if additional cure time will delay the project beyond the substantial completion date.

3.02 SCHEDULE of WORK

- A. Complete all exterior and interior welding prior to surface preparation.

SECTION 09 97 13.21.06

PIT PIPING STEEL COATING – TWO COAT EPOXY

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting the pit piping at the 15,000 gallon standpipe.

1.02 REFERENCES

- A. SSPC and NACE Standards:
 - 1. PA1 – Paint Application.
 - 2. PA2 – Measurements and Calibration.
 - 3. NACE RP 0178 Surface Finish Requirements.

1.03 WORK INCLUDED

- A. Application of a two (2) coat epoxy system.

PART 2 – PRODUCTS

2.01 EPOXY – 2 COAT SYSTEM

- A. Two (2) coat epoxy system.
- B. Approved suppliers and systems:

<u>Manufacturer</u>	<u>System</u>
Tnemec	N140/N140(stripe)/N140
Induron	PE70/PE70(stripe)/PE70

PART 3 – EXECUTION

3.01 EPOXY – 2 COAT SYSTEM

- A. Apply to all prepared surfaces a two (2) coat epoxy system.
- B. Surface preparation has been previously defined in Section 09 97 13.10.
- C. Apply each coat at the following rates:

<u>Coat</u>	<u>Minimum</u>	<u>Maximum</u>
	<u>D.F.T. (mils)</u>	<u>D.F.T. (mils)</u>
Primer	4.0	6.0
Stripe	1.5	2.5
Topcoat	<u>4.0</u>	<u>6.0</u>
Total	8.0*	12.0*

*Totals do not include stripe coat.

- D. Stripe coat to be applied to all welds, angles, and sharp edges throughout the structure.
- E. Each full coat to be a different color from the previous coat and is to be approved by the engineer. No color bleedthrough should occur if proper application rates are observed.
- F. Apply all coats in uniform color and sheen without streaks, laps, runs, sags, cloudy, or missed areas. Correct all defects before application of the successive coat.
- G. Allow a minimum of twenty-four (24) hours between coats (including stripe coat). Additional time may be necessary if low temperatures require an increase in the necessary cure time.

SECTION 09 97 13.24.10

EXTERIOR STEEL COATING – THREE COAT EPOXY URETHANE OVERCOAT

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting on the exterior.

1.02 REFERENCES

A. SSPC and NACE Standards:

- 1. PA1 – Paint Application.
- 2. NACE RP 0178 Surface Finish Requirements.

1.03 WORK INCLUDED

- A. Application of a three (3) coat epoxy urethane system.

PART 2 – PRODUCTS

2.01 EPOXY URETHANE - 3 COAT OVERCOAT SYSTEM

- A. The coating shall be an epoxy urethane system.
- B. The contractor is advised to follow all requirements for safety concerning isocyanates.
- C. Ultraviolet protection additives mixed at factory only. There will be no tinting or addition of any material other than the manufacturer's thinners.
- D. Approved suppliers and systems:

<u>Manufacturer</u>	<u>System</u>
Tnemec	N69(spot)/N69/1074/1074UV.
Induron	PE-70(spot)/PE-70/I-6600/I-6600

PART 3 – EXECUTION

3.01 EPOXY URETHANE - 3 COAT OVERCOAT SYSTEM

- A. Apply to all prepared surfaces a three (3) coat epoxy urethane system.
- B. Surface preparation and paint requirements have been previously defined in Section 09 97 13.10. Apply all coatings by brush and roller. Spray application is prohibited.

C. Apply each coat at the following rates:

<u>Coat</u>	Minimum <u>D.F.T. (mils)</u>	Maximum <u>D.F.T. (mils)</u>
Primer (spot)	2.0	3.0
Epoxy Intermediate	2.0	3.0
Urethane Intermediate	2.0	3.0
Topcoat	<u>2.0</u>	<u>3.0</u>
Total	8.0	11.0

D. Each full coat to be a different color from the previous coat and is to be approved by the engineer. No color bleedthrough should occur if proper application rates are observed.

E. Apply all coats in uniform color and sheen without streaks, laps, runs, sags, cloudy, or missed areas. Correct all defects before application of the successive coat.

F. Allow a minimum of twenty-four (24) hours between coats. Additional time may be necessary if low temperatures require an increase in the necessary cure time.

3.02 SCHEDULE of WORK

A. Complete all exterior and interior welding prior to surface preparation.

SECTION 09 97 13.24.12
EXTERIOR STEEL COATING – THREE COAT EPOXY
POLYURETHANE FLUOROPOLYMER OVERCOAT

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting on the exterior - alternate.

1.02 REFERENCES

- A. SSPC and NACE Standards:
 - 3. PA1 – Paint Application.
 - 4. PA2 – Measurements and Calibration.
 - 5. NACE RP 0178 Surface Finish Requirements.

1.03 WORK INCLUDED

- A. Application of a three (3) coat polyurethane fluoropolymer system.

PART 2 – PRODUCTS

2.01 EPOXY POLYURETHANE FLUOROPOLYMER - 3 COAT OVERCOAT SYSTEM

- A. The coating shall be a fluoropolymer polyurethane system.
- B. Ultraviolet protection additives mixed at factory only. There will be no tinting or addition of any material other than the manufacturer's thinners.
- C. Approved suppliers and systems:

<u>Manufacturer</u>	<u>System</u>
Tnemec	N69(spot)/N69/1075/V700
Induron	PE-70(spot)/PE-70/I-6600 Plus/Perma-Gloss

PART 3 – EXECUTION

3.01 EPOXY POLYURETHANE FLUOROPOLYMER - 3 COAT SYSTEM

- A. Apply to all prepared surfaces and appurtenances a three (3) coat epoxy fluoropolymer polyurethane system.
- B. Surface preparation and paint requirements have been previously defined in Section 09 97 13.10. Apply all coatings by brush and roller. Spray application is prohibited.

C. Apply each coat at the following rates:

<u>Coat</u>	<u>Minimum</u>	<u>Maximum</u>
	<u>D.F.T. (mils)</u>	<u>D.F.T. (mils)</u>
Primer (spot)	2.0	3.0
Epoxy Intermediate	2.5	3.5
Urethane Intermediate	2.0	3.0
Topcoat	<u>2.0</u>	<u>3.0</u>
Total	8.5	12.5

D. Each full coat to be a different color from the previous coat and is to be approved by the engineer. No color bleedthrough should occur if proper application rates are observed.

E. Apply all coats in uniform color and sheen without streaks, laps, runs, sags, cloudy, or missed areas. Correct all defects before application of the successive coat.

F. Allow a minimum of twenty-four (24) hours between coats. Additional time may be necessary if low temperatures require an increase in the necessary cure time.

3.02 SCHEDULE of WORK

A. Complete all exterior and interior welding prior to surface preparation.

SECTION 09 97 23.23.03

CONCRETE FOUNDATION COATING – TWO COAT EPOXY

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting of the concrete foundations on the two 1,250,000 gallon tanks.

1.02 REFERENCES

- A. SSPC and NACE Standards:
 - 1. PA1 – Paint Application.
 - 2. PA2 – Measurements and Calibration.

1.03 WORK INCLUDED

- A. Application of a two (2) coat epoxy system.

PART 2 – PRODUCTS

2.01 EPOXY – 2 COAT SYSTEM

- A. Two (2) coat epoxy system.
- B. Approved suppliers and manufacturers:

<u>Manufacturer</u>	<u>System</u>
Tnemec	N69/N69
Induron	PE-70/PE-70

PART 3 – EXECUTION

3.01 EPOXY – 2 COAT EPOXY

- A. Apply to all prepared areas a two (2) coat epoxy system.
- B. Remove dirt 3” below grade around the entire foundation prior to coating, backfill once topcoat is dry to the touch.
- C. Foundations to be water cleaned at 3,500 to 5,000 psi to remove all contaminants.
- D. In lieu of water cleaning contractor has the option to abrasive blast clean to a SSPC-SP13/NACE 6 Standard to create a profile per ICRI – CSP3.
- E. Apply each coat at the following rates:

<u>Coat</u>	<u>Min. D.F.T. (mils)</u>	<u>Max. D.F.T. (mils)</u>
Primer	3.5	5.5
Topcoat	<u>3.5</u>	<u>5.5</u>
Total	7.0	10.0

- F. Allow the manufacturer’s minimum time between coatings.

G. Cost is incidental to exterior painting.

SECTION 26 42 23

IMPRESSED CURRENT CATHODIC PROTECTION for STEEL RESERVOIRS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. **SCOPE:** Furnish and install a complete automatic controlled impressed current cathodic protection system to prevent corrosion on the submerged interior surfaces of the 1,250,000 gallon water storage tanks. All work and material are to meet the standards established in AWWA D104-11-Automatically Controlled Impressed-Current Cathodic Protection for the Interior of Steel Water Tanks.
- B. **CONFLICTS:** Requirements contained in these specifications apply to and govern the work under this section. All General Condition items and Information for Bidder items applicable or contained in these specifications apply. This Technical Specification is intended to expand the General Conditions and/or other Technical Specifications and is not intended to conflict or override any items unless specifically stated. If a conflict is noted, the engineer will review prior to proceeding with the project. If a conflict does exist, the Technical Specifications govern over any General Conditions or Information for Bidders.

1.02 QUALIFICATIONS of CATHODIC PROTECTION MANUFACTURER

- A. The bidder is to have a minimum of five (5) continuous years of successful experience in the manufacture, installation and servicing of automatic cathodic protection systems for water storage tanks. The bidder is to have a permanent service organization located within three hundred (300) miles of the tank location. The contractor (manufacturer) is to have a minimum of twenty-five (25) successful units installed in water storage tanks. The manufacturer and/or his subcontractor must own and maintain or lease the equipment necessary for installation and have proper training in regard to the safety requirements.
- B. New firms may also bid this project; however, they will be subjected to thorough review based on individual experiences of staff, proof of the continuation with firm (i.e. stock ownership, etc.) and financial stability of the firm. Essentially, they will be required to provide sufficient documentation to convince the owner they will be available throughout the ten (10) years to service the system, if needed.

1.03 SHOP DRAWINGS

- A. Submit detailed shop drawings ten (10) days prior to the preconstruction meeting.
 - 1. Provide for employees one (1) copy at the job site for employee access.
 - 2. Provide one (1) hard copy and an electronic copy to the engineer.

- B. At the preconstruction meeting submit three (3) sets of Operation/Maintenance Manuals directly to the owner.

1.04 GUARANTEE

- A. Guarantee the cathodic protection system against all defects in materials and workmanship and further guarantee to prevent corrosion, when maintained in a continuous operation in accordance with the contractor's instructions, as evidence by the absence of pitting (or additional pitting) below the high waterline in the tank for a period of one (1) year. The requirement of a maintenance contract may be beneficial, but cannot be made a precondition to this warranty. In the event corrosion is not prevented, the contractor is to readjust, repair, or replace the system. Guarantee the reference anodes for five (5) years. It is the intention of the owner to inspect the tank, as necessary, to review the performance of the cathodic protection system.

1.05 DESIGN and PERFORMANCE REQUIREMENTS

A. DESIGN CRITERIA:

1. Each tank is a 1,250,000 gallon steel reservoir. It is approximately 38 ft. 8 in. to high water line and has a diameter of approximately 75 ft.
 2. Design tank-to-water potential is to be -900 mv with units capable of adjustment from -850 mv to -1050 mv. The design potential is to be IR drop-free (type A) and based on a copper/copper sulfate reference anode.
 3. Minimum current density is to be 0.5 MA/sq. ft. of the bare surface area.
 4. The minimum design anode system life is to be ten (10) years.
- B. The intent of these specifications is to procure a quality product by an established manufacturer of the latest design. Cost of the equipment is to include all royalty costs arising from patents and licenses associated with furnishing the specified equipment. Design all material to withstand the stresses created under ice conditions. Use the latest state-of-the-art "permanent" system which is designed to be ice-free and designed for use in tanks with ice conditions. Use corrosion resistant materials for all equipment, or protect with corrosion resistant industrial coating approved by the engineer.

PART 2 – PRODUCTS

2.01 CATHODIC PROTECTION SYSTEM

- A. Provide a cathodic protection system (ice-free) that is to be a suspended or floating ring-type system. Furnish all items, as necessary, for the complete operating system.

2.02 MATERIALS

- A. Furnish materials for the best quality, regularly used in commercial practice and conforming to the following specifications. Specifically design the cathodic protection system for operation in icing conditions and protect against damage from ice.
- B. Supply only material for use inside the wet interior (i.e. all material in contact with water shall meet NSF 61 Standards and bears the NSF or UL label verifying compliance).
- C. Mount the power unit as directed in Part 3 – Execution in a stainless steel, waterproof cabinet suitable for outdoor use, adequately ventilated with stainless steel screens, and with provision for locking. Secure cabinet by using mounting brackets. If mounted on steel, electrically isolate from steel with non-conductive insulator.
- D. Use an electrical insulating material having suitable thickness and mechanical strength for the mounting board. Mount accurate D.C. meters with a D.C. voltmeter on the panel board for indicating output of rectifier.
- E. Include a potential indicating voltmeter on the panel board. This voltmeter is to be part of the sensing circuit, and is to continuously indicate the structure potential value that the control system is maintaining.
- F. Panel Board is to contain the following equipment:
 1. Power Unit: The power unit is to have the necessary circuit breakers, transformer, selenium or silicon rectifying elements, voltmeter(s), ammeter(s), lightning, surge, overload protection, wiring and appurtenances of adequate capacity to meet the requirements established by the Engineering Survey for each corrosion problem. Provide a power unit with voltage adjustments to regulate the current required for corrosion control. The unit is to be adjustable over the entire range of 0-100% of rated capacity. Design the power unit for Single Phase, 60 Hz, 110-120 volt A.C. rated to operate at an ambient temperature of 45° Centigrade. Include a circuit breaker for the A.C. and an overload relay in the D.C. circuit. The entire power unit is to be fully field serviceable. The overall efficiency of the power unit is to exceed 65%, and the power factor is to exceed 90% of full load and rated voltage to the power unit, in the conversion of A.C. to D.C. The power factor is to be greater than 85% at outputs exceeding 25% of the rated capacity.
 2. Automatic Controller: House the controller integrally with the rectifier unit. The automatic controller is to be completely solid state design having no moving parts and capable of automatically maintaining the tank-to-water potential at (-)900 millivolts with respect to a copper-copper sulphate reference electrode within an accuracy of 25 millivolts. The tank-to-water potential measured and maintained by the controller is to be free of “IR” drop error (Type A).

3. Rectifier: Use non-aging tri-amp selenium or silicon rectifiers of the approved selenium type, as manufactured by General Instrument Corporations or equal for rectifier stacks. The rectifier stacks are to have adequate cooling fins so their normal temperature rise at rated capacity will not exceed that specified by the N.E.M.A. and by the manufacturer of the rectifier stacks for cathodic protection service. Use air-cooled rectifier stacks.

Design the transformer for use in cathodic protection rectifiers having separate primary and secondary copper windings. The rectifiers are to be capable of automatically adjusting output to maintain potential within +/- 25mv of -900mv, and to be adjustable over 0-100% of its rated capacity.

4. Tank-to-Water Potential Meter: Equip the controller with a calibrated potential monitoring and display circuit having an integral impedance exceeding 1000 megohms which is to be so connected to read from the system reference cell the tank-to-water potential being maintained by the cathodic protection system.

This voltage reading is to be free of "IR" drop error.

NOTE: If digital readout is provided, provide access to all readings required above.

- G. Run positive wires from the power unit to the anode circuits in rigid steel conduits, as established by the National Electrical Code for the allowable current-carrying capacity. Use rigid, galvanized steel conduit. Use state code for underground wire. Use HMWPE (High Moly) wire from the rectifier to and in the tank.
- H. Equip the system with copper-copper sulfate reference electrode designed for a minimum five (5) year life. Install two (2) electrodes on opposite sides of the bowl. If either electrode fails within five (5) years, replace as often as necessary, free of charge to the owner.
- I. Design the anode system for a minimum life of ten (10) years and securely attach to the tank to prevent damage from ice conditions. Include all labor and material for installation of the anodes, and use submerged floating anodes. The anode system uses mixed metal oxide wire anodes. Attach the anodes to a buoyant submerged structure that is maintained in a totally submerged condition, down to the minimum water level by flexible attachment to the interior tank walls or columns. Connections to the floor are required in tanks subject to heavy icing. Anode and reference electrode lead wires are to enter the tank below the minimum water level through pressure tight fittings. Use 3,000 lb. couplings for fitting. Use a separate cord to encircle the supporting cord approximately 8 in. greater radius and design the cord to relieve tension in the loading. Use $\frac{5}{16}$ in. polyester or nylon rope.

- J. Protect all units, lightning arresters, surge protectors, and automatic overload protection in all modes and comply with all FCC regulations. All patent requirements are the responsibility of the contractor.

2.03 ALARM and TELEMETRY CONTROLS

- A. The alarm and telemetry circuits are to be a secondary system designed to read controls and not to interfere in any manner with the primary controls. Use four-to-twenty (4-20) milliamp sensors to read voltage, amperage and potential of both circuits. One alarm light shall be furnished on the cover of the rectifier box. The light shall be activated by a change in amperage, voltage or potential that would signal a possible system failure.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. The cathodic protection system is to be installed by full-time employees of the supplier of the system who are specifically trained to install and service water tank cathodic protection systems. Subcontractors who are specialized tank personnel may install the cathodic protection system under direct, on-site supervision by a responsible employee of the manufacturer.
- B. Install clips, pressure fittings, mounting supports, and brackets prior to abrasive blasting.

3.02 CLIPS AND PRESSURE FITTING

- A. Use existing clips and pressure fitting if possible. If needed furnish and install new attachment clips and pressure fitting.
- B. Clips to be installed using ¼ in. fillet welds all around. No area may be left which would be susceptible to crevice corrosion.
- C. Weld the pressure fitting with ¼ in. fillet continuous welds all around on both the tank's wet interior and exterior.

3.03 INSTRUCTIONS

- A. After installation is complete, energize the system and adjust for optimum operations. After the unit is adjusted, take tank-to-water potential measurements using a copper-copper sulfate reference electrode. Submit a report to the engineer, including all the test results obtained.
- B. After supervising of inspection and start-up operations, provide one (1) additional day for training of the owner and/or his representative. The training is to include minor troubleshooting practices, recordkeeping, and methods used to determine the

effectiveness of the system. The training period is at the owner's discretion within one (1) year of start-up.

3.05 MOUNTING PANEL

- A. Locate waterproof cabinet rectifier at the base of the sidewall at location approved by the owner.
- B. Mounting plate to be constructed of minimum of 3/16 inch steel. Bend plate to create a mounting face that is a minimum of 20 inches wide and 20 inches tall. Set mounting panel 5 ft. on center above grade.
- C. Drill four 11/32 inch holes and bolt onto the panel using stainless steel bolts. Verify hole size and location.
- D. Surface prepare and coat the mounting plate prior to installation of the rectifier.

3.06 OPERATION of SYSTEM

- A. The owner reserves the right to leave the cathodic protection system out-of-service for one (1) full year.
- B. Complete item 3.03 – Instructions when scheduled by the owner (within 13 months).
- C. Extend one (1) year warranty of cathodic protection system one (1) year beyond date of energizing.

3.07 ELECTRICAL SUPPLY

- A. There is/ a 120 volt power available at the building next to the reservoirs.
- B. Coordinate with owner and connect electrical source to cathodic protection controls.
- C. Bury all exterior wiring underground from electrical source to cathodic protection controls.

Dixon Engineering, Inc.

Preliminary Maintenance Inspection

30,000 Gallon Reservoir

Water Service Corp. of Kentucky
Clinton, Kentucky

Inspection Performed: August 13, 2019
Reviewed by Joseph T. Hoban P.E.: November 29, 2019

Dixon Engineering, Inc.
4811 S. 76th St. Ste. 109, Greenfield, WI 53220

Phone (414) 529-1859
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Wisconsin@dixonengineering.net

CONCLUSIONS:

1. The exterior is a lined with glass that is in good condition overall. Lining deterioration includes spot failures to the substrate. There are only a few failures on the sidewall and roof. The seams are sealed with gasket material that is in good condition.
2. The interior is lined with glass that is in good condition.

RECOMMENDATIONS:

Budget to perform the following repairs in one to two years.

1. Spot power tool clean the exterior coating failures on the piping and apply urethane repair system. The estimated cost is \$5,000.
2. Abrasive blast clean the wet interior piping and repaint with an epoxy system. The estimated cost is \$5,000.
3. Coat the foundation to help prevent deterioration. The cost would be incidental to exterior painting.
4. Remove the loose felt pad and apply caulk. The estimated cost is \$1,000.
5. Modify the overflow pipe discharge to meet required air gap and screening requirements. The estimated cost is \$4,000.

COST SUMMARY:

Exterior piping spot repaint	\$5,000
Wet interior piping repaint	5,000
Caulk baseplate	1,000
Overflow discharge modification	<u>4,000</u>
Sub Total	\$15,000
Engineering and Contingencies	<u>\$5,000</u>
Total	\$20,000

Note: Best pricing for the repairs would be obtained if paired with a larger rehabilitation project.

INSPECTION:

On August 13, 2019 Dixon Engineering Inc. performed a preliminary maintenance inspection on the 30,000 gallon water storage reservoir owned by the Water Service Corporation of Kentucky and located in Clinton, Kentucky. Purposes of the inspection were to evaluate the interior and exterior coating's performance and life expectancy, assess the condition of metal surfaces and appurtenances, review safety and health aspects, and make budgetary recommendations for continued maintenance of the tank. All recommendations with budgeting estimates for repairs are incorporated in this report.

The inspection was performed by Andy Schrauben, Engineering Technician. The inspector was assisted by Kyle Lay, ROV Operator. Scheduling and arrangements for the inspection were completed through Steven Vaughn.

The wet interior inspection was completed with a remotely operated vehicle (ROV). Video of the inspection and still photos are included with this report. No cleaning was performed in the wet interior during the ROV inspection.

GENERAL INFORMATION:

The tank was built by Columbian TecTank with a height to high-water level of 12 feet 6 inches. The original construction date is unknown.

CONDITIONS AND RECOMMENDATIONS:

EXTERIOR COATING CONDITIONS:

The exterior glass liner is in good condition overall. There is no rust streaking at the bolts or panel seams. There are significant coating failures on the drains and overflow pipe extensions. There are several previous spot coating repairs that are failing.

The gasket seams are in good condition. There is rusting at some of the bolts.

EXTERIOR COATING RECOMMENDATIONS:

Spot power tool clean the exterior failures on the piping and apply a urethane spot system repairs. The estimated cost is \$5,000.

WET INTERIOR COATING CONDITIONS:

The interior glass liner is in good condition overall. The floor was covered with approximately ¼ inch of sediment that limited the amount of surface visible with the ROV.

There is piping in the interior that routes from the aeration chamber to the sidewall. The coating is in poor condition with corrosion throughout.

WET INTERIOR COATING RECOMMENDATIONS:

Abrasive blast clean the wet interior piping and repaint with an epoxy system. The estimated cost is \$5,000.

PIT PIPING CONDITIONS:

There is a pit adjacent to the tank that contains a short section of piping. The pit has a metal cover that is in good condition. The piping is in good condition. The coating on the piping is in good condition but is covered in mud.

There is piping inside the pumphouse adjacent to the tank. The piping is in good condition. The coating is in good condition.

SITE CONDITIONS:

The tank is located on a large fenced site adjacent to residential development.

Tree sapling branches are rubbing on the sidewall. The rubbing has not damaged the coating yet but may wear through the coating if the sapling is not removed.

SITE RECOMMENDATIONS:

Remove the branches that are rubbing on the tank to prevent further damage.

FOUNDATION AND ANCHOR BOLT CONDITIONS:

The top 0 to 2 inches of the foundation are exposed. The exposed concrete foundation is in good condition with no significant deterioration.

FOUNDATION AND ANCHOR BOLT RECOMMENDATIONS:

Coat the exposed concrete with an epoxy coating system to help prevent deterioration. The cost would be incidental to exterior painting.

FELT PAD CONDITIONS:

The felt pad between the baseplate and the foundation is in fair condition with approximately 20 total lineal feet missing.

FELT PAD RECOMMENDATIONS:

Remove the loose felt pad and apply caulk. The estimated cost is \$1,000.

ROOF HANDRAIL, PAINTER'S RAILING, AND ROOF RIGGING CONDITIONS:

There is a handrail on the edge of the roof surrounding the roof hatch and the vent. The handrail is in good condition.

OVERFLOW PIPE CONDITIONS:

The tank has a 6 inch overflow pipe that exits the upper sidewall, extends down along the exterior, and discharges near the ground at a splash pad away from the tank. The discharge end of the overflow pipe is screened. The screen is in good condition but is oversized. The pipe discharges to a splash pad. The air gap does not meet the required 12-24 inches. The discharge area is in good condition.

OVERFLOW PIPE RECOMMENDATIONS:

Modify the overflow pipe discharge to meet required air gap and screening requirements. The estimated cost is \$4,000.

HATCH AND MANWAY CONDITIONS:

There is a 24 x 24 inch square roof hatch to the wet interior that is in good condition. The hinged cover is in good condition. The hatch was secured with a padlock.

There is a 24 x 24 inch bolted manway in the sidewall that is in good condition. The manway gasket showed no signs of leakage and the bolts are in good condition.

VENT CONDITIONS:

The roof has a vent for the aeration chamber that is a 56 inch flow through design that is screened and in good condition.

VENT RECOMMENDATIONS:

Annually inspect the roof vent for tears and gaps in the screen.

LADDER CONDITIONS:

The exterior sidewall ladder starts at ground level and extends up to the roof. The ladder is not equipped with a fall prevention device. There is a vandal guard on the sidewall ladder and a cage that are in good condition.

There is no ladder in the wet interior.

FILL/DRAW PIPE CONDITIONS:

The fill pipe penetrates through the sidewall and extends across the floor to the center aerator chamber.

The tank draws from a separate pipe. The draw pipe penetrates through the sidewall, extends approximately 12 inches into the wet interior and elbows toward the floor. There is a deflector plate at the pipe in the wet interior.

There is a drain line that is flush with the floor. The line can be used during maintenance work and inspections to help remove the sediment from the floor. The drain line was not used during the inspection.

AERATOR CONDITIONS:

The tank has a steel aerator wall between the fill pipe and draw pipe that is in good condition.

INSULATION CONDITIONS:

The exterior piping is covered with insulation. The insulation is in fair condition.

WET INTERIOR METAL CONDITIONS:

The steel structure is in good condition above and below the high-water level. No active pitting was observed.

The interior roof is supported by twenty-four radial and two transverse stiffeners that are in good condition with minor corrosion at the edges.

The connections at the sidewall are bolted and are in good condition. The connections at the center support are bolted and are in good condition.

WET INTERIOR METAL RECOMMENDATIONS:

Monitor the lining deterioration on the edges of the stiffeners. Repair the roof lining before metal loss on the stiffeners becomes significant.

DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
RESERVOIR TANK

DATE: **August 13, 2019**

OWNER: **Water Service Corporation of Kentucky**

CLIENT CODE: **17-53-66-01**

TANK NAME: **Clearwell**

LOCATION: Address: **404 Short Street**

City: **Clinton**

State: **Kentucky**

TANK SIZE: Capacity: **30,000 gallons**

Diameter: **32 feet (measured)**

Overflow (HWL): **12 feet 6 inches (measured)**

Sidewall height: **13 feet 2 inches (measured)**

CONSTRUCTION: **Bolted**

Type: **Reservoir**

Type of roof: **Flat**

YEAR CONSTRUCTED: **Unknown**

MANUFACTURER: **Columbian TecTank**

CONTRACT NUMBER: **Unknown**

COATING HISTORY	EXTERIOR	WET INTERIOR
YEAR LAST COATED	<u>Unknown</u>	<u>Unknown</u>
CONTRACTOR	<u>Unknown</u>	<u>Unknown</u>
COATING SYSTEM	<u>Glass lined</u>	<u>Glass lined</u>
HEAVY METAL COATING SAMPLES	<u>No</u>	<u>No</u>
HEAVY METAL BEARING	<u>No</u>	<u>No</u>

PERSONNEL: Inspector **Andy Schrauben**, Ground person **Kyle Lay**

TYPE OF INSPECTION: **Preliminary Maintenance**

METHOD OF INSPECTION: **ROV**

YEAR LAST INSPECTED: **Unknown**

SITE CONDITIONS

Fenced: **Yes**

Site large enough for contractor's equipment: **Yes**

Control building: **Yes**

Antenna control site: **No**

Neighborhood: **Residential**

Power lines within 50 feet: **No**

Site drainage: **Away from tank**

Indications of underground leakage: **No**

Shrub, tree, etc. encroachment: **Yes**

Rubbing on the tank: **Yes**

Interference with future containment: **No**

EXPOSED PIPING:

Location: **Adjacent to tank (in pit and in building)**

Condition of structure: **Good**

Structure is: **Dry**

Pump present: **No**

Hatch/Cover condition: **Good**

Locked: **No**

Altitude valve: **No**

Pipe coating condition: **Good**

Describe coating: **No significant coating deterioration**

Condition of metal: **Good**

FOUNDATION

Foundation exposed: **Yes**

Exposed height: **0-2 inches**

Exposed foundation condition: **Good**

Damage or deterioration: **No**

Foundation coated: **No**

Type of baseplate gap filler: **Felt pad**

Condition: **Fair**

Amount missing: **20+ feet**

Undermining of foundation: **No**

EXTERIOR COATING

Sidewall:

Lettering: **Yes**

Number: **1**

EXTERIOR COATING

Lettering content: **COLUMBIAN TecTank (Manufacturer name sticker)**

Liner condition: **Good**

Panel connections: **Bolted and caulked**

Caulk condition: **Good**

Metal condition: **Good**

Sidewall comments: **The sidewall is glass lined. The gaskets are in good condition with very minor deterioration. There are eight to ten repairs that have been made to the glass lining. There is delamination of the lining at the bolted flanges**

Roof:

Liner condition: **Good**

Metal condition: **Good**

Roof comments: **The roof is glass lined. There are two small areas of lining deterioration. The gaskets are in good condition with some minor deterioration**

EXTERIOR APPURTENANCES

Sidewall manway:

Size: **24 x 24 inches**

Hinged: **No - bolted**

Metal condition: **N/A**

Sidewall manway comments: **The sidewall manway is glass lined**

Anchor bolts:

N/A

Overflow pipe:

Diameter: **6 inches**

Coating condition: **Good**

Metal condition: **Good**

Condition of screen: **Good**

Percent of screen open: **100**

Mesh size: **24**

Flap gate: **No**

Air gap: **Yes**

Lowest part of discharge to the ground distance: **4 inches**

Overflow discharges to: **Concrete pad**

Condition: **Good**

EXTERIOR APPURTENANCES

Mud valve:

N/A

Sidewall ladder:

Height to start of ladder: **0 feet**

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **1.25 inch**

Shape of rungs: **Round**

Coating condition: **Not coated**

Metal condition: **Good**

Fall prevention device: **No**

Cage: **Yes**

Diameter: **32 inches**

Vandal guard: **Yes**

Condition: **Good**

Step-off platform:

N/A

Roof handrail:

Diameter: **32 feet – at edge of the roof**

Railing height: **41 inches**

Midrail height: **20 inches**

Kick plate height: **4 inches**

Vertical post type: **Angle**

Size: **2.5 x 2.5 inches**

Top rail type: **Tube**

Size: **1.25 inches**

Midrail type: **Tube**

Size: **1.25 inches**

Coating condition: **Galvanized**

Metal condition: **Good**

Roof rigging couplings:

N/A

Wet interior roof hatch:

Neck size: **24 x 24 inches**

Distance from center of the tank (to outer edge): **15 feet 2 inches**

EXTERIOR APPURTENANCES

Shape: **Square**
Handhold at opening: **Yes**
Curb height: **4 inches**
Cover overlap: **2 inches**
Hatch security: **Lock**
Outside coating condition: **Good**
Inside coating condition: **Good**
Metal condition: **Good**

Bolted ventilation hatch:

N/A

Roof vent:

Number: **1**
Distance from center of the tank (to outer edge): **0 feet**
Type: **Flow-through**
Neck diameter: **56 inches**
Coating condition: **Fair**
Metal condition: **Good**
Screen condition: **Good**
Mesh size: **24**

Antennas:

N/A

Electrical:

Electrical conduit condition: **Good**
Exposed wiring: **No**

WET INTERIOR COATING

Roof:

Liner condition: **Good**
Describe coating: **Spot coating failures to substrate**
Metal condition: **Good**
Lap seams: **Gaskets**
Condition of laps: **Good**
Roof comments: **There is streaking present, coming from aeration unit at center. There are minor edge failures on some roof supports**

WET INTERIOR COATING

Sidewall:

Liner condition: **Good**

Describe coating: **Spot coating failures to substrate**

Mineral deposits: **Light**

Metal condition: **Good**

Active pitting: **No**

Previous pitting: **No**

Sidewall comments: **There are less than ten spots randomly on the sidewall. There is a second chamber inside the storage tank for aeration purposes. Its sidewall is also in good condition**

Floor:

Covered in sediment could not inspect with ROV

Depth of sediment: **1/4 inch**

WET INTERIOR APPURTENANCES

Tank ladder:

N/A

Cathodic protection:

N/A

Clips: **No**

Pressure fitting: **No**

Roof stiffeners:

Orientation: **Radial (24) and transverse (2)**

Center support design: **Aeration unit**

Stiffener connection at center support: **Bolted**

Connection condition: **Good**

Number of inner ring stiffeners: **24**

Stiffener shape: **Angle**

Dimensions: **2 x 2 inches x 16 ft. long (estimated)**

Stiffener condition: **Good**

Connection at support ring: **Bolted**

Connection condition: **Good**

Number of inner ring stiffeners: **2**

Stiffener shape: **Channel**

Dimensions: **2 x 8 inches x 32 ft. long (estimated)**

Stiffener condition: **Good**

Connection at support ring: **Bolted**

WET INTERIOR APPURTENANCES

Connection condition: **Good**

Coating condition: **Good**

Metal condition: **Good**

Roof stiffener comments: **There is minor lining deterioration noted on the stiffeners**

Sidewall stiffener:

N/A

Overflow pipe:

Type: **Funnel**

Coating condition: **Good**

Metal condition: **Good**

Fill pipe:

Diameter: **8 inches**

Height above floor: **4 inches (estimated)**

Configuration: **Routes across floor into center chamber**

Coating condition: **Fair**

Metal condition: **Good**

Separate draw pipe:

Diameter: **8 inches**

Height above floor: **4 inches (estimated)**

Deflector over end: **Yes**

Coating condition: **Good**

Metal condition: **Good**

Drain pipe:

Diameter: **6 inches**

Location: **In the wall**

Sump:

N/A

Aeration:

Type: **Center vent**

Condition: **Good**

Field Inspection Report is prepared from the contractor's viewpoint. It contains information the contractor needs to prepare his bid for any repair or recoating. The engineer uses it to prepare the engineering report. Cost estimates are more accurate if the contractor's problems can be anticipated. While prepared from the contractor's viewpoint, the only intended beneficiary is the owner. These reports are completed with diligence, but the accuracy is not guaranteed. The contractor is still advised to visit the site.



30,000 gallon reservoir located in Clinton, Kentucky and owned by Water Service Corporation of Kentucky.



1) The exposed foundation is in good condition.

2) There are some sections of deteriorating felt pad filler.



3) The drain line and overflow pipe are in good condition.

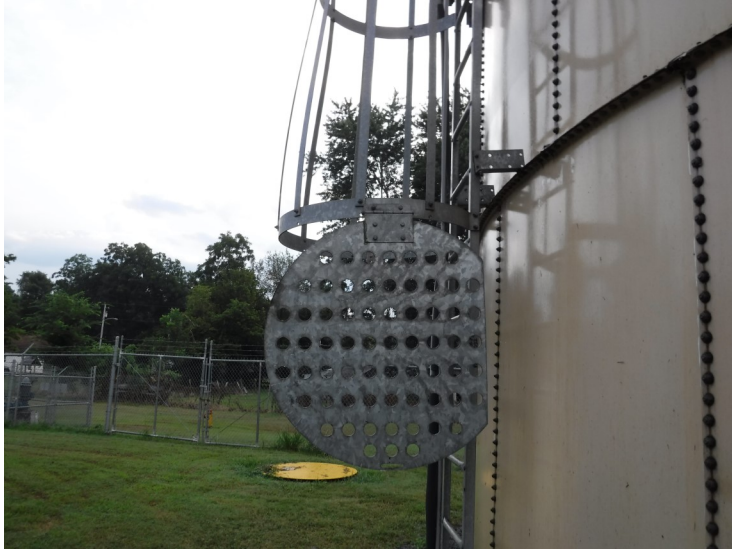


4) Overflow pipe and drain line discharge to a splash pad. The pipe coating is in poor condition.

5) The overflow splash pad is in good condition.



6) The fill pipe is covered with insulation.



7) The sidewall ladder is in good condition.

8) Spot lining failure on the sidewall at previous repair.



9) Lining deterioration at the bolted flanges.



10) The roof handrail is in good condition.

11) The aerator vent is in good condition.

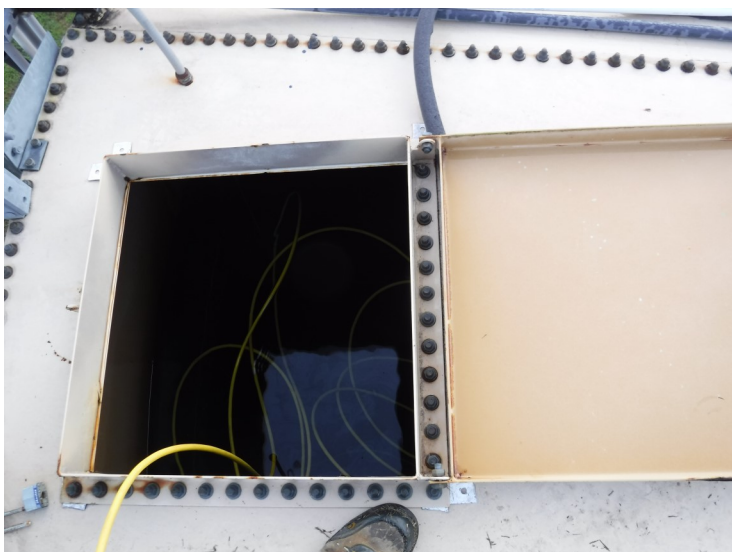


12) Spot lining deterioration on the aerator neck.



13) Spot lining deterioration on the roof with rust undercutting.

14) The roof lining is in good condition overall.



15) The wet interior roof hatch is in good condition.



16) The roof lining is in good condition overall.

17) Liner deterioration at the roof supports and aerator supports.



18) Same.



19) The sidewall lining is in good condition overall.

20) Same.

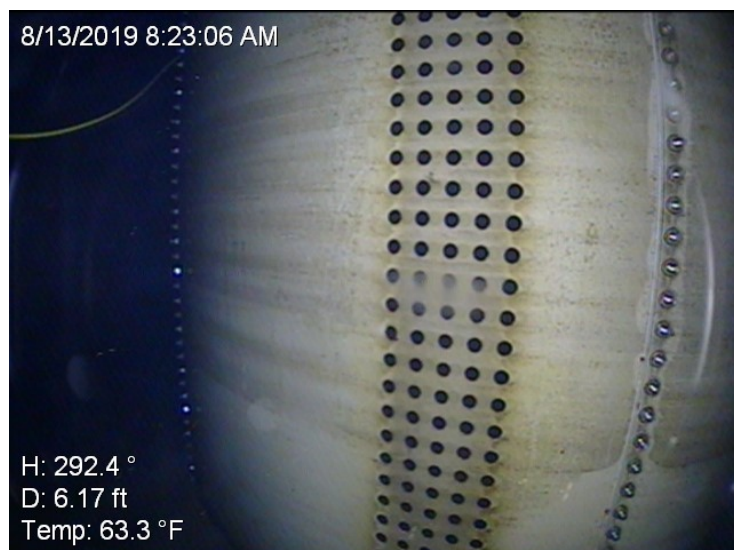


21) Drain penetration on the sidewall.



22) The fill pipe routes across the wet interior with some corrosion on the pipe and flanges.

23) The aerator is in good condition overall.



24) Same.

8/13/2019 8:14:26 AM



H: 198.6 °
D: 8.78 ft
Temp: 73.0 °F

25) The draw pipe is in good condition overall.

8/13/2019 8:15:14 AM



H: 124.7 °
D: 9.04 ft
Temp: 67.7 °F

26) The floor, where visible, is in good condition.



27) The piping in the adjacent pit is in good condition.



28) There is a pumphouse adjacent to the tank with piping.

29) The coating on the piping is in good condition.



30) Same.

SV-3B

Dixon Engineering, Inc.

Preliminary Maintenance Inspection

200,000 Gallon Standpipe
(Clinton)

Water Service Corp. of Kentucky
Clinton, Kentucky

Inspection Performed: August 13, 2019
Reviewed by Joseph T. Hoban P.E.: October 19, 2019

Dixon Engineering, Inc.
4811 S. 76th St. Ste. 109, Greenfield, WI 53220


Phone (414) 529-1859
Fax (414) 282-7830
<http://www.dixonengineering.net>
Wisconsin@dixonengineering.net

CONCLUSIONS:

1. The exterior coating is a urethane system. The coating is in good condition overall. Coating deterioration includes spot failures to the substrate with rust undercutting. There are only a few coating failures on the roof.
2. The wet interior coating is presumed to be an epoxy system. The coating is in fair condition overall. Below the high-water level coating deterioration includes spot failures to the substrate on the sidewall. Above the high-water level coating is deteriorating at the roof panels.

RECOMMENDATIONS:

Complete the recommended work in two to three years. The coating work is the greatest cost and largest part of the recommendations. The repairs and upgrades should be completed during the next major tank rehabilitation project when coating repairs are made.

1. Abrasive blast clean the entire wet interior and repaint with an epoxy system. The estimated cost is \$75,000.
2. Install clips and a pressure fitting for future installation of a submerged cathodic protection system. The estimated cost is \$2,000. 
3. Repair areas of missing or damaged grout between the steel baseplate and the concrete foundation. The estimated cost is \$1,000.
4. Install a handrail and a painter's railing on the roof. The estimated cost is \$15,000.
5. Install rigging couplings on the roof for temporary fall prevention of workers in the wet interior. The cost would be incidental to the next painting project.
6. Relocate the roof antenna to the new roof handrail and remove the existing mount on the ladder cage. The cost would be incidental to the roof handrail installation.
7. Trim the discharge end of the overflow pipe to meet the required 12 inch air gap. Reinstall the flange and flap gate. The estimated cost is \$1,000.
8. Install a 30 inch diameter sidewall manway. The estimated cost is \$9,000.

9. Replace the roof vent with a new frost-free pressure vacuum vent. The estimated cost is \$6,000.
10. Remove the roof ladder and install a step-off platform at the top of the sidewall with handrails to the center of the roof. The estimated cost is \$8,000.
11. Install deflector bars over the fill pipe and draw pipes in the wet interior. The cost would be incidental to the next paint project.
12. Install a fall prevention device on the wet interior ladder. The estimated cost is \$3,000.

COST SUMMARY:

Wet interior recoat	\$75,000
Cathodic clips and pressure fitting	2,000
Repair grout	1,000
Roof handrail with painter's railing	15,000
Modify the overflow discharge	1,000
30 inch sidewall manway	9,000
Frost-free roof vent	6,000
Step-off platform	8,000
Wet interior fall prevention	<u>3,000</u>
Sub Total	\$120,000
Engineering and Contingencies	<u>\$24,000</u>
Total	\$144,000

INSPECTION:

On August 13, 2019 Dixon Engineering Inc. performed a preliminary maintenance inspection on the 200,000 gallon water storage standpipe owned by the Water Service Corporation of Kentucky and located in Clinton, Kentucky. Purposes of the inspection were to evaluate the interior and exterior coating's performance and life expectancy, assess the condition of metal surfaces and appurtenances, review safety and health aspects, and make budgetary recommendations for continued maintenance of the tank. All recommendations with budgeting estimates for repairs are incorporated in this report.

The inspection was performed by Andy Schrauben Engineering Technician. The inspector was assisted by Kyle Lay, ROV Operator. Scheduling and arrangements for the inspection were completed through Steven Vaughn.

The wet interior inspection was completed with a remotely operated vehicle (ROV). Video of the inspection and still photos are included with this report. No cleaning was performed in the wet interior during the ROV inspection.

GENERAL INFORMATION:

The tank was built in 1978 by Caldwell with an estimated height to high-water level of 45 feet.

CONDITIONS AND RECOMMENDATIONS:

EXTERIOR COATING CONDITIONS:

A coating sample was taken and sent to Tnemec Paint Company for lab analysis. Lab results indicate that the exterior coating is a urethane.

The sidewall coating is in good condition with no significant failures.

The roof coating is in good condition with a few failures. Primary methods of deterioration are spot failures to the substrate with rust undercutting.

Coating samples were taken during the inspection and tested for heavy metals. The exterior coating tested at 0.22 percent (2,200 ppm) lead by weight and 1.5 percent (15,000 ppm) chromium by weight. Special considerations will be needed during maintenance to avoid contamination of workers and prevent generation of a hazardous waste.

EXTERIOR COATING RECOMMENDATIONS:

Take no immediate action on the exterior coating. Plan for overcoating in eleven years. The typical overcoat frequency for modern urethane systems is fifteen years. There is always a risk in overcoating the exterior, but we have had several successful projects when performed in the timeframe noted. The risk of poor adhesion of the overcoat system gets higher as the existing system gets older. Perform a maintenance inspection in five years to update the coating times and costs.

WET INTERIOR COATING CONDITIONS:

The coating is presumed to be an epoxy system based on the color and condition. Determining exact coating type is not essential because spot repair is not typically recommended and overcoating in the wet interior is never recommended.

The roof coating is in fair condition with a few failures. Primary method of deterioration is rust bleedthrough.

The sidewall coating is in poor condition with numerous failures. Primary method of deterioration is spot coating failures. There is no significant coating damage at the high-water level which would be the area most affected by ice movement.

The floor was covered with approximately ½-1 inch of sediment that limited the amount of surface visible with the ROV.

WET INTERIOR COATING RECOMMENDATIONS:

Budget to repaint the wet interior in two to three years. Abrasive blast clean the entire wet interior to a near-white metal (SSPC-SP10) condition. Wet interior coating systems must be approved for potable water storage tanks contingent upon meeting requirements of NSF/ANSI 61.

Apply a three-coat epoxy system to the prepared surfaces. Epoxy coating systems are recommended in most applications because they have good adhesion and abrasion resistant qualities. The estimated cost is \$75,000.

CATHODIC PROTECTION CONDITIONS:

The tank does not contain a cathodic protection system. The tank does not have attachment clips or a pressure fitting installed for a future cathodic protection installation.

CATHODIC PROTECTION RECOMMENDATIONS:

Install cathodic clips and a pressure fitting for future installation of floating type cathodic protection system. The estimated cost is \$2,000.

SITE CONDITIONS:

The tank is located on a large fenced site and is adjacent to residential development.

FOUNDATION AND ANCHOR BOLT CONDITIONS:

There is a concrete slab around the tank.

The top 0 to 1 inch of the concrete is exposed. The exposed concrete is in good condition. There is minor deterioration with some hairline cracking throughout.

There are twelve anchor bolts evenly spaced on the baseplate. The anchor bolts are in good condition with no deterioration of the nuts or bolts.

GROUT CONDITIONS:

The grout between the baseplate and the foundation is in poor condition with approximately 30 total lineal feet missing.

GROUT RECOMMENDATIONS:

The purpose of the grout is to evenly distribute the load onto the foundation and to prevent water from getting between the foundation and the tank. Replace the missing and damaged grout. The estimated cost is \$1,000.

ROOF HANDRAIL, PAINTER'S RAILING, AND ROOF RIGGING CONDITIONS:

The tank does not have a roof handrail or a painter's railing.

There are no roof rigging couplings for safety and staging lines during wet interior coating work.

ROOF HANDRAIL, PAINTER'S RAILING, AND ROOF RIGGING RECOMMENDATIONS:

Install an OSHA compliant railing and painters rigging rail on the roof. The railing would allow tie off locations during routine vent screen inspections. The estimated cost is \$15,000.

Install rigging couplings on the roof under the new painter's railing for fall prevention of workers in the wet interior. The couplings would allow a contractor working in the wet interior to be tied off to a fall prevention device at all times. The cost would be incidental to the next painting project.

ANTENNA CONDITIONS:

There is one roof antenna attached to the sidewall ladder cage. The antenna cable routing is in good condition and does not interfere with climbing or tank operations.

ANTENNA RECOMMENDATIONS:

Relocate the antenna to the new roof handrail and remove the existing mount on the ladder cage. The cost would be incidental to the roof handrail installation.

OVERFLOW PIPE CONDITIONS:

The tank has an 8 inch overflow pipe that extends down along the interior of the sidewall, exits the lower sidewall, and discharges near the ground. The discharge end of the overflow pipe is screened. The screen is in fair condition. The end of the pipe has a solid flap gate that is in good condition. The pipe discharges to a splash pad. The air gap does not meet the required 12-24 inches. The discharge area is in good condition.

OVERFLOW PIPE RECOMMENDATIONS:

Trim the discharge end of the overflow pipe to meet the required 12 inch minimum air gap. Reinstall the flange and flap gate. The estimated cost is \$1,000.

HATCH AND MANWAY CONDITIONS:

There is a 24 inch square roof hatch to the wet interior that is in good condition. The hinged cover is in good condition. The hatch was secured with a padlock.

There is a 24 inch diameter roof painter's hatch. The hatch has a bolted cover that is in good condition. The hatch is used for ventilation and lighting during maintenance work.

There are two 24 inch manways in the sidewall that are in good condition. The manway gaskets showed no signs of leakage and the bolts are in good condition.

HATCH AND MANWAY RECOMMENDATIONS:

Install a 30 inch manway in the sidewall. Average rescue baskets will not pass through the existing manway. The estimated cost is \$9,000.

VENT CONDITIONS:

The roof vent is an 18 inch flow through design that is in good condition. The vent screen is in fair condition.

VENT RECOMMENDATIONS:

Replace the roof vent with a screened frost-free pressure vacuum vent. The new vent would have a movable plate that would allow air to flow in and out of the tank even if the screens become plugged or frosted over. The vent can be removed during coating or rescue operation for additional light and ventilation. The estimated cost is \$6,000.

Annually inspect the roof vent for tears and gaps in the screen.

LADDER CONDITIONS:

The exterior sidewall ladder starts approximately 1 foot above ground level and extends up to the roof. The ladder meets current OSHA size requirements. The ladder is caged and equipped with a cable-type fall prevention device that is in good condition. There is a vandal guard on the sidewall ladder that is in good condition.

There is a roof ladder that routes from the sidewall to the center near the vent. The ladder is in good condition. The ladder meets current OSHA size requirements. The ladder is equipped with a cable-type fall prevention device that is in good condition. The ladder has wheels and used to move. The ladder is now at the top only.

There is a wet interior ladder from the roof to the floor that is in good condition. The interior ladder meets OSHA size requirements. The ladder is not equipped with a fall prevention device.

LADDER RECOMMENDATIONS:

Remove the roof ladder and install a step-off platform at the top of the sidewall with handrails to the center of the roof.. The estimated cost is \$8,000.

Install a cable-type fall prevention device on the wet interior ladder. The estimated cost is \$3,000.

FILL/DRAW PIPE CONDITIONS:

The fill pipe penetrates through the floor and extends approximately 10 inches into the tank. There is not a deflector plate over top of the pipe in the wet interior.

The tank draws from a separate pipe. The draw pipe penetrates through the floor and extends approximately 10 inches into the wet interior. There is not a deflector plate over top of the pipe in the wet interior.

FILL/DRAW PIPE RECOMMENDATIONS:

Install deflector bars over the fill pipe and draw pipes in the wet interior. The cost would be incidental to the next paint project.

WET INTERIOR METAL CONDITIONS:

The steel structure is in good condition above and below the high-water level. No active pitting was observed at the coating failures on the roof or sidewall.

ANALYTICAL LABORATORY REPORT

Friday, August 23, 2019

Page 1 of 2

CUSTOMER: Dixon Engineering
1104 3rd Ave.
Lake Odessa, MI 48849

DATE RECEIVED: Monday, August 19, 2019
PO/PROJECT #:
SUBMITTAL #: 2019-08-20-002

LAB NUMBER: AC85186**Sampled By:** Kyle Lay**Date Sampled:** August 13, 2019**Job Location:** Water Services Corporation of Kentucky 200,000 Standpipe**Sample Description:** Paint Chips**Sample Identification:** 1 - Water Service Corp. of Kentucky 200,000 Standpipe Exterior Sidewall**Preparation Method:** EPA 3050B-P-M (Acid Digestion for Paints)**Analysis Method:** EPA 6010C-M (ICP-AES Method for Determination of Metals)**Date Analyzed:** Tuesday, August 20, 2019

<u>ELEMENT</u>	<u>RESULT (by dry weight)</u>	<u>REPORTING LIMIT (RL)</u>
Cadmium	< RL	0.00075 %
Chromium	1.5 %	0.0013 %
Lead	0.22 %	0.0025 %

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DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
STANDPIPE TANK

DATE: August 13, 2019

OWNER: Water Service Corporation of Kentucky

CLIENT CODE: 17-53-66-02

LOCATION: Address: 118 Pruitt Road

City: Clinton

State: Kentucky

TANK SIZE: Capacity: 200,000 gallons

Diameter: 28 feet (from nameplate)

Sidewall height: 45 feet 10 inches (from nameplate)

CONSTRUCTION: Welded

Type: Standpipe

Type of roof: Hemisphere

YEAR CONSTRUCTED: 1978

MANUFACTURER: Caldwell

CONTRACT NUMBER: D-8251

COATING HISTORY	EXTERIOR	WET INTERIOR
YEAR LAST COATED	<u>Unknown</u>	<u>Unknown</u>
CONTRACTOR	<u>Unknown</u>	<u>Unknown</u>
COATING SYSTEM	<u>Urethane</u>	<u>Presumed Epoxy</u>
HEAVY METAL COATING SAMPLES	<u>Yes</u>	<u>No</u>
HEAVY METAL BEARING	<u>Yes 0.22% lead 1.5% chrome</u>	<u>No</u>

PERSONNEL: Inspector Andy Schrauben, ROV operator Kyle Lay

TYPE OF INSPECTION: Preliminary Maintenance

METHOD OF INSPECTION: ROV

YEAR LAST INSPECTED: Unknown

SITE CONDITIONS

Fenced: **Yes**
Site large enough for contractor's equipment: **Yes**
Control building: **No**
Antenna control site: **No**
Neighborhood: **Residential**
Power lines within 50 feet: **No**
Site drainage: **Away from tank**
Indications of underground leakage: **No**
Shrub, tree, etc. encroachment: **No**

EXPOSED PIPING:

N/A

FOUNDATION (There is a concrete slab around the tank)

Foundation exposed: **No**
Slab exposed height: **0-1 inches**
Exposed foundation condition: **Good**
Damage or deterioration: **Yes**
 Type of damage: **Cracks**
 Severity: **Minor**
 Crack location: **Random**
Type of baseplate gap filler: **Grout**
 Condition: **Poor**
 Amount missing: **30 feet**
Undermining of the sidewall: **No**
Foundation comments: **There are several minor cracks**

EXTERIOR COATING

Sidewall:

Lettering: **No**
Logo: **No**
Topcoat condition: **Good**
Previous coat/system condition: **Good**
Describe coating: **No significant coating deterioration**
Dry film thickness: **14-15 mils**
Panel connections: **Welded**
Metal condition: **Good**
Bottom shell steel thickness: **0.440 inches**

EXTERIOR COATING

Roof:

Topcoat condition: **Good**

Previous coat/system condition: **Good**

Describe coating: **Rust undercutting**

Dry film thickness: **19-26 mils**

Metal condition: **Good**

Roof comments: **There are approximately 25-30 small areas of rust undercutting that are 1/4-1 inch in size**

EXTERIOR APPURTENANCES

Sidewall manway (x2):

Size: **24 inches**

Hinged: **Yes**

Coating condition: **Good**

Metal condition: **Good**

Anchor bolts:

Number: **12**

Diameter: **1 3/8 inches**

Coating condition: **Good**

Metal condition: **Good**

Overflow pipe:

Diameter: **8 inches**

Coating condition: **Fair**

Metal condition: **Good**

Condition of screen: **Fair**

Percent of screen open: **100**

Mesh size: **24**

Flap gate: **Yes**

Design: **Solid**

Flap gate condition: **Good**

Air gap: **Yes**

Lowest part of discharge to the ground distance: **5 inches**

Overflow discharges to: **Concrete pad**

Condition: **Good**

Mud valve:

N/A

EXTERIOR APPURTENANCES

Sidewall ladder:

Height to start of ladder: **1 foot**

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **¾ inch**

Shape of rungs: **Round**

Coating condition: **Good**

Metal condition: **Good**

Fall prevention device: **Yes**

Type: **Cable**

Function properly: **Yes**

Cage: **Yes**

Diameter: **28 inches**

Vandal guard: **Yes**

Condition: **Good**

Ladder comments: **The vandal guard is a locked door on the cage**

Step-off platform:

N/A

Roof ladder:

Design: **Fixed – still has wheels**

Coating condition: **Good**

Metal condition: **Good**

Toe clearance: **Less than 7 inches**

Width of rungs: **16 inches**

Thickness of rungs: **¾ inch**

Shape of rungs: **Round**

Fall prevention device: **Yes**

Type: **Cable**

Function Properly: **Yes**

Cage: **No**

Roof handrail:

N/A [Proposed diameter 20 feet]

Painter's rail:

N/A

EXTERIOR APPURTENANCES

Roof rigging couplings:

N/A

Wet interior roof hatch:

Neck size: **24 inches**

Distance from center of the tank (to outer edge): **22 feet**

Shape: **Square**

Handhold at opening: **No**

Curb height: **4 inches**

Cover overlap: **2 inches**

Hatch security: **Lock**

Outside coating condition: **Good**

Inside coating condition: **Good**

Metal condition: **Good**

Bolted ventilation hatch:

Coating condition: **Good**

Metal condition: **Good**

Neck diameter: **24 inches**

Roof vent:

Number: **1**

Distance from center of the tank (to outer edge): **0 feet**

Type: **Flow-through**

Neck diameter: **18 inches**

Flange opening diameter: **18 inches**

Coating condition: **Good**

Metal condition: **Fair**

Screen condition: **Fair**

Mesh size: **24**

Aviation lights:

N/A

Antennas:

Roof number: **1**

Attached to: **Sidewall ladder cage**

Antenna or cable interference: **No**

EXTERIOR APPURTENANCES

Electrical:

N/A

WET INTERIOR COATING

Roof:

Topcoat condition: Fair

Primer coating condition: Fair

Describe coating: Rust bleedthrough

Metal condition: Good

Lap seams: Welded

Condition of laps: Good

Roof comments: There are random areas of rust bleedthrough throughout the roof

Sidewall:

Topcoat condition: Poor

Primer coating condition: Fair

Describe coating: Spot coating failures to substrate, rust bleedthrough

Mineral deposits: Light

Metal condition: Good

Active pitting: No

Previous pitting: No

Sidewall comments: There are thousands of spot coating failures throughout the entire sidewall, both on weld seams and flat panels. Rust bleedthrough present above the high-water level.

Floor:

Covered in sediment could not inspect with ROV

Depth of sediment: 1/2-1 inch (estimated)

WET INTERIOR APPURTENANCES

Tank ladder:

Toe clearance: 7 inches or greater

Width of rungs: 16 inches

Thickness of rungs: 3/4 inch

Shape of rungs: Round

Shape of side rails: Flat

Coating condition: Fair

Metal condition: Good

Fall prevention device: No

WET INTERIOR APPURTENANCES

Cathodic protection:

N/A

Clips: No

Pressure fitting: No

Roof stiffeners:

N/A

Overflow pipe:

Type: Weir

Coating condition: Poor

Metal condition: Good

Overflow comments: The pipe routes along the sidewall in the wet interior. There are numerous coating failures to the substrate throughout

Fill pipe:

Diameter: 10 inches (estimated)

Height above floor: 10 inches (estimated)

Configuration: Stubs at floor

Deflector on end: No

Coating condition: Good

Metal condition: Good

Fill pipe comments: There is a silt ring

Separate draw pipe:

Diameter: 10 inches (estimated)

Height above floor: 10 inches (estimated)

Deflector over end: No

Coating condition: Good

Metal condition: Good

Draw pipe comments: There is a silt ring

Sump:

N/A

Mixer:

N/A

Field Inspection Report is prepared from the contractor's viewpoint. It contains information the contractor needs to prepare his bid for any repair or recoating. The engineer uses it to prepare the engineering report. Cost estimates are more accurate if the contractor's problems can be anticipated. While prepared from the contractor's viewpoint, the only intended beneficiary is the owner. These reports are completed with diligence, but the accuracy is not guaranteed. The contractor is still advised to visit the site.

DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
STANDPIPE TANK

DATE: August 13, 2019

OWNER: Water Service Corporation of Kentucky

CLIENT CODE: 17-53-66-02

LOCATION: Address: 118 Pruitt Road

City: Clinton

State: Kentucky

TANK SIZE: Capacity: 200,000 gallons

Diameter: 28 feet (from nameplate)

Sidewall height: 45 feet 10 inches (from nameplate)

CONSTRUCTION: Welded

Type: Standpipe

Type of roof: Hemisphere

YEAR CONSTRUCTED: 1978

MANUFACTURER: Caldwell

CONTRACT NUMBER: D-8251

COATING HISTORY	EXTERIOR	WET INTERIOR
YEAR LAST COATED	<u>Unknown</u>	<u>Unknown</u>
CONTRACTOR	<u>Unknown</u>	<u>Unknown</u>
COATING SYSTEM	<u>Urethane</u>	<u>Presumed Epoxy</u>
HEAVY METAL COATING SAMPLES	<u>Yes</u>	<u>No</u>
HEAVY METAL BEARING	<u>Yes 0.22% lead 1.5% chrome</u>	<u>No</u>

PERSONNEL: Inspector Andy Schrauben, ROV operator Kyle Lay

TYPE OF INSPECTION: Preliminary Maintenance

METHOD OF INSPECTION: ROV

YEAR LAST INSPECTED: Unknown

SITE CONDITIONS

Fenced: **Yes**
Site large enough for contractor's equipment: **Yes**
Control building: **No**
Antenna control site: **No**
Neighborhood: **Residential**
Power lines within 50 feet: **No**
Site drainage: **Away from tank**
Indications of underground leakage: **No**
Shrub, tree, etc. encroachment: **No**

EXPOSED PIPING:

N/A

FOUNDATION (There is a concrete slab around the tank)

Foundation exposed: **No**
Slab exposed height: **0-1 inches**
Exposed foundation condition: **Good**
Damage or deterioration: **Yes**
 Type of damage: **Cracks**
 Severity: **Minor**
 Crack location: **Random**
Type of baseplate gap filler: **Grout**
 Condition: **Poor**
 Amount missing: **30 feet**
Undermining of the sidewall: **No**
Foundation comments: **There are several minor cracks**

EXTERIOR COATING

Sidewall:

Lettering: **No**
Logo: **No**
Topcoat condition: **Good**
Previous coat/system condition: **Good**
Describe coating: **No significant coating deterioration**
Dry film thickness: **14-15 mils**
Panel connections: **Welded**
Metal condition: **Good**
Bottom shell steel thickness: **0.440 inches**

EXTERIOR COATING

Roof:

Topcoat condition: **Good**

Previous coat/system condition: **Good**

Describe coating: **Rust undercutting**

Dry film thickness: **19-26 mils**

Metal condition: **Good**

Roof comments: **There are approximately 25-30 small areas of rust undercutting that are 1/4-1 inch in size**

EXTERIOR APPURTENANCES

Sidewall manway (x2):

Size: **24 inches**

Hinged: **Yes**

Coating condition: **Good**

Metal condition: **Good**

Anchor bolts:

Number: **12**

Diameter: **1 3/8 inches**

Coating condition: **Good**

Metal condition: **Good**

Overflow pipe:

Diameter: **8 inches**

Coating condition: **Fair**

Metal condition: **Good**

Condition of screen: **Fair**

Percent of screen open: **100**

Mesh size: **24**

Flap gate: **Yes**

Design: **Solid**

Flap gate condition: **Good**

Air gap: **Yes**

Lowest part of discharge to the ground distance: **5 inches**

Overflow discharges to: **Concrete pad**

Condition: **Good**

Mud valve:

N/A

EXTERIOR APPURTENANCES

Sidewall ladder:

Height to start of ladder: **1 foot**

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **¾ inch**

Shape of rungs: **Round**

Coating condition: **Good**

Metal condition: **Good**

Fall prevention device: **Yes**

Type: **Cable**

Function properly: **Yes**

Cage: **Yes**

Diameter: **28 inches**

Vandal guard: **Yes**

Condition: **Good**

Ladder comments: **The vandal guard is a locked door on the cage**

Step-off platform:

N/A

Roof ladder:

Design: **Fixed – still has wheels**

Coating condition: **Good**

Metal condition: **Good**

Toe clearance: **Less than 7 inches**

Width of rungs: **16 inches**

Thickness of rungs: **¾ inch**

Shape of rungs: **Round**

Fall prevention device: **Yes**

Type: **Cable**

Function Properly: **Yes**

Cage: **No**

Roof handrail:

N/A [Proposed diameter 20 feet]

Painter's rail:

N/A

EXTERIOR APPURTENANCES

Roof rigging couplings:

N/A

Wet interior roof hatch:

Neck size: **24 inches**

Distance from center of the tank (to outer edge): **22 feet**

Shape: **Square**

Handhold at opening: **No**

Curb height: **4 inches**

Cover overlap: **2 inches**

Hatch security: **Lock**

Outside coating condition: **Good**

Inside coating condition: **Good**

Metal condition: **Good**

Bolted ventilation hatch:

Coating condition: **Good**

Metal condition: **Good**

Neck diameter: **24 inches**

Roof vent:

Number: **1**

Distance from center of the tank (to outer edge): **0 feet**

Type: **Flow-through**

Neck diameter: **18 inches**

Flange opening diameter: **18 inches**

Coating condition: **Good**

Metal condition: **Fair**

Screen condition: **Fair**

Mesh size: **24**

Aviation lights:

N/A

Antennas:

Roof number: **1**

Attached to: **Sidewall ladder cage**

Antenna or cable interference: **No**

EXTERIOR APPURTENANCES

Electrical:

N/A

WET INTERIOR COATING

Roof:

Topcoat condition: Fair

Primer coating condition: Fair

Describe coating: Rust bleedthrough

Metal condition: Good

Lap seams: Welded

Condition of laps: Good

Roof comments: There are random areas of rust bleedthrough throughout the roof

Sidewall:

Topcoat condition: Poor

Primer coating condition: Fair

Describe coating: Spot coating failures to substrate, rust bleedthrough

Mineral deposits: Light

Metal condition: Good

Active pitting: No

Previous pitting: No

Sidewall comments: There are thousands of spot coating failures throughout the entire sidewall, both on weld seams and flat panels. Rust bleedthrough present above the high-water level.

Floor:

Covered in sediment could not inspect with ROV

Depth of sediment: 1/2-1 inch (estimated)

WET INTERIOR APPURTENANCES

Tank ladder:

Toe clearance: 7 inches or greater

Width of rungs: 16 inches

Thickness of rungs: 3/4 inch

Shape of rungs: Round

Shape of side rails: Flat

Coating condition: Fair

Metal condition: Good

Fall prevention device: No

WET INTERIOR APPURTENANCES

Cathodic protection:

N/A

Clips: No

Pressure fitting: No

Roof stiffeners:

N/A

Overflow pipe:

Type: Weir

Coating condition: Poor

Metal condition: Good

Overflow comments: The pipe routes along the sidewall in the wet interior. There are numerous coating failures to the substrate throughout

Fill pipe:

Diameter: 10 inches (estimated)

Height above floor: 10 inches (estimated)

Configuration: Stubs at floor

Deflector on end: No

Coating condition: Good

Metal condition: Good

Fill pipe comments: There is a silt ring

Separate draw pipe:

Diameter: 10 inches (estimated)

Height above floor: 10 inches (estimated)

Deflector over end: No

Coating condition: Good

Metal condition: Good

Draw pipe comments: There is a silt ring

Sump:

N/A

Mixer:

N/A

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200,000 gallon standpipe located in Clinton, Kentucky and owned by Water Service Corporation of Kentucky.



1) There is a concrete slab around the tank that is in good condition overall with hairline cracking throughout.

2) Same.



3) Sections of missing grout between the baseplate and foundation.



4) Typical anchor bolt is in good condition.

5) The overflow flap gate is in good condition.



6) The overflow screen is in fair condition.



7) Spot coating failures and delamination on the bottom of the overflow pipe.

8) The door to the sidewall ladder is in good condition.



9) Typical sidewall manway is in good condition.



10) The sidewall coating is in good condition with no failures.

11) Same.



12) Same.



13) The roof ladder is in good condition and is equipped with a cable-type fall prevention device.

14) The flow-through roof vent is in good condition.



15) The roof vent screen is in fair condition and is partially coated.



16) The bolted ventilation hatch is in good condition.

17) The roof coating is in good condition overall.



18) Spot coating failures with rust undercutting on the roof.



19) Same.

20) The wet interior roof hatch is in good condition.



21) Spot coating failures on the inside of the hatch cover.



22) The wet interior roof coating is in fair condition overall with some rust bleedthrough.

23) The overflow weir is in good condition.



24) Spot coating failures on the sidewall.

8/13/2019 9:58:48 AM

H: 337.0 °
D: 18.70 ft
Temp: 80.0 °F

25) Same.

26) The wet interior ladder is in good condition.

8/13/2019 9:50:12 AM

H: 079.0 °
D: 3.72 ft
Temp: 78.8 °F

8/13/2019 9:55:30 AM

H: 329.4 °
D: 32.80 ft
Temp: 77.8 °F

27) Spot coating failures on the overflow pipe.



28) The wet interior ladder is in good condition. The ladder is not equipped with a fall prevention device.

29) The sidewall hatch is in good condition.



30) The wet interior floor is covered with sediment.



31) Same.

32) The fill pipe is in good condition.



33) The draw pipe is in good condition.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation)
of Kentucky for a General Adjustment)
in Existing Rates)

Case No. 2020-00160

DIRECT TESTIMONY OF Shawn M. Elicegui

I. INTRODUCTION AND BACKGROUND INFORMATION

Q1. Please state your name, your position, your business address and identify the party for whom you are providing testimony.

A1. My name is Shawn M. EliceGUI. I am the Executive Vice President, Risk Management for Corix Infrastructure Inc. (“CII”). I am based in Reno, Nevada and my business address is 6160 Plumas Street, Suite 200, Reno, Nevada 89511. I am providing testimony in support of the application filed by Water Service Corporation of Kentucky (the “Company”). The Company filed an application with the Kentucky Public Service Commission (the “Commission”) requesting permission to change its annual revenue requirement and the rates it charges for services provided to the public. The results of operations are based on the 12-month period ending March 31, 2020 (the “Test Year”).

Q2. Briefly describe your educational background and professional experience.

A2. I have a Bachelor of Arts degree in International Affairs and Political Science from the University of Nevada, Reno and a Juris Doctor degree from the University of California, Davis, King Hall School of Law. I practiced law for nearly twelve years as an associate and then a shareholder in a Nevada law firm. I was Associate General Counsel for NV Energy from February 2009 until December 2013 when I became Vice President of Regulatory Affairs. In the course of over a decade at NV Energy I held numerous positions in management involving regulation and strategic planning, customer operations, and ultimately became Senior Vice President of Business Plan, Regulatory

and Legislative Strategy. I also served as a member of the Board of Directors of NV Energy, Inc. I joined CII in September 2019.

Q3. Please describe your responsibilities in your current position.

A3. I am responsible for, among other things, developing, implementing and reporting on CII-wide risk management strategy, actions and results. I also provide executive oversight to several corporate functions including Health Safety and Environmental (“HSE”), Legal, Insurance and Internal Audit (“IA”). Finally, I provide testimony in regulatory proceedings as needed to support company objectives.

Q4. Have you ever testified before the Commission?

A4. No. I have testified before the Public Utilities Commission of Nevada and the Public Service Commission of South Carolina. I also have submitted prepared testimony to the North Carolina Utilities Commission, the Virginia State Corporation Commission, Division of Public Utility Regulation, the Public Utility Commission of Texas and the Arizona Corporation Commission.

Q5. Please describe the exhibits to your prepared direct testimony.

Q5. There are five exhibits to my prepared direct testimony. Those exhibits are:

Exhibit Name	Description of Exhibit	Confidential
SME-1	Corix Infrastructure Inc. – U.S. Organization Chart	No
SME-2	Affiliate Agreement between Water Service Corporation and the Company	No
Confidential SME-3	Comparison of Certain Corporate Salaries to Market Benchmarks	Yes
Confidential SME-4	Executive Compensation Survey	Yes
Confidential SME-5	Corporate Allocation Manual (“CAM”)	Yes

II. PURPOSE AND EXECUTIVE SUMMARY OF TESTIMONY

Q6. What is the purpose of your direct testimony?

A6. My testimony:

- describes the relationship between and among CII, Water Service Corporation (“WSC” or “Water Service Corporation”) and the Company;
- describes the corporate services CII provides to support the Company’s operations;
- describes how those corporate services are charged to WSC and, ultimately, the Company; and,
- corroborate the testimony provided by Patrick L. Baryenbruch by further explaining why these costs are necessary, reasonable and in the public interest.

Q7. Please describe the relationship between and among CII, WSC and the Company.

A7. CII is the ultimate parent corporation of the Company and the other affiliates that comprise the “Corix Group of Companies”. CII is a privately held corporation owned by certain affiliates of the British Columbia Investment Management Corporation. An organization chart illustrating CII’s relationship to the Corix Group of Companies, including the Company and WSC, is attached as Exhibit SME-1. As shown in Exhibit SME-1, both WSC and the Company are subsidiaries of Corix Regulated Utilities (US), Inc.¹

Q8. What types of services does the Corix Group of Companies provide?

A8. The Corix Group of Companies provides a variety of utility services, including district energy, electric distribution, natural gas and propane distribution, water production,

¹ Corix Regulated Utilities (US) Inc. was previously known as Utilities, Inc. Utilities, Inc. changes its name in 2019. Corix Regulated Utilities (US) Inc. owns all of the Company’s outstanding stock.

treatment and delivery, and wastewater collection, treatment and disposal services. The CII executive management team (the “CII Executive Team”) works hard to develop a culture that facilitates the rapid dissemination of learnings,² which yields improvement in service quality and efficiency for each member of the Corix Group of Companies.

Q9. What purpose drives CII?

A9. CII is a purpose-driven organization. As an organization, we help people enjoy better lives and communities thrive. By observing our core values—safety, integrity, connection and excellence—we strive to deliver essential services to our customers in a cost-effective way. Collectively, we aim to leverage our resources to deliver to our customers the highest quality service at reasonable prices.

Q10. What other general benefits does affiliation with CII provide?

A10. CII has access to capital that is not available to smaller organizations. Moreover, CII’s geographic diversity, scale and scope provide advantages to the operating companies within the Corix Group of Companies. CII enjoys a wide spectrum of technical and industry expertise in all facets of sustainable water, wastewater, and energy systems, including innovative technologies, operating tools, and regulatory resources required to develop sustainable multi-utility services.

Q11. Did the Company receive services from an affiliate during the Test Year?

A11. Yes, the Company received services from WSC during the Test Year.

Q12. Does WSC have a contract with the Company pursuant to which WSC provides shared services in support of the Company’s public service operations?

² There are eight members of the CII executive team (“CII Executive Team”): Lisa Sparrow, Chief Executive Officer; Bruce Anderson, Chief Strategy Officer; Catherine Heigel, Chief Operating Officer, Regulated Utilities; Don Sudduth, Chief Operating Officer, Contract Utilities; Jim Devine, Chief Support Services Officer; Mario Alonso, Executive Vice President of Corporate Development; Mark Orsmond, Chief Financial Officer; and, me.

A12. Yes. WSC and the Company have an affiliate interest agreement (the “Affiliate Agreement”), which is attached to my testimony as Exhibit SME-2. To fulfill its obligations under the Affiliate Agreement, WSC retains employees and vendors as necessary to provide the shared support services and receives corporate services from CII (“Corporate Services”). These Corporate Services help WSC serve the Company. The Corporate Services are described in detail below.

Q13. Are the services that WSC provides the Company necessary for the Company to deliver regulated services to its customers?

A13. Yes. The services that WSC provides to the Company, including the Corporate Services, are essential shared and corporate services. These services allow the Company to fulfill its obligations to deliver water service to its customers. As Patrick L. Baryenbruch explains in more detail, the shared and Corporate Services, which include but are not limited to accounting, billing, customer service, environmental compliance, human resource, legal, occupational health and safety, and technology functions, are necessary services. Every public utility incurs these functional costs in connection with the delivery of the services regulated by the Commission.

Q14. Are the costs charged to the Company for the shared and Corporate Services reasonable?

A14. Yes. The services provided by WSC to the Company are provided at the lower of cost or market. We support these conclusions with a two-pronged analysis: first, we compare total shared service and Corporate Service costs to the similar costs of other utility shared service organizations on a per-regulated customer basis; second, we compare hourly rates of certain employees to market benchmarks.

Mr. Baryenbruch compares, on a per-regulated customer basis, WSC's total shared service and Corporate Service charges to the Company to the cost of similar service incurred by 24 other utility shared-service organizations. His testimony demonstrates, WSC's costs fall 33 percent below the average per-regulated customer cost and are lower than 18 of the utility shared-service organizations.

Mr. Baryenbruch also compares the hourly rates of three categories of shared service and Corporate Service employees to market benchmarks. Mr. Baryenbruch demonstrates that shared service and Corporate Service hourly rates for management consultants, accountants and IT personnel fall well below market benchmarks. I supplement Mr. Baryenbruch analysis, further supporting the reasonableness of Corporate Service costs.

Q15. Are the services provided by WSC to the Company in the public interest?

A15. Yes. The services that WSC provides to the Company, including the Corporate Services, are in the public interest because they improve the service that the Company provides to customers for a small portion of the overall expense incurred to provide the services. The centralized Corporate Services allow the sharing of overhead costs and expertise across the Corix Group of Companies and achieve economies of scale, including from procurement, on a much larger scale, thereby providing greater bargaining power for the combined entity and other efficiencies that could not be achieved on a stand-alone basis.

III. DESCRIPTION OF THE SHARED SERVICES AND CORPORATE SERVICES

Q16. What services has the Company asked WSC to provide under the Affiliate Agreement?

A16. The Company has, for the benefit of its customers, asked WSC to provide a broad range of operational, back-office, support and corporate services. WSC, for instance, is the

statutory employer of the people who provide water and sewer service to the Company's customers. Under the Affiliate Agreement, WSC may furnish to the Company all day-to-day services "including but not limited to the following: executive, engineering, operating, accounting, legal, billing, customer relations, and construction." Additional services WSC provides to the Company under the Affiliate Agreement include human resource ("HR"), health, safety and environmental ("HSE"), informational technology ("IT"), including cybersecurity and governance, and corporation communications services.

Q17. Conceptually, how do the Company's customers benefit from the Affiliate Agreement?

A17. The Company's customers benefit from economies of scale and scope. They receive the benefits of affiliation with a larger organization that can provide enhanced service at a lower cost than a much smaller organization. For instance, the Company can leverage the bargaining power of the Corix Group of Companies to achieve efficiencies that would not be achieved by the Company on a stand-alone basis. Affiliation with the larger organization also allows for improved employee technical expertise, specialization, and work performance. The Company and its customers benefit from the deep experience and broader industry perspective that CII and WSC provide. These services – the shared services provided by WSC directly and the Corporate Services – were provided (and continue to be provided) at a lower cost than could be provided on a stand-alone basis (assuming replication of these services on such a smaller scale could even occur). Provision of these shared Corporate Services optimizes performance by avoiding redundant services at the subsidiary level and allowing the operating units to focus on

achieving operational excellence and providing safe, reliable, and responsive services to their customers. With expertise at the Corporate Service level being shared, there is improved service to the customers. Maintenance of enterprise-wide standards for many functions such as IT, cybersecurity, safety, and HR provide efficiencies and expertise across the business units and Corporate Services ensures these standards are followed by every operating utility with oversight of implementation. Moreover, certain Corporate Services, like those provided by the CII executive management team, cannot reasonably be outsourced to third parties given the level of understanding and experience needed within the business.

Q87. What is the general nature of the Corporate Services CII provided WSC to support the Company for the charges included in the Company's revenue requirement?

A18. Generally, Corporate Services are strategic and focus on business oversight, enterprise-wide policies and ensuring legal and regulatory compliance which are necessary functions for the continuous and effective operation of any responsibly run corporation and, therefore, benefit customers.

CII's strategic oversight and integration among its utility businesses helps ensure reliable capital access to the operating the Company and every other entity within the Corix Group of Companies. To provide capital for its businesses, CII performs the Corporate Services and incurs costs to maintain its corporate structure and financial and corporate integrity. These activities, described below, are necessary for the CII utilities, including the Company, to deliver safe and reliable services to their customers. In the questions and answers that follow, I provide a more detailed explanation of the human resource HR,

HSE, financial management, internal audit (“IA”), tax, legal, IT, corporate communication

Q19. Please describe the HR services CII provided WSC to support the Company.

A19. WSC directly employs individuals to manage many day-to-day personnel matters, such as recruiting, background checks, onboarding training, payroll, complaints, investigations, reviews, assisting employees with various benefit questions and elections, so as to benefit the Company. WSC relies on the CII corporate HR group to provide enterprise-wide direction and coordination for numerous activities. The corporate HR group is primarily responsible for creating and updating enterprise-wide personnel policies (with WSC direct employees providing support). The corporate HR group provides support for compensation plan design, retirement savings, and benefits management. The corporate HR group engages consulting assistance for some of the prior mentioned areas that then are available to all business units including, for example, market surveys to ensure compensation and benefit packages are competitive. The corporate HR group helps ensure that, company-wide, we remain competitive with relevant markets to ensure cost efficiency through reasonable compensation to secure and retain highly competent and high performing employees. The CII HR group is also available to assist the local management teams with employee and labor relations issues and conducts employee engagement surveys as part of our overall strategy to recruit and retain the best talent. This group also ensures provision of a global confidential line allowing for whistle blower employee protection and for the anonymous reporting of issues without the fear of retaliation or retribution and oversees follow-up and investigation of any issues that may

arise. In addition, this group arranges benefit programs for employees across the entire Corix organization.

Attracting and retaining qualified employees is integral to providing reliable, safe, and sustainable service to customers. The corporate HR Services WSC receives to support the Company are necessary to ensure the Company maximizes the knowledge, expertise, and resources available across the Corix Group of Companies to operate efficiently and prudently, resulting in significant savings and avoided costs for Kentucky customers.

Q20. Please describe the HSE services CII provides WSC to support the Company.

A20. Many local HSE compliance staff are resident in individual business units to ensure compliance and familiarity with local requirements, permits, and regulators. However, The Company still benefits from the resources provided by a small HSE group at the corporate level.

The costs for the Corporate HSE services are primarily for the Director and staff involved in HSE planning including the review for compliance with all federal government mandates; development and deployment of company-wide HSE policies, procedures, training manuals, forms, and tools for standardized programs to be used across the business units; compliance programs; assessment programs; industry research; and incident investigation and audits. This group is also involved in developing preventative programs across the Corix Group of Companies to provide an environment of safety, safe operation, and environmental stewardship. In fulfilling these activities, this group works with individuals in the business units and engages consultants or commissions studies to facilitate these programs and best practices that benefit all units.

It would be less efficient and more expensive for the Company to develop its own HSE policies, procedures, and training manuals. The Company receives information about federal law and requirements at a lower cost than it would incur to obtain the same information from another source because of CII's scale. Moreover, the Company has access to top-tier training programs because of its relationship with CII. Finally, CII's breadth allows for the sharing of best practices, which benefits the Company's customers.

Q21. Please describe the financial management services Corix provided WSC to support the Company.

A21. Corporate financial management services include corporate finance and accounting as well as treasury, IA, and tax. The corporate financial management group provides general oversight to all financial professionals in all business units including guidance on the use of accounting principles, the implementation of financial internal controls to ensure spending and investing are in accordance with the business strategy and budget, and the appropriate disclosure and presentation of financial and performance indicators. This group supports forecasting including the 20-year model, collaborating with all business units to prepare consolidated modeling which is required by lenders. They also oversee the outside consolidated audit which is a requirement under covenants for lead bank loans, and work across the organization with groups such as HR and the business units directly where work is needed on centralized key performance indicators, and other ad hoc issues and reporting required to support the business which would otherwise require external consulting at a significantly higher cost.

The corporate financial management group looks at long-term capital plans and consolidates all operating budgets which are used to gain approval with our shareholder

and capital market financing to access capital needed to deliver on business unit plans. The corporate financial management group is the prime interface with our corporate auditors and maintains our overall corporate model which supports our financing, strategic planning, and valuation activities which are all essential to continuing access to capital. The Chief Financial Officer is also involved in any decision concerning the hiring, promotion, or termination of key finance staff in the business units. This group also works closely with the corporate legal group to review overall risk management. In addition, this group provides corporate treasury services including long- and short-term capital needs planning for both debt and equity. CII corporate staff interact (on behalf of all of the CII businesses) with the shareholder and the capital markets to arrange, extend, or change terms of financing. This group analyzes the use of private placement versus floating rate versus the use of swaps to find the appropriate stable financing for the entity given its capital and operating needs over the short and long term. CII Corporate Services also often arranges financing at the local level. This group also monitors the use of revolvers and monitors covenant coverage. Therefore, in addition to the cost savings the Company enjoys from the receipt of the Corporate Services, there is also an important streamlining of operations allowing the Company to focus on water and wastewater operations.

Q22. Please describe the IA and tax services that the corporate financial management group provides to WSC to support the Company?

A22. The corporate financial management group also provides IA which functions to periodically evaluate a company's internal controls, including its corporate governance

and accounting processes.³ IA ensures compliance with laws and regulations, and accurate and timely financial reporting and data collection. This group provides IA services based on annual risk analysis of key areas and based on requests from business units that may require assessments of processes, fraud investigations, or IT control assessments. The IA assessments are generally available to all business units unless there is some issue of confidentiality or litigation. In addition, IA provides consultative services designed to improve business practices. Improved business practices yield more efficient service delivery and, therefore, better prices for water and wastewater services. The corporate financial management group also provides corporate tax compliance services to WSC to support the Company. Tax compliance is obviously a necessary function for any corporation to lawfully operate and includes the timely filing of federal and state tax returns and other corporate filings. The corporate financial group includes the corporate tax group which coordinates the tax planning activities for all CII business units and either: (1) undertakes compliance activities, (2) directs tax compliance activities taking place in the business units, or (3) oversees outside tax professionals who may be providing services to the individual business units. This group also works with external auditors for annual audit tax provision and reviews of consolidated financial statements and tax returns.

The CII tax group ensures compliance with tax regulations. It also provides strategic tax perspectives into CII's strategic planning process, coordinates corporate tax audits, and develops and implements cross-border transfer pricing policies. A recent example of the specific support services this groups provides is the assistance across the enterprise in

³ The internal audit function moved into the risk department effective January 1, 2020.

understanding, evaluating, and implementing changes related to the Tax Cuts and Jobs Act of 2017. The corporate tax group also reviews tax provisions used in reporting for bank purposes and other tax regulations to ensure compliance across the enterprise; files corporate tax returns; and supervises tax planning for the Corix Group of Companies including responding to inquiries, requests, or audits that arise from the governing authorities. To carry out these responsibilities, the CII tax group assists the CII business units in their annual planning and budget cycle and ensures that business unit forecasts are incorporated in corporate strategic planning – functions the Company could not perform given the consolidated organizational structure of CII. The CII tax group also creates and maintains the framework for strong internal tax controls and procedures necessary for any responsibly run and reputable corporation.

Q23. Please describe the corporate legal services CII provided WSC to support the Company.

A23. The CII corporate legal group coordinates all legal services within the Corix Group of Companies and undertakes certain annual corporate filings both in Canada and the U.S., creating and maintaining viable companies that are legally authorized to conduct business in all jurisdictions. The legal group provides support on complex contract review, including organizational third-party contracts that benefit all CII business units that cannot be done as efficiently at the various units. This includes services to other corporate groups with respect to the drafting and execution of legal agreements. Benefits to customers include risk mitigation and avoidance of litigation. Legal assesses the competency of legal staff in the various units and their workload to ensure we have staff in the right locations to serve the organization.

The Corporate legal group provides legal service and advice to CII's various business functions. The group facilitates communications with the Executive Management team, finance, tax, HSE, and other key groups within the organization to ensure effective management of legal matters and strategic and risk input into corporate-wide decisions to minimize cost and exposure for all customers. The CII corporate legal group also supports either directly or with outside counsel all financing activities, including working with treasury to document syndicate and private placement debt, including process, documentation, and governance for both debt and equity.

Corporate legal has general oversight over litigation and strategic consultation and reports to the board on major litigation. This assists in the determination of whether outside counsel is needed to assist in local matters to ensure litigation is managed to the benefit of the customer and to streamline reporting of risk matters to reduce exposure. The group also provides advice on CII corporate matters, including governance and compliance, provides corporate secretarial services to CII and certain of its subsidiaries, and coordinates communications to, and the meetings of, the corporate boards of CII and certain of its affiliates.

Q24. Please describe the Corporate IT Governance services CII provided WSC to support the Company.

A24. While WSC directly employs individuals to provide day-to-day IT services (such as general system operations and maintenance, software maintenance, workstation acquisition support and certain network administration), the CII corporate IT Group has responsibility for developing our corporate IT strategy. Our corporate IT strategy includes the design, implementation, and replacement of enterprise resource planning

(“ERP”), oversight of cybersecurity programs, data storage and management, communication networks and development of enterprise-wide IT equipment strategies.

The Corporate IT group also works with legal and the business teams to prepare and properly implement enterprise policies relevant to IT such as record retention and cybersecurity.

Corporate IT conducts security analyses, monitors and investigates security alerts, conducts security awareness training, and continuously works to improve security in the environment including identifying and implementing best practices to prevent incidents.

With so much public attention and gravity of potential risks and vulnerability of utility providers (including customer information), our Corporate IT serves a critical function to proactively work to ensure the security of our assets and information.

While most system implementation and operation are conducted by WSC direct employees, Corporate IT participates on steering committees and provides oversight as needed. The current environment has necessitated some third-party expenditure on cybersecurity to ensure we have an appropriate framework for cybersecurity at all levels of the business. Corporate IT is overseeing the cybersecurity strategy and implementation across the Corix Group of Companies and providing critical services to WSC to support the Company. Examples of specific services this group provides include:

- Management of the enterprise application portfolio – identifying what applications will be used company-wide, ensuring they are reliable and ensuring that the enterprise has one application portfolio;

- Enterprise security including constantly monitoring changes in legislation for data privacy, changes in legislation for various security requirements for contracts, establishing frameworks, parameters, setting requirements for security, monitoring security alerts, and providing the businesses security awareness training; and
- Focus on constant improvement to security in environment and proactive work to secure assets and information; monitoring numerous reports on vulnerability and working to standardize the program across the CII entities.

Q25. Please describe the Corporate Communications services CII provided WSC to support the Company.

A25. While many communications functions are performed by WSC employees or resident in the local business units, this small group in corporate communications is responsible for overall communications programs within the organization including the development and maintenance of a company-wide intranet and the establishment of communications protocols for individual business unit branding and websites. This group also monitors mainstream and social media channels across North America to ensure we are aware as an organization of emerging issues in the media from stakeholders, customers, or others that we should be aware of and potentially responsive to. This group also is available to provide guidance to all business units and assistance where significant crisis management may require additional communication resources. Natural disasters such as floods, hurricanes, earthquakes, and national and local concerns with water quality issues are all examples where these staff assist local management in communication both internally and externally.

Q26. Please describe the services the CII Executive Team provides to support the Company.

A26. The CII Executive Team provides WSC skilled corporate management services necessary at the executive level for continued operations in the short and long term. The Company provides a critical service – provision of safe and reliable water and treatment of wastewater. Poor management at any level of the organization could result in significant negative impacts to the local community and the state. Expert corporate executive management is essential to ensuring the Company’s economic stability. The CII Executive Team works with the corporate management team to provide strategic direction, formulate corporate strategy and ensure corporate goals and objectives are met for the Corix Group of Companies. The CII Executive Team provides guidance to operational leadership to optimize CII’s lines of business and identify complementary aspects of CII’s businesses to achieve synergies where possible for the benefit of multiple stakeholders – including the customers of the business units such as the Company. The CII Executive Team reviews CII’s and its subsidiaries’ activities to foster the corporate culture and values of safety, integrity, connection and excellence.

In addition to strategic direction, the CII Executive Team also ensures CII and its business units have systems in place to manage their respective principal business risks; develop strategies and goals for financial planning, capital access, and organizational structure; and establish effective company-wide governance models, internal control standards, and procedures to drive efficiencies and cost effectiveness. Examples of important executive management functions that benefit the customer include monthly executive management team meetings where financial and operational reports and issues

are discussed at length; monitoring of overall financial reporting, budgeting process, and monitoring internal control performance; approving policies, procedures, and practices as they relate to safe, reliable, and effective provision of service; review of major projects with significant input from the businesses to scrutinize cost and effectiveness of proposed projects and initiatives and their alignment with enterprise goals; capital and asset planning including a formal process for review of prioritizing capital expenditures, approving project spending, and delivery and measuring outputs including placement of effective controls over budgets through business plans and individual capital projects through appropriate authorization thresholds, management, and reporting processes. The CII Executive Team also establishes capital risk management strategies.

Q27. Please explain the differences between the management services provided by the Company's regional management team differ from those provided by the CII Executive Team.

A27. The regional management team for the Company focuses on the administration and operations of the Company – at the most local and granular level. In this regard, the Company has a State Operations Manager, who is part of the regional management team. Other members of the regional management team include the Director of Engineering and Asset Management, the Vice President of Operations and the Regional President (Mr. Lubertozi). The Chief Operating Officer, Regulated Utilities (a member of the CII Executive Team) works closely with local leadership (such as the Company's regional team) to evaluate capital investment plans and operating budgets as well as providing expertise on and leadership with addressing customer concerns, industry best practices, and setting short and long-term operating strategies. The CII Executive Team focuses on

enterprise-wide management. The CII CEO sets overall enterprise direction and strategy, interacts with the shareholder to source capital, and at a high-level works with corporate debt holders to provide assurance that an appropriate governance structure exists overall and in each operating unit.

Q28. Please explain how the services provided by WSC employees differ from the services provided by CII to support the Company.

A28. The WSC employees are dedicated to the operations of the affiliate operating business units such as the Company while, as discussed above, the CII corporate services are allocated among the CII business units and focus on enterprise-wide strategies, policies and corporate governance. As noted, WSC employs all of the employees who work for business units such as the Company. For instance, in the case of the Company, WSC employs the State Operations Manager for Kentucky, the Lead Operator, Operators level II and I, and Field Technicians. These employees are directly responsible for, among other things, ensuring water supply, safe transmission and treatment of wastewater, leak detection, community education on safe water and wastewater service, servicing and reading customer meters, installing and maintaining utility infrastructure, right-of-way activities, engineering, monthly financial variance analysis for the operating business unit, annual report preparation for local jurisdictions, state level monthly reporting, annual operating budgets, local environmental compliance and regulatory issues, local communications and community outreach and generally safe operation of the water and wastewater system on a daily basis.

WSC also directly employs individuals in shared services to provide consolidated operational functions such as customer service, billing and collections, and legal for the

business units. Accounting staff directly employed by WSC shared services are dedicated to performing day-to-day accounting tasks such as processing accounts payable, payroll, preparing and supporting rate case filings, and posting general ledger entries. As discussed herein, these are clearly distinct functions from the CII Corporate Services.

Q29. Are the CII Corporate Services WSC is receiving to support the Company similar to services provided by other service companies that benefit regulated utilities?

A29. Yes. The services are common and necessary activities required for ongoing management of any responsibly and effectively run corporate entity and are relevant to more than any single operating entity within the Corix Group of Companies. The related activities are performed in a centralized manner on behalf of all the operating entities, achieving economies of scale. CII operates multiple business units in the water and wastewater sector with various operating characteristics such that these common activities can be shared, avoiding duplication within the individual operating entities and maximizing the use of resources dedicated to providing these activities across many business units. In addition, the access to expertise and ability to enjoy economies of scale are critical to the Company's ability to continue to provide safe and reliable service and keep up with increasing needs in technology (such as cybersecurity as one example) that would be cost-prohibitive on a stand-alone basis.

Q30. Are the Corporate Services necessary for the Company's provision of reliable and safe service to its customers?

A30. Yes, for all the reasons I explain above.

IV. ALLOCATION, CONTROL AND COMPETITIVENESS OF COSTS

Q31. How are the costs of the Corporate Services charged to WSC and the CII business units?

A31. Costs for Corporate Services are combined into one common cost pool for allocation. This cost pool is then allocated to the CII business units and subsidiaries using the method set forth in the Corix CAM, Confidential Exhibit SME-5. The Corix CAM is based on commonly used routinely accepted regulatory practices for shared cost allocation. The Corix CAM was developed to maintain allocation consistency across the Corix Group of Companies and avoid subsidization of one group or unit by another. Under the Corix CAM, direct costs are identified up front and directly assigned to the business units receiving the exclusive benefit of the service. Corporate costs are subject to a Tier 1 allocation between the organizations receiving services. As shown in Confidential Exhibit SME-5, these organizations are entities such as Tribus, Water Service Corporation, Fairbanks Sewer and Water and the contract utilities. See Confidential Exhibit SME-5, Figure 3. The Tier 1 allocation for corporate costs is based on the composite allocator factoring 33.3% for each of the factors of gross revenue, headcount, and gross property, plant and equipment to best represent the size, scope and complexity of operating business units.

Q32. Do the costs included in the revenue requirement for the Company have any mark-up or profit of any kind on the cost WSC or CII incurs to provide these Corporate Services?

A32. No. The charges included in the Company's revenue requirement reflect the Corporate Services provided at CII's cost with no mark-up or profit.

Q33. Has CII implemented mechanisms to control costs associated with Corporate Services?

A33. Yes. Budgets are reviewed with the expectation that all costs incurred must be necessary, prudent and reasonable which leads to benefits to the customer. Accountability begins with members of the CII Executive Team, each of which is held accountable for expenses incurred within their budget and a portion of employee compensation is linked to responsible cost management. Headcount mapping is conducted in the CII budget process on an annual basis and requires a demonstration of need. The budgeting process begins in August and ends in December with budgets undergoing rigorous internal review by the budget owners and vice presidents with multiple levels of review within operating units such as the Company and at corporate, along with presentations and question and answer sessions to test proposed costs including headcount for each business unit and department including in WSC shared and corporate services. Following thorough review by the business units and corporate teams, the budgets are then carefully reviewed and sometimes further modified as appropriate by the CFO, then the CEO, then the Executive Management Team, before then going to the audit committee and the CII board of directors. At each level, costs are heavily scrutinized to evaluate efficiency of operations at all levels.

Q34. Has CII incurred any costs for services that are not allocated to WSC for its support provided to the Company?

A34. Yes. For example, CII incurs costs for business development. Those costs will not be included here in recognition of the impact to the Company's customers. CII continues to

work with the Company on integrating certain functions and identifying cost savings and further efficiencies.

Q35. Have you analyzed whether the costs WSC charges the Company for the Corporate Services are reasonable?

A35. Yes. First, it is important to note that in many instances, such as tax and IA, for example, the Company could not perform all of the services provided by CII (the Corporate Services) and the services provided by Water Service Corporation for itself without a fundamental change in the organizational structure and reporting and functional changes in the flow and work of people.

In addition, we considered the cost of all of the WSC services per customer compared to other utilities with similar structures and we also evaluated the reasonableness of the costs by reviewing the salaries of the corporate service providers compared to market salaries. The results of this analysis will be provided to the Commission's Staff pursuant to a protective agreement. As noted, our Corporate HR identifies and evaluates market salary ranges for non-executive positions relying on a number of resources including two large national cross border survey firms – Mercer and Willis Towers Watson. With respect to water specific jobs we also look to AWWA. Our corporate HR group pulls the market information together from these various sources, evaluates the role of the position, level of the role and how they compare to our corporate positions. We generally take the midpoint of salary range (P50 to be competitive in the labor markets) and adjust for experience, expertise, demand for particular skills and performance.

Q65. Please describe your analysis of the reasonableness of the cost for Corporate Services provided to WSC to support the Company.

A36. I'll address each of the Corporate Services for which charges have been included in the Company's revenue requirement in this case.

IA: The IA services are described above and were provided by the Director of Audit Services and an Internal Auditor. While the Director of Audit Services salary exceed the market average, the Director of Audit Services resigned and has been replaced by a new director with a current salary that only slightly exceeds the 2019 market rates. The Internal Auditor's compensation was at market. See Exhibit Confidential SME-3. Equally, important, as Mr. Baryenbruch's report shows, if WSC were to purchase these services from a third party, it would incur significant additional costs. Therefore, the IA cost allocation is competitively and reasonably priced, and the Company enjoys benefits received from economies of scale.

Findings of any IA within the organization are shared with all business units, including the Company, which would provide recommendations on improved processes and internal controls and identify areas of potential risk that have not been addressed. The centralized expertise and learnings from around the organization are a benefit to customers as it would reduce operational, compliance and financial risk. Mitigation or reduction of these risks would lead to lower rates and increased reliability and safety to customers.

Taxation: The corporate tax services are described above and were provided by the Vice President of Tax and Special Projects and a Senior Tax Manager. The salary rates for the Vice President of Tax and Special Projects was below the market average, while the Senior Tax Manager's salary was only slightly above the market average. See Confidential Exhibit SME-3. Alternatively, if WSC were to outsource the Corporate

Services portion related to taxation the average CPA consulting rate would be \$164 per hour compared to the CII and WSC rate of \$95 per hour, as set forth at page 38 of Mr. Baryenbruch's report. These corporate tax services are, therefore, competitively priced compared to a third-party service. Another benefit of undertaking this function in-house is the thorough understanding and expertise of the business, economies of scale in negotiating rates with third parties due to aggregating multiple engagements across the organization, and the response and management of audits.

Treasury: The corporate treasury services as described in detail above are necessary and in the public interest and would be very difficult to outsource due to the requirement for it to be embedded in the business. These services were provided by a Senior Manager of Treasury Operations, and an Assistant Treasurer whose salaries were at or below market, as shown in Confidential Exhibit SME-3.

Finance and Accounting: The corporate finance and accounting services as described above in detail are necessary and in the public interest and would be very difficult to impossible to outsource due to the requirement for specialized and detailed knowledge of the business. These services were provided by the CFO, a Financial Reporting Analyst, a Corporate Development Analyst, a Business Intelligence Analyst, a Financial Accounting Analyst, a Vice President of Financial Planning & Analysis, a Corporate Controller, and Director of Corporate Development. The salary rates for each of these positions were at or below the market average, with one exception, as shown in Confidential Exhibit SME-3. The Director of Corporate Development's salary exceed the Canadian market average by less than 10 percent and was less than 2 percent above the U.S. salary average.

Information Technology: The corporate IT services are described above and were provided by the Vice President of IT Infrastructure, a Senior IT Security Analyst, and a Security Analyst. As discussed above, the Company customers benefit from the corporate IT services WSC received and continues to receive from CII as they provide security breach protection, protocol and response support and expertise on network, security strategy and data center management all of which are necessary and in the interest of the public. For example, corporate IT constantly monitors for changes in legislation in data privacy, various security requirements for contracts, and provides security awareness training. As part of its enterprise function, the corporate IT group works with representatives of the business units served, including the Company, to share best practices, trends in security management and review organizational key performance indicators. These functions support cybersecurity and data protection that benefit the customer. According to the U.S. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, information security analysts had a median pay of \$99,730, or \$47.95 per year in 2019. See www.bls.gov/ooH/computer-and-information-technology/information-security-analysts.htm (last visited May 15, 2020). A more recent estimate based on 4,200 salaries submitted to Indeed.com indicates the average salary for an IT security specialist in the United States as of May 12, 2020, is \$106,468. See <https://www.indeed.com/career/it-security-specialist/salaries> (last visited May 15, 2020). The Senior IT Security Manager and Security Analyst salaries fell under those median salaries. Finally, according to Indeed.com, based on an estimate of 271 employees, users and past and present job advertisements, the average salary for a Vice President of Information Technology was \$183,797, <https://www.indeed.com/salaries/vice-president-of->

[information-technology-Salaries](#), (last visited May 25, 2020) which exceeds the Vice President of Infrastructure's salary. See Confidential Exhibit SME-3.

In addition, given economies of scale, the Company could not purchase these services at a less expensive cost or in a manner consistent with enterprise-wide policies. Therefore, the cost of the IT corporate services is competitive and reasonable. See Confidential Exhibits SME-3 and SME-4.

Human Resources: As discussed above a centralized corporate HR function is necessary and provides significant benefits to the business units serviced and the ultimate customers. The corporate HR services were provided by a Chief Human Resource Officer, Director of Compensation and Benefits, and a Total Rewards Analyst. The Chief Human Resource Officer's salary and compensation were below the market average. The Director of Compensation Benefit's salary was slightly above the Canadian average and below the U.S. salary average. The Total Reward Analyst's salary was below the market average. See Confidential Exhibits SME-3 and SME-4. The cost of the corporate HR services is competitive and reasonable based on available market salary information.

HSE: The corporate HSE services are described above and were provided by the Director of HSE and an HSE Specialist. The salary rates allocated to WSC for these individuals were below the market average. See Confidential Exhibit SME-3. The remaining corporate HSE costs are comprised of software licensing and consulting costs. The Company gets the benefit of a full HSE corporate team for only a fraction of the cost given the allocation among the Corix Group of Companies. As discussed in detail above, these services are both necessary and in the public interest to ensure environmental

compliance and safety in the workplace which we consider to be critical components of our business operations.

The third-party services are, by definition, at market and are necessary to carry out a prudent HSE program and, therefore, in the public interest. The Company would be required to pay for these services at 100% compared to receiving a fraction of the costs through a centralized provider. This cost allocation is competitive and demonstrates a significant benefit to the Company through economies of scale. Additionally, there is benefit to customers from a coordinated HSE effort as findings and outcomes of investigations in other parts of the organization would be shared and leveraged at the Company. This results in more sustainable, reliable, and cost-effective service to customers.

Corporate Legal: The corporate legal services are described above and were provided by the General Counsel (Canada) and a Paralegal. The salary rates for these individuals were at or below the market average according to executive compensation information prepared by Mercer and the internal analysis on market salary ranges. See Confidential Exhibits SME-3 and SME-4. The salaries of the professionals providing the corporate services are competitive to market, the services provided are necessary to the business operations, and, therefore, the charges are reasonable.

Corporate Communications: The corporate communications services are described above and were provided by the Director of Marketing and Communications and the Communications and Public Relations Manager. The salary rates for these individuals were within the market range. See Exhibit SME-3. The services provided are necessary to the business operations, and, therefore, the charges are reasonable.

Executive Management: A market study was undertaken to ensure that executive management fees were consistent with market rates. CII commissioned a compensation study to review executive compensation. As part of that review, Mercer compiled information from CII to identify comparator companies. The results of that study show that executive compensation is reasonable. See Confidential Exhibit SME-4.

It would also be very difficult if not impossible to outsource the Executive Management functions to a third party due to the company expertise required to formulate strategy and execute on those plans. The analysis supports that the allocated expense for the executive management function is competitive, this function could not be provided by a third-party at a lower cost, and, therefore, the charges are reasonable.

Q37. Based on your detailed analysis above, what is your conclusion regarding whether the Corporate Services charges are reasonable?

A37. Considering market data discussed above and the Company and CII practices relative to employee benefits and compensation, enterprise policies to ensure prudent business practices, access to capital, and safe, compliant and efficient operations company wide, the charges for the Corporate Services are reasonable.

Q37. Are the charges included in the revenue requirement for the Corporate Services provided to the Company competitive?

A38. Yes. As described in detail above, the charges for the Corporate Services are competitive. The CII corporate philosophy is to keep all costs for its entire corporate enterprise at a competitive level with its competitors and peers. CII continuously evaluates cost management and the affordability of its rates compared to its peers in the water and wastewater and utility market.

For example, as described above, all costs for Corporate Services are subject to strict budgeting and cost controls. CII's hiring practices are designed to compete in the marketplace, offering competitive salary and compensation at approximately the median among its peer groups. In addition, as discussed above, some of the allocated costs are for services performed by third parties who are, by definition, competitive in their charges as they work in a competitive marketplace and are retained at arm's length. The Company, like the other CII business units, gets a significant benefit from bearing only a portion of allocated costs from these third-party providers. Finally, with respect to the internal Corporate Services CII provides WSC in order to support the Company, any such services provided by a third-party would include profit margins that are not assessed by CII. Thus, the cost at which the Company receives the Corporate Services are competitive with the cost at which the Company could receive such services from a third party, if they were even available from a third-party.

V. CONCLUSION

Q39. Are the costs allocated to the Company associated with Corporate Service and included in the revenue requirement reasonable?

A39. Yes. The costs allocated to the Company for the Corporate Services are reasonable. The costs are for services necessary to the Company's operation, reflect a reasonable cost allocation methodology based on widely used and accepted regulatory principles, are less than they would be if the Company provided the services itself, and are competitive with what the costs would be if the same services were available from and provided by an unaffiliated third-party. The Corporate Service costs included in the revenue requirement are necessary, beneficial to customers, and are in the public interest.

Q40. Does this conclude your testimony?

A40. Yes, it does, however I reserve the right to supplement or make corrections to this testimony. Thank you.

AFFIDAVIT

The undersigned, Shawn M. Elicegui, being duly sworn, deposes and says that he is the Executive Vice President, Risk for Corix Infrastructure Inc. and Vice President and Secretary of Corix Regulated Utilities (US) Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.



Shawn M. Elicegui, Affiant

NOTARY CERTIFICATE

STATE OF _____

COUNTY OF _____

Subscribed, acknowledged and sworn to before me by _____ on

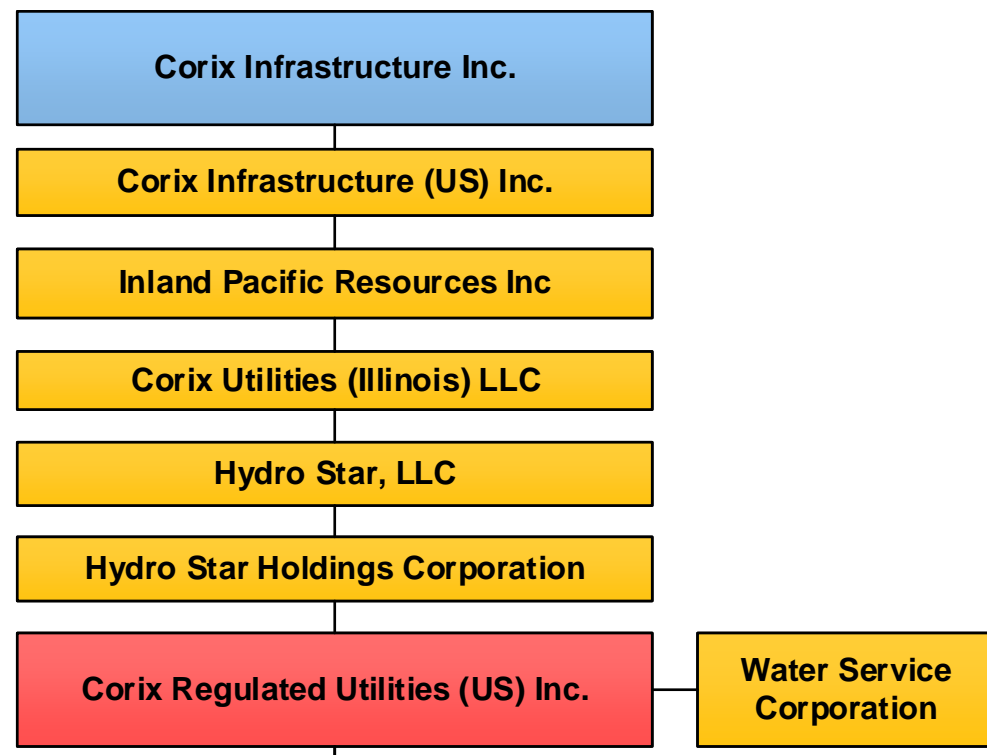
this _____ day of _____, 2020.

My commission expires: _____.

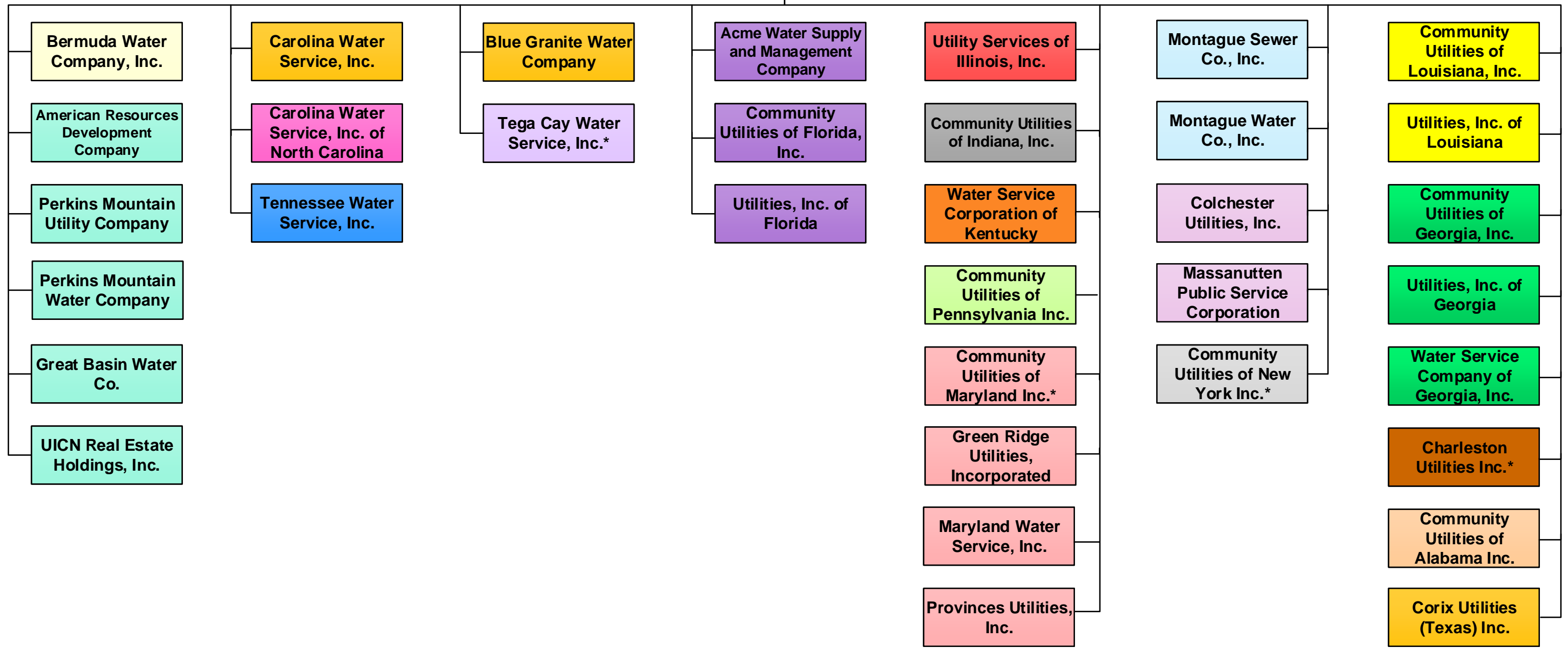
NOTARY PUBLIC

U.S. Organization Chart

Exhibit SME-1



Colour Codes (Province/ State Where Entity Was Formed)		
Alabama	Arizona	British Columbia
Delaware	Florida	Georgia
Illinois	Indiana	Kentucky
Louisiana	Maryland	Mississippi
North Carolina	New Jersey	Nevada
New York	Pennsylvania	South Carolina
Tennessee	Virginia	*Inactive Entity



AGREEMENT

SME-2

Agreement dated December 19, 2007 between Water Service Corp., a Delaware corporation (hereinafter called the “**Service Company**”) and Water Service Corporation of Kentucky (hereinafter called the “**Operating Company**”):

WHEREAS, both the Service Company and the Operating Company are subsidiaries of or affiliated with Utilities, Inc., an Illinois corporation (hereinafter called the “**Parent**”); and

WHEREAS, the Service Company maintains an organization which includes among its officers and employees, persons who are familiar with the development, business and property of the Operating Company and are experienced in the conduct, management, financing, construction, accounting and operation of water and sewer properties and are qualified to be of great aid and assistance to the Operating Company through the services to be performed under this Agreement; and

WHEREAS, the Service Company has or proposes to enter into agreements similar to this Agreement with certain affiliated water and/or sewer companies (hereinafter referred to collectively as the “**Operating Companies**”); and

WHEREAS, the services to be rendered under this Agreement are to be rendered at cost and without profit to the Service Company;

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein contained, the parties hereto agree as follows:

The Service Company will furnish to the Operating Company, upon the terms and conditions hereinafter set forth, the following services:

- A. EXECUTIVE: The principal executive officers of the Service Company, such as the Chairman of the Board, President and Vice Presidents, and Treasurer will assist and advise the Operating Company in respect to corporate, financial, operating, engineering, organization, regulatory, and other

problems. They will keep themselves informed in regard to the operation, maintenance and financial condition of, and other matters relating to, the Operating Company through contacts with the officers, directors and other representatives of the Operating Company. Such officers of the Service Company will visit the property of the Operating Company when necessary to the proper furnishing of the services provided for in this Agreement. They will also supervise the personnel of the Service Company to the end that services under this Agreement shall be performed efficiently, economically and satisfactorily to the Operating Company.

- B. ENGINEERING: The Service Company will supply engineering services as required in all areas of design, construction, operation and management of the Operating Company.
- C. OPERATING: The Service Company will furnish competent personnel to perform and/or control all normal operating functions, including pumping, treatment, and distribution as well as maintenance of all equipment and facilities. These responsibilities will include testing and record keeping to insure compliance with all state and local regulatory agency requirements.
- D. ACCOUNTING: The Service Company will provide total accounting service, including bookkeeping, payroll, tax determination, financial statement preparation, budgets, credit, P.S.C. annual reports, etc. Periodic analyses will be made for purposes of planning and measurement of efficiency.
- E. LEGAL: The Service Company will employ general counsel as necessary to advise and assist it in the performance of the services herein provided for and to aid the operating company in all matters where such assistance may be desired.
- F. BILLING AND CUSTOMER RELATIONS: The Service Company will handle all billing and collections. It will serve as the link between the customer and

the Operating Company in all areas such as new accounts, deposits, meter reading, inquiries, and complaints.

- G. CONSTRUCTION: The Service Company will perform directly or supervise all construction, including customer connections, meter installations, main extensions, plant expansions, or capital additions of any nature as required by the Operating Company.
- H. ALL OTHER SERVICES AS PROVIDED FOR IN APPENDIX A: In addition to items (A) through (G), the Service Company will employ or provide personnel to perform the attached services, or in the instance of assets. Liabilities, and associated non-cash items, has incurred costs associated with providing service to the corporate headquarters, regional areas, or to all operating companies as a whole. The allocated costs from these services will be for costs attributable to all operating companies, costs attributable to the Service Company, or for costs that cannot, without excessive effort and expense, be directly identified and related to services rendered to a particular operating company.

In consideration for the services to be rendered by the Service Company as hereinabove provided, the Operating Company agrees to pay to the Service Company the cost of said services. Said cost shall not include a markup for profit. In addition, the Operating Company agrees to pay to the Service Company its share of the cost of the investment in the Service Company rate base, including depreciation, amortization, interest on debt and a return on the equity invested.

All costs of the Service Company, including salaries and other expenses, incurred in connection with services rendered by the Service Company for the Operating Companies which can, without excessive effort or expense, be identified and related to services rendered to a particular Operating Company, shall be charged directly to such company. Examples of such costs to be directly allocated include salary and other expenses incurred for specific projects such as rate cases, construction projects, legal proceedings, etc. Similarly, all such costs which may be identified and related to

services rendered to a particular group of the Operating Companies shall be charged directly to such group of the Operating Companies.

All such costs which, because of their nature, cannot, without excessive effort or expense, be identified and related to services rendered to a particular Operating Company, shall be allocated among all the Operating Companies, in the manner hereinafter set forth.

First, the allocable costs shall be distributed on a monthly basis, unless the Parent should elect to make a supplementary analysis for a special purpose.

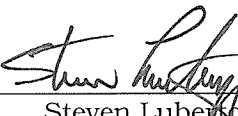
Secondly, these costs will be prorated on the basis of the proportion of active Equivalent Residential Customers ("ERCs") served by the Operating Company to the total number of active ERCs served by the Parent and its affiliates (including, without limitation, the Operating Company), determined as of the end of each month. For purposes of this Agreement, the number of ERCs attributable to each water and sewer connection maintained by the Parent and its affiliates (including, without limitation, the Operating Company) will be determined by applying the formulae set forth in Appendix B.

The Service Company will also at any time, upon request of the Operating Company, furnish to it any and all information required by the Operating Company or by any governmental authorities having jurisdiction over the Operating Company with respect to the services rendered by the Service Company hereunder, the cost thereof and the allocation of such cost among the Operating Companies. In the case of services in connection with construction, the Service Company will, to the extent practicable, furnish to the Operating Company such information as shall be necessary to permit the allocation of charges for such services to particular work orders.

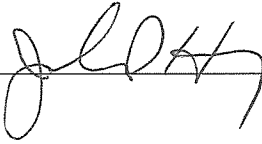
This Agreement shall be in full force and effect from the date as hereinabove mentioned and shall continue in full force and effect until termination by either of the parties hereto upon ninety days notice in writing.

IN WITNESS WHEREOF, the Service Company and the Operating Company have caused these presence to be signed in their respective corporate names by their respective Presidents or Vice Presidents, and attest by their respective Secretaries or Assistant Secretaries, all as of the day and year first above written.

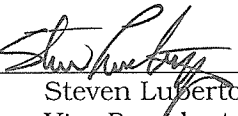
Water Service Corporation

BY  _____
Steven Lubertozi
Vice President and Chief Financial
Officer

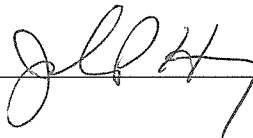
Attest

 _____

Water Service Corporation of Kentucky

BY  _____
Steven Lubertozi
Vice President and Chief Financial
Officer

Attest

 _____

AFFILIATE AGREEMENT
APPENDIX A

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies at a business unit level.

JDE Object Number	Account Description
5505	Agency Expense
5525	Bill Stock
5530	Billing Computer Supplies
5535	Billing Envelopes
5540	Billing Postage
5545	Customer Service Printing
5625	401K/ESOP Contributions
5630	Dental Premiums
5635	Dental Ins Reimbursements
5640	Emp Pensions & Benefits
5645	Employee Ins Deductions
5650	Health Costs & Other
5655	Health Ins Reimbursements
5660	Other Emp Pensions/Benefits
5665	Pension Contributions
5670	Term Life Ins
5675	Term Life Ins - Opt
5680	Depend Life Ins - Opt
5685	Supplemental Life Ins
5690	Tuition
5700	Insurance - Vehicle
5705	Insurance - Gen Liab
5710	Insurance - Workers Comp
5715	Insurance - Other
5735	Computer Maintenance
5740	Computer Supplies
5745	Computer Amort & Prog Cost
5750	Internet Supplier
5755	Microfilming
5760	Website Development
5785	Advertising/Marketing
5790	Bank Service Charges
5795	Contributions
5800	Letter of Credit Fee
5805	License Fees
5810	Memberships
5815	Penalties/Fines
5820	Training Expense
5825	Other Misc Expense
5855	Answering Service
5855	Answering Service
5860	Cleaning Supplies
5865	Copy Machine
5870	Holiday Events/Picnics
5875	Kitchen Supplies
5880	Office Supply Stores
5885	Printing/Blueprints
5890	Publ Subscriptions/Tapes
5895	Shipping Charges
5900	Other Office Expenses
5930	Office Electric
5935	Office Gas
5940	Office Water
5945	Office Telecom
5950	Office Garbage Removal
5955	Office Landscape / Mow / Plow
5960	Office Alarm Sys Phone Exp
5965	Office Maintenance
5970	Office Cleaning Service
5975	Office Machine/Heat&Cool
5980	Other Office Utilities
5985	Telemetering Phone Expense
6005	Accounting Studies
6010	Audit Fees
6015	Employ Finder Fees
6020	Engineering Fees
6025	Legal Fees
6030	Management Fees
6035	Payroll Services
6040	Tax Return Review
6045	Temp Employ - Cleri
6050	Other Outside Serv
6075	Water Resource Conserve Exp
6090	Rent
6105	Salaries - System Project
6110	Salaries - Acctg/Finance
6115	Salaries - Admin
6120	Salaries - Officers/Stkhdr
6125	Salaries - HR
6130	Salaries - MIS

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies

JDE Object Number	Subsidiary Number	Account Description
1030		Land & Land Rights Pump
1035		Land & Land Rights Wtr Trt
1040		Land & Land Rights Trans Dist
1045		Land & Land Rights Gen Plt
1175		Office Struct & Imprv
1180		Office Furn & Eqpt
1190		Tool Shop & Misc Eqpt
1205		Communication Eqpt
1260		Land & Land Rights Intang Plt
1265		Land & Land Rights Coll Plt
1270		Land & Land Rights Trtmnt Plt
1275		Land & Land Rights Reclaim Wtp
1280		Land & Land Rights Rcl Dst Plt
1285		Land & Land Rights Gen Plt
1455		Office Struct & Imprv
1460		Office Furn & Eqpt
1470		Tool Shop & Misc Eqpt
1485		Communication Eqpt
1575		Desktop Computer Wtr
1580		Mainframe Computer Wtr
1585		Mini Computers Wtr
1590		Comp Sys Cost Wtr
1595		Micro Sys Cost Wtr
1605		Desktop Computer Swr
1610		Mainframe Computer Swr
1615		Mini Computers Swr
1620		Comp Sys Cost Swr
1625		Micro Sys Cost Swr
1741		Other Plant In Process History
1745	00301	Wip-Cap Time Office Renovation
1745	00302	Wip-Cap Time Electrical
1745	00303	Wip-Cap Time Lab Expansion
1745	00304	Wip-Cap Time Computer Equipmnt
1745	00305	Wip-Cap Time Computer Software
1745	00306	Wip-Cap Time Radio Equipment
1746	00301	Wip - Interest During Constr
1746	00302	Wip - Interest During Constr
1746	00303	Wip - Interest During Constr
1746	00304	Wip - Interest During Constr
1746	00305	Wip - Interest During Constr
1746	00306	Wip - Interest During Constr
1747	00303	Wip - Labor/Installation
1747	00304	Wip - Labor/Installation
1747	00305	Wip - Labor/Installation
1748	00302	Wip - Equipment
1748	00303	Wip - Equipment
1748	00304	Wip - Equipment
1748	00306	Wip - Equipment
1749	00301	Wip - Material
1749	00302	Wip - Material
1749	00303	Wip - Material
1749	00304	Wip - Material
1749	00305	Wip - Material
1749	00306	Wip - Material
1750	00301	Wip - Electrical
1751	00301	Wip - Site Work
1752	00301	Wip - Contractor/Labor
1752	00302	Wip - Contractor/Labor
1753	00301	Wip - Architect/Designer
1753	00302	Wip - Architect/Designer
1753	00303	Wip - Architect/Designer
1754	00303	Wip - Building Addition
1755	00301	Wip - Furniture
1755	00302	Wip - Furniture
1756	00301	Wip - Heating/Air Condition
1756	00302	Wip - Heating/Air Condition
1757	00301	Wip - Interior Finish
1757	00302	Wip - Interior Finish
1758	00305	Wip - Modification/Convert
1759	00304	Wip - Remodeling
1769	00301	Wip - Transfer To Fixed Assets
1769	00302	Wip - Transfer To Fixed Assets
1769	00303	Wip - Transfer To Fixed Assets
1769	00304	Wip - Transfer To Fixed Assets
1769	00305	Wip - Transfer To Fixed Assets
1769	00306	Wip - Transfer To Fixed Assets
1771		Deferred Plant In Process History
1775	00401	Wip-Cap Time Water Tower Paint
1775	00402	Wip-Cap Time W/S Plt Paint
1775	00403	Wip-Cap Time Water Tank Paint
1775	00404	Wip-Cap Time Clean Sewer Line

AFFILIATE AGREEMENT
APPENDIX A

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies at a business unit level:

JDE Object Number	Account Description
6135	Salaries - Leadership Ops
6140	Salaries - Regulatory
6145	Salaries - Customer Service
6185	Travel Lodging
6190	Travel Airfare
6195	Travel Transportation
6200	Travel Meals
6205	Travel Entertainment
6207	Travel Other
6355	Deferred Maint Expense
6360	Communication Expense
6365	Equipment Rentals
6385	Uniforms
6390	Weather/Hurricane Costs
6580	Deprec-Office Structure
6585	Deprec-Office Furn/Eqpt
6610	Deprec-Communication Eqpt
6615	Deprec-Misc Equipment
6820	Deprec-Office Structure
6825	Deprec-Office Furn/Eqpt
6850	Deprec-Communication Eqpt
6855	Deprec-Misc Equipment
6920	Deprec-Computer
7510	FICA Expense
7515	Federal Unemployment Tax
7520	State Unemployment Tax
7535	Franchise Tax
7540	Gross Receipts Tax
7545	Personal Property/ICT Tax
7550	Property/Other General Tax
7555	Real Estate Tax
7560	Sales/Use Tax Expense
7565	Special Assessments
7665	Extraordinary Gain/Loss
7670	Extraordinary Deductions
7680	Rental Income
7685	Interest Income
7690	Sale of Equipment

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies

JDE Object Number	Subsidiary Number	Account Description
1030		Land & Land Rights Pump
1775	00405	Wip-Cap Time Chng Filter Media
1775	00406	Wip-Cap Time Tv Sewer Main
1775	00407	Wip-Cap Time Sludge & Hauling
1775	00408	Wip-Cap Time W/S Plt Landscape
1776	00401	Wip - Interest During Constr
1776	00402	Wip - Interest During Constr
1776	00403	Wip - Interest During Constr
1776	00404	Wip - Interest During Constr
1776	00405	Wip - Interest During Constr
1776	00406	Wip - Interest During Constr
1776	00407	Wip - Interest During Constr
1776	00408	Wip - Interest During Constr
1777	00408	Wip - Engineering
1778	00401	Wip - Labor/Installation
1779	00401	Wip - Equipment
1779	00404	Wip - Equipment
1779	00406	Wip - Equipment
1780	00401	Wip - Material
1780	00402	Wip - Material
1780	00403	Wip - Material
1780	00404	Wip - Material
1780	00405	Wip - Material
1780	00406	Wip - Material
1780	00407	Wip - Material
1780	00408	Wip - Material
1781	00408	Wip - Site Work
1782	00401	Wip - Contractor/Labor
1782	00402	Wip - Contractor/Labor
1782	00403	Wip - Contractor/Labor
1782	00405	Wip - Contractor/Labor
1782	00406	Wip - Contractor/Labor
1783	00404	Wip - Grouting/Sealing
1784	00404	Wip - Jet Cleaning
1785	00407	Wip - Pump & Haul Sludge
1786	00404	Wip - Rental/Machine
1786	00405	Wip - Rental/Machine
1787	00402	Wip - Repair
1787	00403	Wip - Repair
1799	00401	Wip - Transfer To Fixed Assets
1799	00402	Wip - Transfer To Fixed Assets
1799	00403	Wip - Transfer To Fixed Assets
1799	00404	Wip - Transfer To Fixed Assets
1799	00405	Wip - Transfer To Fixed Assets
1799	00406	Wip - Transfer To Fixed Assets
1799	00407	Wip - Transfer To Fixed Assets
1799	00408	Wip - Transfer To Fixed Assets
1970		Acc Depr-Office Structure
1975		Acc Depr-Office Furn/Eqpt
1985		Acc Depr-Tool Shop & Misc Eqpt
2000		Acc Depr-Communication Eqpt
2215		Acc Depr-Office Structure
2220		Acc Depr-Office Furn/Eqpt
2230		Acc Depr-Tool Shop & Misc Eqpt
2245		Acc Depr-Communication Eqpt
2315		Acc Depr-Desktop Computer Wtr
2320		Acc Depr-Mainframe Comp Wtr
2325		Acc Depr-Mini Comp Wtr
2330		Comp Sys Amortization Wtr
2335		Micro Sys Amortization Wtr
2345		Acc Depr-Desktop Computer Swr
2350		Acc Depr-Mainframe Comp Swr
2355		Acc Depr-Mini Comp Swr
2360		Comp Sys Amortization Swr
2365		Micro Sys Amortization Swr
2950		Def Chgs-Landscaping
2955		Def Chgs-Customer Complaints
2960		Def Chgs-Tank Maint&Rep Wtr
2965		Def Chgs-Relocation Expenses
2970		Def Chgs-Attorney Fee
2975		Def Chgs-Hurricane/Storms Cost
2980		Def Chgs-Emp Fees
2985		Def Chgs-Other
3000		Def Chgs-Other Wtr & Swr
3005		Def Chgs-Voc Testing
3020		Def Chgs-Sludge Hauling
3025		Def Chgs-Pr Wash/Jet Swr Mains
3030		Def Chgs-Tv Sewer Mains
3040		Def Chgs-Tank Maint&Rep Swr
3080		Amort - Landscaping
3090		Amort - Customer Complaints

AFFILIATE AGREEMENT
APPENDIX A

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies at a business unit level.

JDE Object Number Account Description

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies

<u>JDE Object Number</u>	<u>Subsidiary Number</u>	<u>Account Description</u>
1030		Land & Land Rights Pump
3110		Amort - Tank Maint&Rep Wtr
3120		Amort - Relocation Exp
3125		Amort - Attorney Fee
3130		Amort - Hurricane/Storms
3135		Amort - Employee Fees
3140		Amort - Other
3155		Amort - Other Wtr & Swr
3160		Amort - Voc Testing
3175		Amort - Sludge Hauling
3180		Amort - Pr Wash/Jet Swr Mains
3185		Amort - Tv Sewer Mains
3195		Amort - Tank Maint&Rep Swr
4367		Accum Def Income Tax-Fed
4369		Def Fed Tax - Ciac Pre 1987
4371		Def Fed Tax - Tap Fee Post 2000
4373		Def Fed Tax - Idc
4375		Def Fed Tax - Rate Case
4377		Def Fed Tax - Def Maint
4379		Def Fed Tax - Other Operation
4381		Def Fed Tax - Sold Co
4383		Def Fed Tax - Orgn Exp
4385		Def Fed Tax - Bad Debt
4387		Def Fed Tax - Depreciation
4389		Def Fed Tax - Nol
4391		Def Fed Tax - Cont Prop
4393		Def Fed Tax - Amt
4395		Def Fed Tax - Pre Acrs
4397		Def Fed Tax - Res Cap Fee
4417		Accum Def Income Tax - St
4419		Def St Tax - Ciac Pre 1987
4421		Def St Tax - Tap Fee Post 2000
4423		Def St Tax - Idc
4425		Def St Tax - Rate Case
4427		Def St Tax - Def Maint
4429		Def St Tax - Other Operation
4431		Def St Tax - Sold Co
4433		Def St Tax - Orgn Exp
4435		Def St Tax - Bad Debt
4437		Def St Tax - Depreciation
4439		Def St Tax - Nol
4441		Def St Tax - Cont Prop
4443		Def St Tax - Amt
4445		Def St Tax - Res Cap Fee

**AFFILIATE AGREEMENT
APPENDIX B**

The formula used to calculate all allocations is as follows:

Expenses:

Active ERC count for business unit/Active ERC count for all UI operating business units

Assets/Liabilities:

Active ERC count for company/Active ERC count for all UI operating companies

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Application of Water Service Corporation)	
of Kentucky for a General Adjustment)	Case No. 2020-00160
in Existing Rates)	

DIRECT TESTIMONY OF PATRICK L. BARYENBRUCH

1 Q. Please state your name, position of employment and business address.

2 A. My name is Patrick L. Baryenbruch, and I am the President of my own consulting
3 practice, Baryenbruch & Company, LLC, which was established in 1985. In that
4 capacity, I provide consulting services to utilities and their regulators. My business
5 address is 2832 Claremont Road, Raleigh, North Carolina 27608.

6 Q. Summarize your academic and professional background.

7 A. I received a Bachelor's degree in Accounting from the University of Wisconsin-
8 Oshkosh and a Master's in Business Administration degree from the University of
9 Michigan.

10 I am a member of the American Institute of Certified Public Accountants and
11 the North Carolina Association of Certified Public Accountants.

12 I began my career with Arthur Andersen & Company, where I performed
13 financial audits of utilities, banks and finance companies. I left to pursue an M.B.A.
14 degree. Upon graduation from business school, I worked with the management
15 consulting firms of Theodore Barry & Associates and Scott Consulting Group (now
16 ScottMadden) before establishing my own firm.

17 Q. Do you hold any professional certifications?

18 A. Yes. I am a Certified Public Accountant (CPA) with an active license from the state of
19 Wisconsin (license number 5343-1). I am a Certified Information Technology
20 Professional (CITP), an accreditation awarded by the American Institute of Certified
21 Public Accountants to CPA professionals who can demonstrate expertise in
22 information technology (IT) management. I also hold a Global Information Assurance
23 Certification (GIAC) in cybersecurity from the SANS Institute.

1 Q. Have you provided testimony in other regulatory proceedings on the issue of
2 utility/affiliate transactions?

3 A. Yes. In the course of my career, I have performed more than 110 evaluations of affiliate
4 charges to 39 utility companies. I have acted as an expert witness on utility/affiliate
5 charges in over 70 rate case proceedings before regulators in 17 states. I previously
6 acted as a witness on the matter of Water Service Corporation (WSC) charges to Water
7 Service Corporation of Kentucky (WSCK) in its 2010 rate case before the Kentucky
8 Public Service Commission (KPSC). **Exhibit PLB-1** presents my previous affiliate
9 transaction-related assignments.

10 Q. What other work experience do you have with the utility industry?

11 A. Besides my rate case support work, much of my career has been spent as a management
12 consultant for projects related to the utility industry. I have performed consulting
13 assignments for more than 60 utilities and 10 public service commissions. I have
14 participated as project manager, lead consultant or staff consultant for 24 commission-
15 ordered management and prudence audits of public utilities. Of these, I have been
16 responsible for evaluating the area of affiliate charges and allocation of corporate
17 expenses in the Commission-ordered audits of Connecticut Light and Power,
18 Connecticut Natural Gas, General Water Corporation (now United Water Company),
19 Philadelphia Suburban Water Company (now Aqua America) and Pacific Gas &
20 Electric Company.

21 My firm performed the commission-ordered audit of Southern California
22 Edison's 2002, 2003, 2004 and 2005 transactions with its non-regulated affiliate
23 companies.

1 For 20 years, I was also been heavily involved providing consulting services
2 related to IT infrastructure within the utility industry. These projects involved
3 improvements in IT business management practices of utility IT organizations,
4 covering processes such as business planning, risk management, performance
5 measurement and reporting, cost recovery, budgeting, cost management and personnel
6 development.

7 I acted as the project manager or member of the project management team for
8 many very large-scale IT implementation projects involving the work of hundreds of
9 utility client employees and contractor personnel.

10 Q. What is the purpose of your direct testimony?

11 A. I am presenting the results of my evaluation of the necessity of services and
12 reasonableness of charges from Water Services Corporation (WSC) to WSCK during
13 the Base Year ending December 31, 2019. WSC is the service company affiliate that
14 provides services to WSCK.

15 Q. What is the nature of WSC charges to WSCK during Base Year 2019?

16 A. WSC's services fall into two categories: (1) operational charges and services and (2)
17 corporate and shared services.

18 Operational charges and services are associated with operating and maintaining
19 WSCK's water system. In general, they can be closely associated with individual
20 operating companies. A large majority of these expenses are charged directly to
21 operating companies.

22 Corporate and shared services include executive management, administration,
23 engineering, human resources, finance, accounting, billing, customer relations,

1 information technology and regulatory services. These services are provided to the
2 entire CRU US enterprise and the associated expenses are allocated to individual
3 operating companies.

4 Q. How much did WSC charge to WSCK during the Base Year 2019?

5 A. The table below shows that during Base Year 2019, WSC assigned WSCK a total of
6 \$2,253,101. Of this amount, around 20% was for corporate and shared services.

Type of Charges	2019
WSC Operational Charges/Services	\$ 1,792,139
WSC Shared Services	\$ 321,256
Corix Corporate Services	\$ 139,706
Total Charges	\$ 2,253,101

7
8 Q. What was the scope of your evaluation?

9 A. My evaluation covered the corporate and shared services portion of WSC charges to
10 WSCK.

11 Q. What work did you perform in your evaluation?

12 A. The basis for my evaluation is first, a study I performed investigating the necessity and
13 reasonableness of 2019 corporate and shared services-related charges from WSC to all
14 subsidiaries of Corix Regulated Utilities (US), Inc. (“CRU US”), including WSCK, and
15 second, benchmarking of WSCK’s Base Year customer accounts and administrative
16 and general (A&G) expenses per customer compared to that of regulated Kentucky
17 water companies.

18 Evaluation of WSC Corporate and Shared Services

19 Q. Please describe the study you performed to determine the necessity and reasonableness
20 of 2019 charges from WSC to all Corix Regulated Utilities (US), Inc. (CRU US)

1 subsidiaries, including WSCK. CRU US is the same legal entity that used to be called
2 Utilities, Inc.

3 A. The study was undertaken to determine the necessity and reasonableness of services
4 provided during 2019: (1) directly in support of the regulated utility subsidiaries of
5 CRU US; and (2) through the receipt of corporate services provided by the parent
6 holding company, Corix Infrastructure, Inc, (“Corix”) in support of WSC. During
7 2019, approximately a total of \$22.8 million was allocated to CRU US utilities by the
8 two affiliates, as shown below:

		2019 Charges to CRU US Utilities
	Corix Corporate Services	\$ 5,841,745
	WSC Shared Services	\$ 16,925,098
9	Total	<u>\$ 22,766,843</u>

10 Q. How did this CRU US-wide study reach a conclusion on necessity and reasonableness?

11 A. I performed work necessary to answer the following questions to determine the
12 necessity and reasonableness of WSC costs and services:

13 1. Are the services provided by WSC directly and as supported through Corix to CRU US
14 utilities comparable to services provided by other utility service companies?

15 2. Are the services provided by WSC directly and as supported through Corix beneficial
16 to CRU US utilities?

17 3. Are the services provided by WSC directly and as supported through Corix duplicative
18 or overlapping with work performed by CRU US utilities themselves?

- 1 4. Do governance structure and processes exist to ensure services provided by WSC
2 directly and as supported by Corix are necessary to CRU US utilities?
- 3 5. Are 2019 charges for services provided by WSC directly and as supported through
4 Corix to UI regulated utilities in line with charges of other utility services companies
5 to their regulated utility affiliates?
- 6 6. Are 2019 services provided by WSC directly and as supported through Corix to CRU
7 US utilities priced at the lower of cost or market?
- 8 7. Are CRU US utilities' total 2019 customer accounts expenses, including charges
9 directly from WSC as supported through Corix, comparable to the costs of other
10 utilities?
- 11 8. Are 2019 services provided by WSC directly and as supported through Corix
12 comparably priced to all CRU US utilities?
- 13 Q. What were the results of the CRU US-wide study?
- 14 A. Based on my evaluation, Baryenbruch & Company, LLC, was able to reach the
15 following conclusions regarding the necessity of services provided by WSC directly
16 and as supported through Corix to CRU US and the reasonableness of the associated
17 charges:
- 18 • Question 1: Services provided by WSC directly and as supported through Corix are
19 comparable to those offered by other service companies among a comparison group of
20 utility service companies.

- 1 • Question 2: Services provided by WSC directly and as supported through Corix are
2 necessary and would be required even if CRU US utilities were stand-alone utilities.
3 These services to CRU US utilities during 2019 can be associated with one or more
4 benefit categories.
- 5 • Question 3: There is no redundancy or overlap in services provided by WSC directly
6 and as supported through Corix to CRU US utilities based on an analysis of the
7 responsibilities for utility functions.
- 8 • Question 4: The governance structure and processes applied to WSC charges contribute
9 to ensuring that their services to CRU US utilities are necessary.
- 10 • Question 5: 2019 charges for services provided by WSC directly and as supported
11 through Corix to CRU US utilities are below the comparison group average. CRU US
12 utilities were charged \$74 per customer for Administrative and General (A&G)-related
13 services. This is lower than the service company comparison group's average of \$110
14 per-customer cost for A&G-related charges to affiliates.
- 15 • Question 6: Services from WSC directly and as supported through Corix are provided
16 at a cost lower than outside providers.
- 17 – On average, the hourly rates for outside service providers are approximately 108%
18 higher than comparable hourly rates charged by WSC and Corix.
- 19 – If all of the managerial and professional services now provided by WSC directly
20 and as supported through Corix had been outsourced during 2019, CRU US utilities
21 and their customers would have incurred more than \$12.4 million in additional
22 expenses.

1 – WSC charges (for both its direct services and those supported through Corix) do
2 not include any profit markup. Only their actual cost of the service is allocated to
3 CRU US utilities.

4 • Question 7: The cost of customer accounts services provided directly by WSC and as
5 supported through Corix, including those provided by the national call centers, is below
6 the average of the utility comparison group. During 2019, the cost of customer
7 accounts services for CRU US utilities customers was \$26.22 per customer, compared
8 to the average of \$28.85 for comparison group utilities.

9 • Question 8: Services provided by WSC directly and as supported through Corix to all
10 CRU US utilities are priced similarly, as evidenced by the following:

- 11 – Separate books of accounts and records are maintained for WSC and Corix
- 12 – WSC and Corix costs are allocated and assigned on a fully distributed cost basis.
- 13 – Allocation factors employed are commonly used by other utility service companies.
- 14 – Services are priced the same to all affiliates; that is, at WSC’s and Corix’s cost of
15 providing service.
- 16 – Cross-subsidization is avoided.

17 Consideration of these factors supports the conclusion that services provided directly
18 by WSC and as supported through Corix to CRU US utilities are necessary and
19 reasonable.

20 Q. How is your evaluation of WSC corporate and shared services provided to CRU US
21 utilities documented?

22 A. The results of my evaluation are documented in a report that is attached as **Exhibit**
23 **PLB-2.**

1 Benchmark Comparison of Customer Accounts and A&G Expenses per Customer

2 Q. In addition to your report, did you benchmark WSCK's customer accounts and A&G
3 expenses, the second piece of work by which you evaluated Base Year 2019 charges
4 from WSC?

5 A. Yes. As a second method to evaluate the reasonableness of Test Year 2019 corporate
6 and shared services allocated by WSC to WSCK, I compared WSCK's customer
7 accounts and A&G to those of other Kentucky water companies. WSC Shared Services
8 corporate and shared services charges are recorded to WSCK's customer accounts and
9 A&G expense accounts.

10 Q. How did you compare WSC's Base Year 2019 customer accounts and A&G expenses
11 to those of other Kentucky water companies?

12 A. The metric I use for this comparison is total customer accounts and A&G expenses per
13 customer. Labor-related expenses represent a large component of these costs.

14 Q. Where did you obtain the information to calculate customer accounts and A&G
15 expenses per customer for Kentucky water companies?

16 A. I obtained this information from the annual reports Kentucky water companies file with
17 the KPSC.

18 Q. Which Kentucky water companies did you include in this comparison?

19 A. The comparison group includes Class A water companies of similar size to WSCK that
20 filed an annual report with the KPSC. At the time this testimony was prepared the
21 latest year for which data is available was 2018. Annual reports were filed by 134
22 water companies of which 18 did not contain the necessary information to calculate
23 customer accounts and A&G expenses per customer. Of the remaining 116 water

1 companies, 64 were selected for the comparison group because they were of a similar
2 size to WSCK (between 2.5 times smaller to 2.5 times larger).

3 Q. What are the customer accounts and A&G expenses per customer for the comparison
4 group water companies during 2018?

5 A. The table below shows the 2018 per-customer cost calculation for comparison group
6 water companies.

7

2018

Water Company	Cust Accts and A&G		Cust Accts and A&G Cost/Customer
	Expenses	Customers	
Adair County Water District	\$ 1,204,110	7,783	\$ 154.71
Allen County Water District	\$ 871,921	5,532	\$ 157.61
Barkley Lake Water District	\$ 1,185,403	5,414	\$ 218.95
Bath County Water District	\$ 571,850	3,909	\$ 146.29
Big Sandy Water District	\$ 288,103	4,774	\$ 60.35
Black Mountain Utility District	\$ 264,369	3,376	\$ 78.31
Bullock Pen Water District	\$ 846,254	7,126	\$ 118.76
Butler County Water System Inc.	\$ 556,309	4,911	\$ 113.28
Cannonsburg Water District	\$ 725,306	3,525	\$ 205.76
Carroll County Water District 1	\$ 508,417	2,968	\$ 171.30
Christian County Water District	\$ 723,798	6,064	\$ 119.36
Crittenden-Livingston County Water District	\$ 330,747	3,600	\$ 91.87
Cumberland Falls Highway Water District	\$ 341,900	3,305	\$ 103.45
East Casey County Water District	\$ 320,582	4,848	\$ 66.13
East Daviess County Water Association Inc.	\$ 403,800	4,559	\$ 88.57
East Laurel Water District	\$ 216,652	5,547	\$ 39.06
East Logan Water District Inc.	\$ 164,935	3,103	\$ 53.15
Edmonson County Water District	\$ 662,085	10,519	\$ 62.94
Estill County Water District 1	\$ 401,877	3,712	\$ 108.26
Fleming County Water Association Inc.	\$ 14,400	4,145	\$ 3.47
Garrard County Water Association Inc.	\$ 340,343	5,708	\$ 59.63
Graves County Water District	\$ 134,896	5,401	\$ 24.98
Grayson County Water District	\$ 908,716	6,751	\$ 134.60
Green River Valley Water District	\$ 944,188	7,152	\$ 132.02
Green-Taylor Water District	\$ 817,905	5,015	\$ 163.09
Hardin County Water District 1	\$ 3,358,206	10,349	\$ 324.50
Harrison County Water Association Inc.	\$ 1,201,076	5,866	\$ 204.75
Henderson County Water District	\$ 752,196	6,407	\$ 117.40
Henry County Water District 2	\$ 421,792	6,503	\$ 64.86
Hyden-Leslie County Water District	\$ 354,725	3,594	\$ 98.70
Jackson County Water Association Inc.	\$ 582,314	4,715	\$ 123.50
Jessamine-South Elkhorn Water District	\$ 246,052	3,037	\$ 81.02
Knox County Utility Commission	\$ 441,888	2,854	\$ 154.83
Larue County Water District 1	\$ 189,739	3,573	\$ 53.10
Laurel County Water District 2	\$ 1,099,365	6,041	\$ 181.98
Madison County Utilities District	\$ 924,681	10,990	\$ 84.14
Magoffin County Water District	\$ 385,352	3,808	\$ 101.20
Marion County Water District	\$ 550,820	6,008	\$ 91.68
McCreary County Water District	\$ 836,138	6,134	\$ 136.31
Meade County Water District	\$ 396,629	4,969	\$ 79.82
Monroe County Water District	\$ 525,364	3,492	\$ 150.45
Mountain Water District	\$ 2,056,740	16,611	\$ 123.82
Muhlenberg County Water District	\$ 1,273,742	5,928	\$ 214.87
North Marshall Water District	\$ 942,937	5,528	\$ 170.57
North Mercer Water District	\$ 465,315	5,032	\$ 92.47
North Nelson Water District	\$ 354,024	4,751	\$ 74.52
North Shelby Water Company	\$ 925,464	5,228	\$ 177.02
Ohio County Water District	\$ 875,486	5,943	\$ 147.31
Oldham County Water District	\$ 1,178,392	8,408	\$ 140.15
Rattlesnake Ridge Water District	\$ 575,248	4,089	\$ 140.68
Rowan Water Inc.	\$ 533,139	7,142	\$ 74.65
Simpson County Water District	\$ 370,122	3,438	\$ 107.66
South Anderson Water District	\$ 169,995	2,981	\$ 57.03
South Eastern Water Association Inc.	\$ 781,654	7,582	\$ 103.09
South Hopkins Water District	\$ 416,153	2,963	\$ 140.45
Southeast Daviess County Water District	\$ 376,494	7,466	\$ 50.43
Southern Madison Water District	\$ 396,554	5,259	\$ 75.40
Southern Water and Sewer District	\$ 760,178	5,399	\$ 140.80
Todd County Water District	\$ 501,249	3,501	\$ 143.17
West Daviess County Water District	\$ 344,954	5,258	\$ 65.61
West Laurel Water Association Inc.	\$ 444,457	5,155	\$ 86.22
Western Pulaski County Water District	\$ 776,570	8,577	\$ 90.54
Western Rockcastle Water Association Inc.	\$ 301,191	4,158	\$ 72.44
Wood Creek Water District	\$ 902,991	4,310	\$ 209.51
Total/Average	\$ 41,738,252	351,794	\$ 118.64

1

Source: 2018 Annual Reports to the KPSC; Baryenbruch & Company, LLC, analysis

1 Q. What are WSCK's customer accounts and A&G expenses per customer for 2018 and
2 Base Year 2019?

3 A. WSCK's per-customer costs for these periods are calculated below.

	2018	2019
WSCK Cust Accts and A&G Expenses	\$ 472,984	\$ 460,962
WSCK Customers	\$ 7,078	\$ 7,068
Cust Accts and A&G Expense per Customer	\$ 66.82	\$ 65.22

4
5 Q. How do WSCK's customer accounts and A&G expenses per customer compare to
6 those of other Kentucky water companies?

7 A. The table below shows where WSCK's 2018 customer accounts and A&G expenses
8 per customer fall among the range of costs for comparison group Kentucky water
9 companies. WSCK's 2018 annual cost of \$66.82 is well below the comparison group's
10 2018 average of \$118.64 and is lower than 51 comparison group water companies and
11 higher than 13.

12 It should be noted that WSCK's customer accounts and A&G expenses per
13 customer for Base Year 2019 (\$65.22) are also below the 2018 comparison group
14 average.

Analysis of 2018 Customer Accounts and A&G Expenses per Customer
for Kentucky Class A Water Companies

Water Company	Cust Accts & A&G per Customer	Water Company	Cust Accts & A&G per Customer
Hardin County Water District 1	\$ 324.50	Simpson County Water District	\$ 107.66
Barkley Lake Water District	\$ 218.95	Cumberland Falls Highway Water District	\$ 103.45
Muhlenberg County Water District	\$ 214.87	South Eastern Water Association Inc.	\$ 103.09
Wood Creek Water District	\$ 209.51	Magoffin County Water District	\$ 101.20
Cannonsburg Water District	\$ 205.76	Hyden-Leslie County Water District	\$ 98.70
Harrison County Water Association Inc.	\$ 204.75	North Mercer Water District	\$ 92.47
Laurel County Water District 2	\$ 181.98	Crittenden-Livingston County Water District	\$ 91.87
North Shelby Water Company	\$ 177.02	Marion County Water District	\$ 91.68
Carroll County Water District 1	\$ 171.30	Western Pulaski County Water District	\$ 90.54
North Marshall Water District	\$ 170.57	East Daviess County Water Association Inc.	\$ 88.57
Green-Taylor Water District	\$ 163.09	West Laurel Water Association Inc.	\$ 86.22
Allen County Water District	\$ 157.61	Madison County Utilities District	\$ 84.14
Knox County Utility Commission	\$ 154.83	Jessamine-South Elkhorn Water District	\$ 81.02
Adair County Water District	\$ 154.71	Meade County Water District	\$ 79.82
Monroe County Water District	\$ 150.45	Black Mountain Utility District	\$ 78.31
Ohio County Water District	\$ 147.31	Southern Madison Water District	\$ 75.40
Bath County Water District	\$ 146.29	Rowan Water Inc.	\$ 74.65
Todd County Water District	\$ 143.17	North Nelson Water District	\$ 74.52
Southern Water and Sewer District	\$ 140.80	Western Rockcastle Water Association Inc.	\$ 72.44
Rattlesnake Ridge Water District	\$ 140.68	Water Service Corporation of Kentucky	\$ 66.82
South Hopkins Water District	\$ 140.45	East Casey County Water District	\$ 66.13
Oldham County Water District	\$ 140.15	West Daviess County Water District	\$ 65.61
McCreary County Water District	\$ 136.31	Henry County Water District 2	\$ 64.86
Grayson County Water District	\$ 134.60	Edmonson County Water District	\$ 62.94
Green River Valley Water District	\$ 132.02	Big Sandy Water District	\$ 60.35
Mountain Water District	\$ 123.82	Garrard County Water Association Inc.	\$ 59.63
Jackson County Water Association Inc.	\$ 123.50	South Anderson Water District	\$ 57.03
Christian County Water District	\$ 119.36	East Logan Water District Inc.	\$ 53.15
Bullock Pen Water District	\$ 118.76	Larue County Water District 1	\$ 53.10
Comparison Group Average	\$ 118.64	Southeast Daviess County Water District	\$ 50.43
Henderson County Water District	\$ 117.40	East Laurel Water District	\$ 39.06
Butler County Water System Inc.	\$ 113.28	Graves County Water District	\$ 24.98
Estill County Water District 1	\$ 108.26	Fleming County Water Association Inc.	\$ 3.47

1 Source: 2018 Annual Reports to the KPSC; Baryenbruch & Company, LLC, analysis

2 Q. What conclusion are you able to draw from this benchmarking comparison?

3 A. I conclude that WSCK's customer accounts and A&G expenses, including corporate
4 and shared services charges from WSC, for Base Year 2019 are reasonable compared
5 to other Kentucky water companies.

1 Q. What is your overall conclusion based upon your evaluation of total 2019 charges to
2 all CRU US utilities, including WSCK, and the benchmarking of WSCK customer
3 accounts and A&G expenses?

4 A. Based on all of my work, I can conclude the services provided by WSC to WSCK
5 during Base Year 2019 are necessary and their costs are reasonable.

6 Q. Does this conclude your testimony?

7 A. Yes, it does.

AFFIDAVIT

The undersigned, Patrick L. Baryenbruch, being duly sworn, deposes and says that he is the President for the Water Service Corporation of Kentucky, within Utilities, Inc., that is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.



Patrick L. Baryenbruch, Affiant

NOTARY CERTIFICATE

STATE OF _____

COUNTY OF _____

Subscribed, acknowledged and sworn to before me by _____

on this _____ day of _____, 2020.

My commission expires: _____.

NOTARY PUBLIC

Patrick Baryenbruch's Previous Affiliate Transactions
 and Rate Case Engagements

	Client	State	Year	Purpose	Rate Case Witness?
1	Connecticut American Water	Connecticut	1999	Rate Case	Yes
2	Illinois American Water	Illinois	2007	Rate Case	Yes
3	Indiana American Water	Indiana	2017	Rate Case	Yes
4	Kentucky American Water	Kentucky	2003	Rate Case	Yes
		Kentucky	2006	Rate Case	Yes
		Kentucky	2008	Rate Case	Yes
		Kentucky	2009	Rate Case	Yes
		Kentucky	2018	Rate Case	Yes
5	Massachusetts American Water	Massachusetts	2000	Rate Case	Yes
6	Missouri American Water	Missouri	2002	Rate Case	Yes
		Missouri	2008	Rate Case	Yes
		Missouri	2014	Rate Case	Yes
		Missouri	2016	Rate Case	Yes
7	New Jersey American Water	New Jersey	2005	Rate Case	Yes
		New Jersey	2007	Rate Case	Yes
		New Jersey	2009	Rate Case	Yes
		New Jersey	2010	Rate Case	Yes
		New Jersey	2014	Rate Case	Yes
		New Jersey	2017	Rate Case	Yes
		New Jersey	2019	Rate Case	Yes
8	New Mexico American Water	New Mexico	2007	Rate Case	Yes
9	New York American Water	New York	2006	Rate Case	Yes
		New York	2010	Rate Case	Yes
		New York	2013	Rate Case	Yes
		New York	2015	Rate Case	Yes
10	Ohio American Water	Ohio	2006	Rate Case	Yes
		Ohio	2010	Rate Case	Yes
11	Pennsylvania American Water	Pennsylvania	2008	Compliance	No
		Pennsylvania	2011	Compliance	No
		Pennsylvania	2014	Compliance	No
		Pennsylvania	2017	Compliance	No
12	Tennessee American Water	Tennessee	2006	Rate Case	Yes
		Tennessee	2010	Rate Case	Yes
13	Virginia American Water	Virginia	1996	Rate Case	Yes
		Virginia	1999	Rate Case	Yes
		Virginia	2000	Rate Case	Yes
		Virginia	2001	Rate Case	Yes
		Virginia	2003	Rate Case	Yes
		Virginia	2007	Rate Case	Yes
		Virginia	2009	Rate Case	Yes
		Virginia	2011	Rate Case	Yes
		Virginia	2014	Rate Case	Yes
Virginia	2018	Rate Case	Yes		
14	West Virginia American Water	West Virginia	2002	Rate Case	Yes
		West Virginia	2006	Rate Case	Yes
		West Virginia	2007	Rate Case	Yes
		West Virginia	2009	Rate Case	Yes
		West Virginia	2012	Rate Case	Yes
		West Virginia	2014	Rate Case	Yes
		West Virginia	2017	Rate Case	Yes
15	Atlanta Gas Light (AGL Resources)	Georgia	2009	Rate Case	Yes
16	Atmos Energy Corporation (VA)	Virginia	2004	Compliance	No
17	Columbia Gas of Kentucky	Kentucky	2015	Rate Case	Yes
18	Columbia Gas of Maryland	Maryland	2015	Rate Case	Yes
19	Columbia Gas of Massachusetts	Massachusetts	2004	Rate Case	Yes
		Massachusetts	2006	Internal Info	No
		Massachusetts	2011	Internal Info	No
		Massachusetts	2012	Internal Info	No
		Massachusetts	2014	Internal Info	No
		Massachusetts	2017	Internal Info	No

**Patrick Baryenbruch's Previous Affiliate Transactions
and Rate Case Engagements**

	Client	State	Year	Purpose	Rate Case Witness?
20	Columbia Gas of Pennsylvania	Pennsylvania	2015	Rate Case	Yes
21	Columbia Gas of Virginia	Virginia	2003	Compliance	No
		Virginia	2004	Compliance	No
		Virginia	2005	Rate Case	Yes
		Virginia	2006	Compliance	No
		Virginia	2007	Compliance	No
		Virginia	2008	Compliance	No
		Virginia	2009	Rate Case	Yes
		Virginia	2010	Compliance	No
		Virginia	2011	Compliance	No
		Virginia	2012	Compliance	No
		Virginia	2013	Rate Case	Yes
		Virginia	2014	Compliance	No
		Virginia	2015	Rate Case	Yes
		Virginia	2016	Compliance	No
		Virginia	2017	Rate Case	Yes
		Virginia	2018	Compliance	No
22	Northern Indiana Public Service Company	Indiana	2015	Internal Info	No
		Indiana	2016	Rate Case	Yes
23	Dominion Resources, Inc. (VA)	Virginia	2008	Rate Case	Yes
		Virginia	2009	Compliance	No
		Virginia	2010	Compliance	No
		Virginia	2011	Compliance	No
		Virginia	2012	Compliance	No
		Virginia	2014	Compliance	No
		Virginia	2017	Compliance	No
24	Duke Energy (NC)	North Carolina	2006	Compliance	No
25	Elizabethtown Gas (AGL Resources) (NJ)	New Jersey	2008	Rate Case	Yes
26	Electric Transmission Texas	Texas	2016	Rate Case	Yes
27	General Water Works of Rio Rancho (NM)	New Mexico	1993	Rate Case	Yes
28	General Water Works of Virginia	Virginia	1992	Rate Case	Yes
29	Po River Water and Sewer (VA)	Virginia	1993	Rate Case	Yes
		Virginia	2007	Rate Case	Yes
		Virginia	2008	Rate Case	Yes
30	Progress Energy (NC)	North Carolina	2001	Internal Info	No
31	Roanoke Gas Company (VA)	Virginia	2006	Compliance	No
32	Southern California Edison	California	2002	Compliance	No
		California	2003	Compliance	No
		California	2004	Compliance	No
		California	2005	Compliance	No
33	AEP Texas	Texas	2018	Rate Case	Yes
34	Southwestern Electric Power	Texas	2016	Rate Case	Yes
35	Virginia Natural Gas (AGL Resources)	Virginia	2004	Compliance	No
		Virginia	2005	Rate Case	Yes
		Virginia	2010	Rate Case	Yes
36	United Water of Pennsylvania	Pennsylvania	2004	Rate Case	Yes
37	Utilities, Inc./Corix Infrastructure Inc.		2018	Internal Info	No
38	Utilities, Inc. (VA)	Virginia	2006	Rate Case	Yes
		Virginia	2008	Rate Case	Yes
		Virginia	2013	Rate Case	Yes
		Virginia	2019	Rate Case	Yes
39	Utilities, Inc. (KY)	Kentucky	2010	Rate Case	Yes
		Kentucky	2012	Rate Case	Yes
Total Affiliate Transactions Studies					114
Number of Rate Cases					77
Number of Utility Clients					39
Number of States					17

Corix Regulated Utilities (US) Inc.
Evaluation of Necessity of Services and
Reasonableness of Charges from
Water Services Corporation
During the 12 Months Ended December 31, 2019

April 2020

Corix Regulated Utilities (US) Inc.

Evaluation of Necessity of Services and Reasonableness of Charges from Water Services Corporation During the 12 Months Ended December 31, 2019

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I – Executive Summary

Purpose of This Evaluation

This study was undertaken to determine the necessity and reasonableness of services provided by: (1) Water Services Corporation (“WSC”) directly in support of the regulated utility subsidiaries of Corix Regulated Utilities (US), Inc. (“CRU US”) and (2) parent holding company Corix Infrastructure, Inc, (“Corix”) in support of WSC During 2019, approximately \$22.8 million was allocated to CRU US utilities by the two affiliates, as shown below.

	2019 Charges to CRU US Utilities
Corix Corporate Services (A)	\$ 5,841,745
WSC Shared Services (B)	\$ 16,925,098
Total	\$ 22,766,843

Note A: Excludes Corporate Development charges, which CRU US utilities have not included in revenue requirement

Total Corp Svcs Charges to WSC	\$ 6,630,587
Less: Business Dev Charges	\$ (788,842)
Net Corporate Services Charges	\$ 5,841,745

Note B: WSC 2019 Shared Service includes the following charges:

Accounting	\$ 2,157,804
Administrative Services	\$ 2,015,229
Communications/Engineering	\$ 246,616
Corporate Projects	\$ (93,833)
Customer Care & Billing	\$ 998,123
Customer Service	\$ 1,872,167
Executive Management	\$ 2,466,571
Health, Safety & Environmental	\$ 256,704
Human Resources	\$ 1,025,948
Information Technology	\$ 5,424,679
Water Service Corporation	\$ 555,089
Total Shared Services Charges	\$ 16,925,098

Source: Company information

Baryenbruch & Company, LLC, answered the following questions to determine the necessity and reasonableness of WSC costs and services:

Necessity of Corix/WSC Support Services

1. Are the services provided by WSC directly and as supported through Corix to CRU US regulated utilities comparable to services provided by other utility service companies?
2. Are the services provided by WSC directly and as supported through Corix beneficial to CRU US regulated utilities?
3. Are the services provided by WSC directly and as supported through Corix duplicative or overlapping with work performed by CRU US regulated utilities themselves?
4. Do governance structure and processes exist to ensure services provided by WSC directly and as supported by Corix are necessary to CRU US regulated utilities?

Reasonableness of Corix/WSC Support Services

5. Are 2019 charges for services provided by WSC directly and as supported through Corix to CRU US regulated utilities in line with charges of other utility service companies to their regulated utility affiliates?

I – Executive Summary

6. Are 2019 services provided by WSC directly and as supported through Corix to CRU US regulated utilities priced at the lower of cost or market?
7. Are CRU US utilities' total 2019 customer accounts expenses, including charges directly from WSC as supported through Corix, comparable to the costs of other utilities?
8. Are 2019 services provided by WSC directly and as supported through Corix comparably priced to all CRU US regulated utilities?

Evaluation Results

Based upon its evaluation, Baryenbruch & Company, LLC, is able to reach the following conclusions regarding the necessity of services provided by WSC directly and as supported through Corix to CRU US utilities and the reasonableness of the associated charges:

- Question 1: Services provided by WSC directly and as supported through Corix are comparable to those offered by other service companies among a comparison group of utility service companies.
- Question 2: Services provided by WSC directly and as supported through Corix are necessary and would be required even if CRU US utilities were stand-alone utilities. These services to CRU US utilities during 2019 can be associated with one or more benefit categories.
- Question 3: There is no redundancy or overlap in services provided by WSC directly and as supported through Corix to CRU US utilities based on an analysis of the responsibilities for utility functions.
- Question 4: The governance structure and processes applied to WSC charges contribute to ensuring that their services to CRU US utilities are necessary.
- Question 5: 2019 charges for services provided by WSC directly and as supported through Corix to CRU US utilities are below the comparison group average. CRU US utilities were charged \$74 per customer for A&G-related services. This is lower than the service company comparison group's average of \$110 per-customer cost for A&G-related charges to affiliates.
- Question 6: Services from WSC directly and as supported through Corix are provided at a cost lower than outside providers.
 - On average, the hourly rates for outside service providers are approximately 108% higher than comparable hourly rates charged by WSC and Corix
 - If all of the managerial and professional services now provided by WSC directly and as supported through Corix had been outsourced during 2019, CRU US utilities and their customers would have incurred more than \$12.4 million in additional expenses
 - WSC charges (for both its direct services and those supported through Corix) do not include any profit markup. Only their actual cost of the service is allocated to CRU US utilities.
- Question 7: The cost of customer accounts services provided directly by WSC and as supported through Corix, including those provided by the national call centers, is below the average of the utility comparison group. During 2019, the cost of customer accounts services for CRU US utilities customers was \$26.22 per customer, compared to the average of \$28.85 for comparison group utilities.

I – Executive Summary

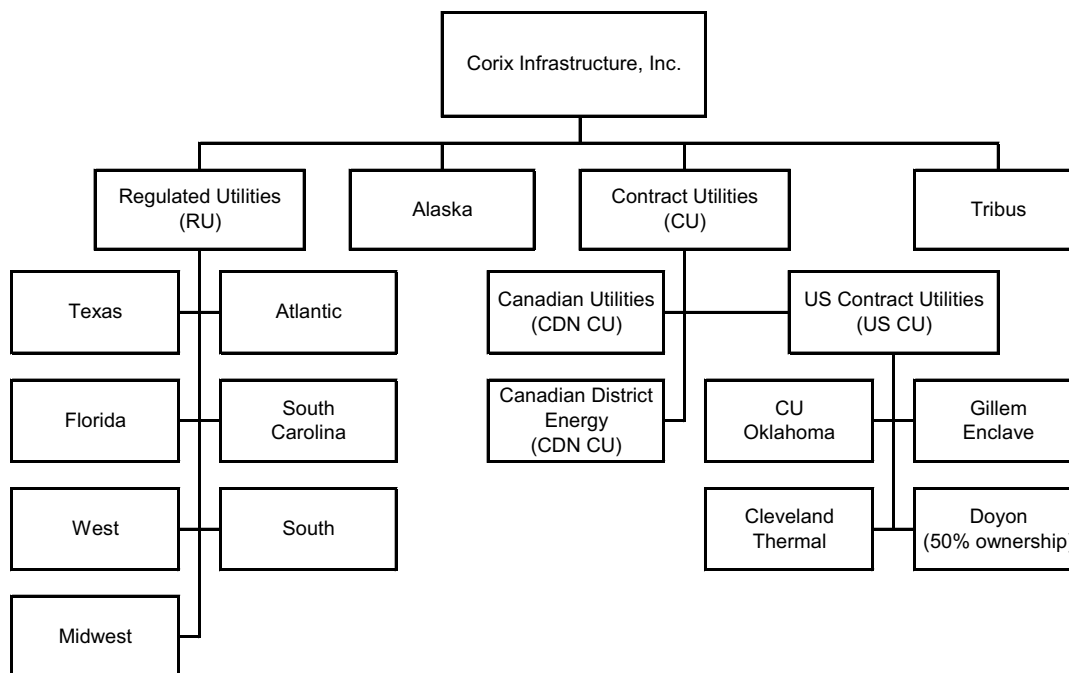
- Question 8: Services provided by WSC directly and as supported through Corix to all CRU US utilities are priced comparably, as evidenced by the following:
 - Separate books of accounts and records are maintained for WSC and Corix
 - WSC and Corix costs are allocated and assigned on a fully distributed cost basis
 - Allocation factors employed are commonly used by other utility service companies
 - Services are priced the same to all affiliates, that is, at WSC's and Corix's cost of providing service
 - Cross-subsidization is avoided.

Consideration of all of these factors supports the conclusion that services provided directly by WSC and as supported through Corix to CRU US utilities are necessary and reasonable.

II - Background

Description of Corix Infrastructure, Inc.

Corix is a privately held corporation that is owned by certain affiliates of British Columbia Investment Management Corporation. Corix affiliates provides water, wastewater and energy utility services. Its businesses are organized as of December 31, 2019, as shown below.



Source: Company Information

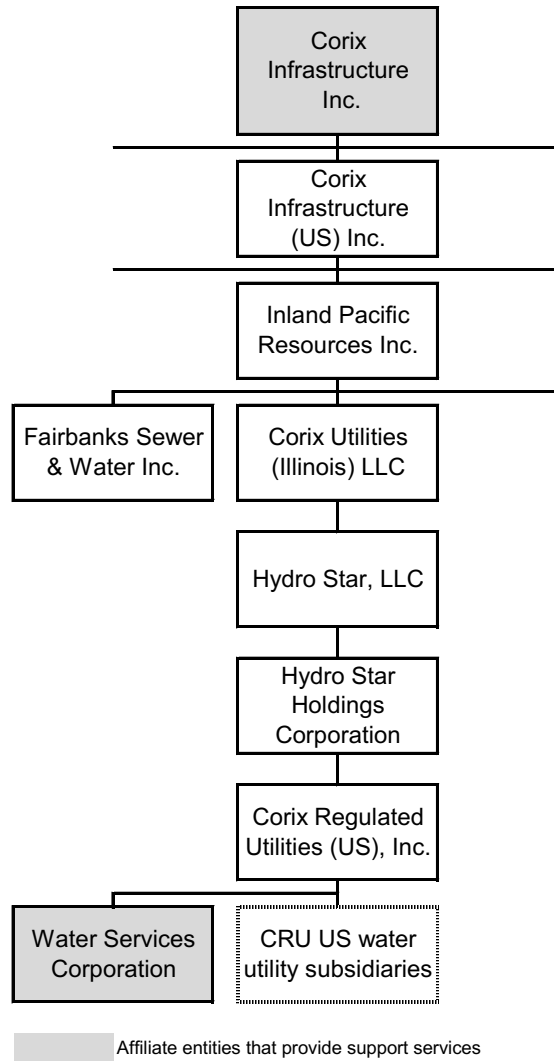
WSC is a subsidiary of CRU US and provides services directly to CRU US utilities. Corix provides services to WSC in support of the services WSC provides to CRU US utilities. Exhibit 1 (page 5) shows where these affiliates fall in the Corix legal entity structure. Corporate services provided by Corix to WSC and other affiliates include the following, which are described in Exhibit 2 (pages 6-10).

Corporate Office (CEO)	Health, Safety and Environmental
Finance	Corporate Communications
Human Resources	Corporate Development (these costs are currently not included in revenue requirement)
Information Technology	
Legal	Continuous Improvement

Corix is headquartered in Vancouver, British Columbia. As of December 31, 2019, the holding company maintained a staff of 39 in the following locations:

- British Columbia
- Alberta
- Ontario
- United States

Corix Regulates Utilities (US) Inc.
Corix Legal Entity Structure



Source: Company information

Corix Regulates Utilities (US) Inc.
Description of Corix Corporate Services

Service Category	Description	Types of Costs
Corporate Office	<p>This area represents the Corix Corporate CEO function. At the regulated operating unit there is a Divisional President who is charged with executing on the business plan for the regulated water and wastewater utilities to serve customers. A regulated utility chief operating officer who works closely with local leadership in evaluating capital investment plans and operating budgets, as well as providing expertise on and leadership in addressing customer concerns, industry best practices, and setting short and long-term operating strategies. The Corix Corporate CEO sets overall direction and corporate strategy, provides guidance to operational leadership to optimize Corix's lines of business and identify complementary aspects of Corix's businesses to achieve synergies where possible for the benefit of multiple stakeholders including the customers of the operating companies, interacts with shareholders to source capital, and at a high-level works with other members of the Corix Corporate Executive Management Team and the corporate debt holders to secure appropriate financing and rates. The Corix Corporate CEO reviews Corix's and its subsidiaries' activities to foster the corporate culture and values of honesty, integrity, transparency and accountability to our customers, our regulators and our shareholder. The Corix Corporate CEO is the main conduit to shareholders on all matters of governance and ensures an appropriate governance structure exists in each operating unit.</p>	<p>The costs in this group include direct employee labor and non-labor costs for CEO, support staff, etc. Also included are Board of Directors fees and third-party services.</p>
Finance	<p>Corix's head office finance group ("Finance") provides a comprehensive suite of services to the business units, including CFO oversight, accounting support, consolidations, treasury, taxation, internal audit, strategic planning, and full scope corporate reporting.</p> <p>The CFO function provides oversight of the financial affairs of the Corix business units, including long term strategic planning and financial analysis. This also includes full scope management reporting to the board of director and Corix's shareholder.</p> <p>Accounting support includes compliance with GAAP, reconciliation, ERP support and transactional support.</p> <p>Corporate consolidation and controllership provide review and preparation of reports to achieve the "full picture" lens required to access debt and equity financing. In addition, this group oversees all corporate holding companies, accounting for reorganizations and tax planning initiatives, and presents results and budgets to audit committee and the board. Financial reporting policy and research originates from this function.</p>	<p>The costs in this group include direct employee labor and non-labor costs for CFO oversight, accounting support, consolidations, treasury, taxation, internal audit, strategic planning, and full scope corporate reporting, etc. Also included are third party services such as audit and tax along with computer licenses for the corporate performance management tool, etc.</p>

Corix Regulates Utilities (US) Inc.
Description of Corix Corporate Services

Service Category	Description	Types of Costs
Internal Audit	<p>Internal audits evaluate a company's internal controls, including its corporate governance and accounting processes. They ensure compliance with laws and regulations, accurate and timely financial reporting and data collection. The business units and WSC and Contract Shared Services do not have an internal audit function. This group is resident in the Corporate Group and provides internal audit services based on annual risk analysis of key areas and also based on requests from business units who may require assessments of processes, fraud investigations or IT control assessments. Their assessment findings are generally available to all business units unless there is some issue of confidentiality or litigation.</p>	<p>The costs in this function include direct employee labor and non-labor costs.</p>
Taxes	<p>Tax compliance is a necessary function for any corporation to lawfully operate. Each of the businesses must file timely federal and state tax returns and other corporate filings. The Corix Corporate tax group coordinates the tax planning activities for all Corix business units and either undertakes tax compliance activities, directs tax compliance activities taking place in business units or oversees outside tax professionals who may be providing services to individual business units. This group also works with external auditors for annual audit tax provision and reviews of Corix's consolidated financial statements and tax returns.</p> <p>An example of the specific support services this group provides is the assistance across the enterprise in understanding, evaluating and implementing changes related to the Tax Cuts and Jobs Act of 2017 ("TCJA"). The Corporate Tax group also reviews tax provisions used in reporting for bank purposes and other tax regulations to ensure compliance across the enterprise, files the corporate tax return and engages in supervision and tax planning for the Corix group of companies including responding to inquiries, requests or audits that arise from the governing authorities. It also provides strategic tax perspectives into Corix's planning process, coordinates corporate tax audits, and develops and implements cross-border transfer pricing policies. To carry out these responsibilities, the Corix tax group assists the Corix business units in their annual planning and budget cycle and ensures that business unit forecasts are incorporated in corporate strategic planning – another function CRU US could not perform given the consolidated organizational structure of Corix. The Corix tax group also creates and maintains the framework for strong internal tax controls and procedures necessary for any responsibly run and reputable corporation.</p>	<p>The costs in this function include direct employee labor and non-labor costs.</p>
Human Resources Corporate	<p>Corporate HR is responsible for company-wide policies, programs and practices for all aspects of HR function and general overall guidance and direction. HR Shared Services Group (WSC) administers the day-to-day human resource programs and services that are aligned to corporate policies and practices for the business units that it services. Corporate HR sources company-wide vendors to</p>	<p>The costs in this group include direct employee labor and non-labor costs, recruitment expenses, and third-party services such as compensation studies, etc.</p>

Corix Regulates Utilities (US) Inc.
Description of Corix Corporate Services

Service Category	Description	Types of Costs
Human Resources Corporate (cont.)	get economies of scale for all aspects of HR function such as Total Rewards, Talent Management/Succession Planning, Learning Management and HCM systems. The corporate HR group also arranges benefit programs for employees across the entire Corix organization, which provides significant economies of scale and risk sharing benefits. The corporate group also undertakes activities such as comprehensive compensation reviews, recruitment and human resources administration of executive positions, reporting to the Board and company-wide talent management and leadership training program development, etc.	The costs in this group include direct employee labor and non-labor costs, recruitment expenses and third-party services such as compensation studies, etc.
Treasury	<p>Corix Corporate treasury services include long- and short-term capital needs planning for both debt and equity. Corix Corporate staff interact with the shareholder and the capital markets to arrange, extend, or change terms of financing. This group analyzes the use of private placement versus floating rate versus the use of swaps to find the appropriate stable financing for the entity given its capital and operating needs over the short and long term.</p> <p>Corix Corporate Services also often arranges financing at the local level, but leverages its financing syndicate to optimize the financing rates for the Corix operations. This provides negotiation leverage to get optimal spreads from prime or LIBOR which are for the benefit of customers. Corix Corporate also monitor the use of revolvers and monitor covenant coverage and help ensure interest spreads relative to coverage ratios are optimized to minimize interest costs to the benefit of customers.</p>	The costs in this function include direct employee labor and non-labor costs and banking fees.
Information Technology Governance	The regulated and contract units (through WSC and Contract Shared Services) primarily provisions and maintains their own IT infrastructure and applications, except for some enterprise applications. The IT Strategy group provides IT Strategy and planning services to enhance the overall application and technology services to the organization and identifies opportunities to leverage technology solutions across the group. It is also responsible for the enterprise cyber security program development, maintenance and monitoring, which is a critical function and requires specialist resources, which do not exist within the Regulated Utilities or Contract Utilities group.	The costs in this group include direct employee labor and non-labor costs for IT strategy and planning services such as enterprise cyber security program development, maintenance and monitoring and third-party services such as consulting. Corporate IT provides company-wide security breach protocol and response support and expertise on network, security strategy and data center management. For example, Corporate IT constantly monitors for changes in legislation related to data privacy, various security requirements for contracts and provides security awareness training. As part of its enterprise function, the corporate IT group works with business unit representatives to share best practices and trends in security management and to review organizational KPIs. All of these functions support cybersecurity and data protection that benefit the customer.

Corix Regulates Utilities (US) Inc.
Description of Corix Corporate Services

Service Category	Description	Types of Costs
Corporate Legal	<p>The regulated unit has certain embedded legal resources and utilizes some external legal services, but a significant portion of the legal compliance work is done corporately. This work includes company structuring and maintenance, capital and debt financing documentation, negotiation and management, insurance and risk oversight and corporate governance including board and committee coordination. This work is required to maintain corporate status, enable the corporate and debt and equity structure, and ensure legal compliance so the group of companies can exist and legally own and operate utility systems and provide service to customers. The corporate legal group also drafts and oversees required corporate policies and procedures and supports internal needs including corporate development, information technology, finance and tax, human resources, HSE, corporate communications and transformation project legal needs. Centralized management of legal advice and contract negotiation enables corporate operations and growth in alignment with corporate strategy and on a more efficient cost basis than would external legal service providers.</p>	<p>The costs in this group include direct employee labor and non-labor costs for legal compliance. Also included are third party services such as consulting for general corporate and enterprise matters.</p>
Health, Safety and Environment Corporate	<p>Corporate HSE planning includes the review for compliance with all national and federal government mandates, development and deployment of company-wide HSE policies, procedures and training manuals, forms and tools for standardized programs to be used across the business units, compliance programs, assessment programs, industry research, and incident investigation and audits. This group is also involved in developing preventative programs across the Corix group of companies to provide an environment of safety, safe operation and environmental stewardship. In fulfilling these activities this group works with individuals in the business units and engages consultants or commissions studies to facilitate these programs and best practices that benefit all units. It would be impractical and expensive for individual business units to develop their own HSE policies, procedures and training manuals. Corporate HSE also is responsible for reporting to the Board and monitoring compliance and interactions and the undertaking of all major compliance investigations. HSE Shared Services Group (WSC) and/or BU HSE staff administer the day-to-day HSE programs and services aligned to corporate policies and practices for the Business Units. Within the business units, there may be health and safety staff who focus on familiarity and compliance with local requirements, permits and regulators and undertake training delivery, monitor compliance, and interactions.</p>	<p>The costs in this group include direct employee labor and non-labor costs for health, safety and environmental oversight. Also included are costs for the safety incentive program, software licenses costs for health and safety programs and third-party services for safety assessments, surveys, training and audits.</p>
Corporate Communications	<p>This function provides overall policies guidance on both internal and external communications, monitors media, maintains the company-wide internet and intranet including the associated license and maintenance costs and provides overall employee communication support as required and as back up support to the business units. Communications Shared Services Group (WSC) and/or the business units may additionally have their own staff for local interface and leverage corporate expenditures for intranet and internet.</p>	<p>The costs in this group include direct employee labor and non-labor costs for overall policies guidance on communications, monitoring of media and third-party services for corporate internet site, video, advertising and media monitoring.</p>

Corix Regulates Utilities (US) Inc.
Description of Corix Corporate Services

Service Category	Description	Types of Costs
Business Development	<p>Growing the overall business creates economies of scale for the entire organization, with the benefit being that fixed costs are shared over a broader base of assets, resulting in lower costs for each business unit compared to what they would otherwise have to pay if they were standalone businesses. The business development group's mandate is to generate corporate growth consistent with the goals and objectives of the company. Seeking and executing large and/or complex acquisitions and winning project bids that require substantial investments, the business development group facilitates the economies of scale required to share costs across the organization in a meaningful way. Business development helps with strategy and associated complex issues, lends resources to execute a transaction and provides general oversight. Because of the number of opportunities to grow the business with small as well as large opportunities, the business development team is a group of mobile resources with the time to meet prospective sellers. These business development opportunities will ultimately create a bigger customer base over which to spread the costs (thus mitigating the impact of rising costs).</p>	<p>The costs in this group include direct employee labor and non-labor costs for overall business development oversight and third-party services such as engineering, legal, and accounting to support the evaluation of potential acquisitions.</p>
Continuous Improvement	<p>In the interest of continually improving our processes and thereby always providing the best value for customers, we use best practice continuous improvement approaches to gain efficiencies within the organization and identify ways to serve our customers more effectively. Transformational and/or strategic change and management is done at a corporate level. We would expect to maintain a Project Management Office (PMO) to oversee projects and consulting expenses to help deliver on these objectives. PMO's primary objective are to 1) ensure alignment of projects with organizational strategy, 2) ensure delivery excellence following PPM best-practices and 3) support continued improvement across the company.</p>	<p>The costs in this group include direct employee labor and non-labor costs for the Project Management Office (PMO). Also included are costs for third party services such as consultants to support evaluation and implementation of initiatives.</p>

Source: Cost Allocation Manual

II - Background

Description of Corix Regulated Utilities (US), Inc. and Water Service Corporation

As shown in Exhibit 3 (page 12), CRU US owns regulated utility companies doing business in 17 US states. CRU US and WSC are headquartered in Chicago, Illinois. CRU US is a holding company with no employees of its own. All of the staff needed to operate CRU US utilities are employees of WSC which is organized into the WSC Shared Services group and regional units that serve individual operating utilities. As shown in the table below, WSC has 548 employees as of December 31, 2019.

Group	Department/Region	Staffing at 12/31/2019
Shared Services	Accounting	16
	Administrative Services	4
	Communications	3
	Customer Care & Billing	10
	Customer Service	34
	Executive	9
	Health, Safety & Environmental	2
	Human Resources	7
	Information Technology	12
Utilities	Atlantic Region	Regional Staff Operations
		10 77
	Florida Region	Regional Staff Operations
		3 78
	Mid Atlantic Region	Regional Staff Operations
		2 26
	Midwest Region	Regional Staff Operations
		10 50
	South Carolina Region	Regional Staff Operations
		8 23
	South Region	Regional Staff Operations
		15 65
	Texas Region	Regional Staff Operations
		6 33
West Region	Regional Staff Operations	
	11 34	
Total WSC Staffing		548

Source: Company information

Exhibit 4 (pages 13-15) describes the services that the WSC Shared Services group may provide to CRU US utilities under affiliate service agreements. Service agreements formalize the service arrangements between WSC and individual CRU US utilities.

Corix Regulates Utilities (US) Inc.
Corix Regulates Utilities (US) Inc. Operating Water Company Subsidiaries

UI Subsidiary	State	Status
ACME Water Supply and Management Company	Florida	Non-regulated
Bermuda Water Company	Arizona	Regulated
Blue Granite Water Company	South Carolina	Regulated
Carolina Water Service, Inc. of North Carolina	North Carolina	Regulated
Colchester Utilities, Inc.	Virginia	Non-regulated
Community Utilities of Alabama Inc.	Alabama	Regulated
Community Utilities of Florida Inc.	Florida	Non-regulated
Community Utilities of Georgia Inc.	Georgia	Non-regulated
Community Utilities of Indiana Inc.	Indiana	Regulated
Community Utilities of Maryland Inc.	Maryland	Non-regulated
Community Utilities of New York Inc.	New York	Non-regulated
Community Utilities of Pennsylvania Inc.	Pennsylvania	Regulated
Community Utilities of South Carolina, Inc.	South Carolina	Non-regulated
Corix Utilities (Texas) Inc.	Texas	Regulated
Great Basin Water Co.	Nevada	Regulated
Green Ridge Utilities, Incorporated	Maryland	Regulated
Maryland Water Service, Inc.	Maryland	Regulated
Massanutten Public Service Corporation	Virginia	Regulated
Montague Sewer Company, Inc.	New Jersey	Regulated
Montague Water Company, Inc.	New Jersey	Regulated
Perkins Mountain Utility Company	Arizona	Non-regulated
Perkins Mountain Water Company	Arizona	Non-regulated
Provinces Utilities, Inc.	Maryland	Regulated
Tennessee Water Service, Inc.	Tennessee	Regulated
UICN Real Estate Holdings, Inc.	Nevada	Non-regulated
Utilities, Inc. of Florida	Florida	Regulated
Utilities, Inc. of Georgia	Georgia	Regulated
Utilities, Inc. of Louisiana	Louisiana	Regulated
Utility Services of Illinois, Inc.	Illinois	Regulated
Water Service Company of Georgia, Inc.	Georgia	Regulated
Water Service Corporation of Kentucky	Kentucky	Regulated

Source: Company information

Corix Regulates Utilities (US) Inc.
Description of Water Service Corporation Shared Services

Service Category	Description
Executive	The Service Company shall provide executive officer and director assistance, including but not limited to that of Presidents, Vice Presidents, Treasurers and Chief Financial and other Chief Officers who will assist and advise the Operating Company in respect to corporate, financial, risk management, strategy, operating, engineering, organization, tax, audit, governance, regulatory and other issues. They will keep themselves informed with respect to the operations, maintenance, financial condition of and other matters relating to, the Operating Company through contacts with the officers, directors and other representatives of the Operating Company. Such executive assistance will include visiting the property of the Operating Company when necessary to the proper furnishing of the services provided for in this Agreement. They will also supervise the personnel of the Service Company to the end that services under this Agreement shall be performed efficiently, economically and satisfactorily to the Operating Company.
Engineering	The Service Company may supply engineering services as requested by the Operating Company in areas including design, construction and management of the Operating Company.
Operating	The Service Company will furnish competent personnel to perform and/or control all usual operating functions, including pumping, treatment and distribution as well as maintenance of equipment and facilities. These responsibilities will include testing and record keeping for compliance with all state and local regulatory agency requirements.
Accounting	The Service Company will provide total accounting service, including bookkeeping, payroll, tax determination, financial statement preparation, budgets, credit, agency annual reports and similar agency support and filings. Periodic analysis will be made for purposes of planning and measurement of efficiency.
Centralized Cash Management	The Service Company may provide a centralized cash management system whereby cash receipts and payments are managed by one single central body, WSC, on behalf of all of the Operating Companies. Under this Centralized Cash Management Service bank accounts could be in the name of, and maintained by, the Service Company. Cash transactions would be recorded on the Service Company's books with a corresponding offset on the Operating Company's books. Balancing entries would be recorded in the intercompany accounts of each entity. The Service Company's provision of centralized cash management would offer more efficiently handled cash, increased

Corix Regulates Utilities (US) Inc.
Description of Water Service Corporation Shared Services

Centralized Cash Management (cont.)	visibility and control, simplified bank account structure and reduced overall bank transaction costs and may provide access to financing or funds for capital projects as well as acquisitions.
Legal	The Service Company will employ general counsel and supporting in-house counsel as necessary to advise and assist in the performance of the services herein provided for and to aid the Operating Company in all matters where such assistance may be necessary and/or desired.
Billing and Customer Relations	The Service Company will handle all billing and collections. It will serve as the link between the customer and the Operating Company in all areas such as new accounts, deposits, meter reading, inquiries and complaints.
Construction	The Service Company may perform directly or may provide supervising services in construction including customer connections, meter installations, main extensions, plant expansions or capital additions of any nature as required by the Operating Company.
Continuing Improvement	The Service Company provides for continuing improvement of services to operating companies. These services include business transformation services (e.g., software maintenance and upgrades) and other activities that improve efficiency, reliability or the delivery of services to operating companies and ultimately improve service to operating company customers.
Information Technology	The Service Company shall provide day-to-day IT services such as general system operations and maintenance, software maintenance, workstation acquisition support and certain network administration, as well as design, implementation and replacement of enterprise resource planning, oversight of cybersecurity programs, data storage and management, communication networks and development of IT equipment strategies. The Service Company shall provide services to Operating Company to prepare and properly implement enterprise policies relevant to IT. The Service Company shall provide services to the Operating Company to conduct security analyses, monitor and investigate security alerts, conduct security awareness training and continuously work to improve security in the environment including identifying and implementing best practices to prevent incidents.
Human Resources	The Service Company shall provide the Operating Company human resource services for day-to-day personnel matters (such as recruiting, background checks, onboarding training, payroll, human resource complaints, investigations, reviews, assisting

Corix Regulates Utilities (US) Inc.
Description of Water Service Corporation Shared Services

Human Resources (cont.)	employees with various benefit questions and elections, etc.), the creation, update and compliance framework for personnel policies, support for executives' and employees' compensation plan design, retirement savings, and benefits management. The Service Company shall provide the Operating Company with services for employee and labor relations issues.
Health, Safety and Environmental	The Service Company shall provide services to the Operating Company to ensure compliance and familiarity with local requirements, permits and regulators. The Service Company shall provide services of Health Safety and Environment planning including the review for compliance with all federal government mandates; development and deployment of company-wide HSE policies, procedures, training manuals, forms and tools for standardized programs to be used across the operating companies; compliance programs; assessment programs; industry research; and incident investigation and audits.
Business Development	The Service Company shall provide business development services to Operating Company in order to identify, evaluate and execute opportunities for acquisition of water and sewer systems.
Other Services	Services other than those described above that are necessary for utility operating companies to provide service to customers.

Source: Standard WSC Affiliate Interest Agreement

III – Evaluation Approach for Corix and WSC Services

Regulatory Requirements

In the course of this evaluation, consideration was given to regulatory requirements that apply to CRU US utilities' transactions with Corix and WSC. These requirements are illustrated below for some regulators and jurisdictions.

NARUC Guidelines

The National Association of Regulatory Commissioners (NARUC) published “Guidelines for Cost Allocation and Affiliate Transactions” that provide guidance on the treatment of utility transactions with affiliates. The guidelines are followed by many state regulators. The following are relevant excerpts from the NARUC guidelines:

The prevailing premise of these Guidelines is that allocation methods should not result in subsidization of non-regulated services or products by regulated entities unless authorized by the jurisdictional regulatory authority.

The general method for charging indirect costs should be on a fully allocated cost basis.

The primary cost driver of common costs, or a relevant proxy in the absence of a primary cost driver, should be identified and used to allocate the cost between regulated and non-regulated services or products.

Generally, the price for services, products and the use of assets provided by a non-regulated affiliate to regulated affiliate should be at the lower of fully allocated cost or prevailing market prices.

State Regulatory Commission Guidelines

Pennsylvania Public Utilities Commission – Pennsylvania Statutes Title 66 Pa.C.S. Section 2102(c) below prescribes that services provided by affiliates to regulated utilities be reasonable and necessary.

If the commission shall determine that the amounts paid or payable under a contract or arrangement filed in accordance with this section are in excess of the reasonable price for furnishing the services provided for in the contract, or that such services are not reasonably necessary and proper, it shall disallow such amounts, insofar as found excessive, in any proceeding involving the rates or practices of the public utility.

Kentucky Public Service Commission - Kentucky Revised Statute 278.2207(1)(b) requires that:

Services and products provided to the utility by an affiliate shall be priced at the affiliate's fully distributed cost but in no event greater than market or in compliance with the utility's existing USDA, SEC, or FERC approved cost allocation methodology.

Texas Public Utilities Commission – The Public Utility Regulatory Act, Title II, Texas Utilities Code Section 36.058, sets out requirements for affiliate charges in rates for utilities regulated by the Texas Public Utilities Commission. The code specifies:

... the price to the electric utility is not higher than the prices charged by the supplying affiliate for the same item or class of items to:
(A) its other affiliates or divisions; or
(B) a nonaffiliated person within the same market area or having the same market conditions.

III – Evaluation Approach for Corix and WSC Services

Baryenbruch & Company, LLC, Evaluation Methodology

The necessity and reasonableness of services provided by Corix and WSC to CRU US utilities are evaluated by Baryenbruch & Company, LLC, as described below.

Necessity of Corix/WSC Support Services

- Question 1 – Prevalence of Services

Question 1 is answered by determining if the services provided by Corix and WSC are consistent with services provided by other utility service companies. Information on the comparison group comes from their 2018 Form 60, which is a report designed to collect financial information from service companies that are subject to the Federal Energy Regulatory Commission's (FERC) regulation. Service company filers are those that belong to electric and combination electric/gas utility holding companies. The activities of energy-related services companies are relevant to Corix and WSC because they provide the same type of administrative and general (A&G) services such as legal, finance, accounting and information technology.

- Question 2 – Benefits from Services

Question 2 is answered by associating 2019 charges by entity/location with benefits to CRU US utilities. The following is a set of benefits that I use to associate with the entities/departments that charged CRU US utilities during 2019:

Governance – The department provides oversight and management control over functional or operating areas and processes. Among other things, governance activities involve planning and reporting of actual performance.
Compliance – The department helps ensure compliance with regulatory, legal, financial and other obligations of individual operating companies and the combined company.
Economies – The department facilitates cost savings from purchasing and operating economies of scale. The service company is able to employ greater bargaining power to realize better prices for common goods and services and pass those savings on to enterprise operating companies. It can also more efficiently utilize staff through workload balancing and specialization which allows operating companies to avoid the need to staff for less than a full-time workload.
Continuity of Service – The department helps assure on-going provision of service through the centralization of staff performing similar activities. Larger concentrations of these resources mean there is coverage of work during potential disruptions such as absences and departures.
Standards – The department plays a role in ensuring that standard policies, procedures and practices are established and followed across the enterprise.
Other – The department facilitates service company management, operations, business and accounting processes.

Many specific benefits were also identified during interviews conducted to validate the benefits of services provided by Corix and WSC to CRU US utilities.

- Question 3 - Redundancy of Services

Question 3 is answered through an analysis of the responsibilities of Corix and WSC in the delivery of services to CRU US regulated utilities. The end product is a responsibility matrix with a designation of the role played by CRU US regulated utilities, Corix and WSC in performing all the operational and A&G functions necessary to deliver service to customers.

III – Evaluation Approach for Corix and WSC Services

- Question 4 – Governance Structures and Processes

Question 4 involves identifying and documenting the principal management practices and controls that help ensure charges from Corix and WSC to CRU US regulated utilities are necessary and reasonable.

Reasonableness of Corix/WSC Support Services

- Question 5 – A&G Cost Comparison

Question 5 determined if Corix and WSC A&G-related charges are in line with similar charges from other service companies to their regulated utility affiliates. The metric used for this comparison is A&G-related charges per customer. Every utility service company provides A&G services to affiliates and these services are similar across utility types. This common pool of costs provides a valuable cost-comparison opportunity.

- Question 6 – Provision of Services at the Lower of Cost or Market

Question 6 determined if Corix and WSC services are provided to CRU US utilities at the lower of cost or market. This is accomplished by comparing the cost per hour for managerial and professional services provided by Corix and WSC personnel to hourly billing rates that would be charged by outside providers of similar services.

- Question 7 – Customer Accounts Cost Comparison

Question 7 determines if the cost of customer accounts services provided by WSC to CRU US utilities are comparable to other regulated utilities that do business in the states in which CRU US utilities operate. The comparison metric is customer accounts services cost per customer. Corix provides no such services to CRU US utilities so only the charges from WSC to CRU US utilities are in the scope of this question.

- Question 8 – Provision of Services at the Same Cost

Question 8 involved an evaluation of Corix and WSC financial systems, processes and data structure to determine if they are designed and configured to properly charge affiliates with Corix and WSC fully distributed costs of services. Also, the factors used to allocate Corix and WSC costs were evaluated to determine if they are reasonable, relate to cost causation and result in the same price for services to all affiliates.

III – Evaluation Approach for Corix and WSC Services

Interviews of Corix and WSC Personnel

An important part of this evaluation was interviews conducted with executives of each functional area of Corix and WSC. These interviews were particularly important in providing evidence necessary to draw conclusions on Question 2 – Benefits from Services and Question 3 - Redundancy of Services. The table below lists the executives who were interviewed.

Company	Position
Corix	Chairman, Emeritus and Executive Advisor
	Chief Executive Officer (Corix) and Chief Operating Officer (Utilities Inc.)
	Chief Financial Officer
	Corporate Controller
	Vice President Tax and Special Projects
	Vice President and Chief Information Officer
	Director, Transformation Program
	Vice President and General Counsel (Canada) and Corporate Secretary
	Chief Human Resources Officer
	Vice President, Financial Planning and Analysis
	Director, Compensation and Benefits
	Director, Audit Services
	Director, Health, Safety and Environmental
	WSC
Director, Services	
Controller	
Director, Strategy and Financial Planning	
Director, Information Technology	
Director, Human Resources	
Manager, Health, Safety and Environmental	

Benchmarking and Cost Comparison Groups

The benchmarking performed in this study involve the comparison of certain Corix and WSC charges to CRU US utilities with the costs of relevant groups of other utility companies. The purpose of these cost comparisons is to allow regulators and others to put Corix's and WSC's charges into perspective relative to what other service companies charge their utility affiliates.

Utility Holding Companies (service company A&G charges per customer)

Every centralized service company in a holding company system must file a Form 60 in accordance with Section 1270 of the Public Utility Holding Company Act of 2005, Section 390 of the Federal Power Act, and 18 C.F.R. §366.23. This report is designed to collect financial information from service companies that are subject to regulation by FERC.

For 2018 (the latest year for which data is available), 33 service companies associated with the following 24 utility holding companies filed a FERC Form 60.

III – Evaluation Approach for Corix and WSC Services

AES Corporation	Exelon Corporation
Algonquin Power & Utilities Corporation	FirstEnergy Corporation
Alliant Energy Corporation	National Grid PLC
Ameren Corporation	NiSource Inc.
American Electric Power Corporation	PNM Resources, Inc.
Avangrid, Inc.	PPL Corporation
Black Hills Corporation	SCANA Corporation
CenterPoint Energy, Inc.	Southern Company
Dominion Energy, Inc.	TECO Energy, Inc.
Duke Energy Corporation	Unitil Corporation
Entergy Corporation	WEC Energy Group, Inc.
Eversource Energy	Xcel Energy Inc.

Source: FERC Form 60

This is the comparison group against which Corix/WSC 2019 A&G charges to CRU US utilities are benchmarked.

Regulated Utilities (total customer accounts services cost per customer)

Each major electric utility, as classified in the FERC’s Uniform System of Accounts prescribed for public utilities and licensees subject to the provisions of the Federal Power Act (18 C.F.R. Part 101), must submit FERC Form 1. The FERC Form 1 is designed to collect financial and operational information from electric utilities, licensees and others subject to the jurisdiction of the FERC.

The selection criteria for the total customer accounts expenses comparison group are: (1) to be part of a utility holding company with a service company affiliate and (2) that a complete set of 2018 data is included in the FERC Form 1 (2018 is the latest year for which data is available). The table below shows the resulting 39 regulated utilities that comprise the group against which CRU US utilities is benchmarked for total customer accounts expenses per customer.

Company	Utility Holding Company	Company	Utility Holding Company
<u>Regulated Retail Utilities</u>		<u>Regulated Retail Utilities (cont.)</u>	
Ameren Illinois Company	Ameren	New York State Electric & Gas Corporation	Avangrid
Appalachian Power Company	AEP	Niagara Mohawk Power Corporation	Nat Grid
Atlantic City Electric Company	Exelon	NSTAR Electric Company	Eversource
Baltimore Gas and Electric Company	Exelon	Ohio Edison Company	FirstEnergy
CenterPoint Energy Houston Electric, LLC	Centerpoint	Ohio Power Company	AEP
Central Maine Power Company	Avangrid	PECO Energy Company	Exelon
Cleveland Electric Illuminating Company	FirstEnergy	Pennsylvania Electric Company	FirstEnergy
Commonwealth Edison Company	Exelon	Pennsylvania Power Company	FirstEnergy
Connecticut Light and Power Company	Eversource	Potomac Edison Company	FirstEnergy
Dayton Power and Light Company	AES	Potomac Electric Power Company	Exelon
Delmarva Power & Light Company	Exelon	PPL Electric Utilities Corporation	PPL
Duke Energy Ohio, Inc.	Duke	Public Service Company of New Hampshire	Eversource
Fitchburg Gas and Electric Light Company	Unitil	Rochester Gas and Electric Corporation	Avangrid
Indiana Michigan Power Company	AEP	Toledo Edison Company	FirstEnergy
Jersey Central Power & Light Company	FirstEnergy	United Illuminating Company	Avangrid
Liberty Utilities (Granite State Electric) Corp.	Algonquin	Unitil Energy Systems, Inc.	Unitil
Massachusetts Electric Company	Nat Grid	Virginia Electric and Power Company	Dominion
Metropolitan Edison Company	FirstEnergy	West Penn Power Company	FirstEnergy
Monongahela Power Company	FirstEnergy	Western Massachusetts Electric Company	Eversource
Narragansett Electric Company	Nat Grid		

Source: FERC Form 1; Baryenbruch & Company, LLC, analysis

IV – Necessity of Corix and WSC Services

Question 1 – Prevalence of Services

CRU US utilities' need for Corix/WSC services was first evaluated by determining if those services are typically provided by other utility service companies. This determination was made with the use of information from the FERC Form 60. The analysis included the following 23 service companies associated with 20 utility holding companies.

Utility Holding Company	Service Company
AEP	American Electric Power Service Corporation
AES	AES US Services, LLC
Alliant	Alliant Energy Corporate Services, Inc.
Ameren	Ameren Services Company
Avangrid	Avangrid Service Company
Black Hills	Black Hills Service Company, LLC
Dominion	Dominion Resources Services, Inc.
Duke	Duke Energy Business Services, LLC
Entergy	Entergy Operations, Inc.
Entergy	Entergy Services, Inc.
Eversource	Eversource Energy Service Company
Exelon	Exelon Business Services Company
Exelon	PHI Service Company
FirstEnergy	FirstEnergy Service Company
NiSource	NiSource Corporate Services Company
PNM	PNMR Services Company
PPL	LG&E and KU Services Company
PPL	PPL Services Corporation
SCANA	SCANA Services, Inc.
Southern Co	Southern Company Services, Inc.
TECO	TECO Services, Inc.
WEC	WEC Business Services LLC
Xcel	Xcel Energy Services Inc.

Exhibit 5 (page 22) compares Corix/WSC's services to those of the comparison group companies. Corix/WSC provides a similar set of services to the service companies of the comparison group holding companies.

**Corix Regulates Utilities (US) Inc.
Administrative and General Services Provided by Other Utility Service Companies**

Administrative and General Service Categories	Other Utility Service Companies (B)																				
	Corix/WSC	AEP	AES	Alliant	Ameren	Avangrid	Black Hills	Dominion	Duke	Energy	Eversource	Exelon	FirstEnergy	NiSource	PNM	PPL	SCANA	Southern Co	TECO	WEC	Xcel
Executive/Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Corporate Strategy	X	X		X	X	X		X	X	X	X	X	X	X	X	X		X			X
Legal	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Corporate Communications	X	X	X		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X
Human Resources	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Customer Services	X	X	X	X		X	X		X	X	X	X	X	X	X	X	X	X			X
Financial Services																					
Finance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Accounting	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Taxes	X	X	X	X	X	X	X	X	X			X	X	X	X	X		X	X	X	X
Investor Relations	X	X							X	X	X		X	X		X					X
Risk Management	X	X				X	X	X	X			X	X	X			X		X		X
Audit Services	X	X							X	X	X	X		X	X	X		X	X		X
Regulatory Services	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Information Technology	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Environment and Safety	X	X			X	X		X	X	X	X			X	X			X	X	X	X
Supply Chain	X	X			X	X			X	X	X	X	X	X				X	X		X
Other (A)	X	X	X		X	X	X	X	X	X	X	X	X	X				X	X		X
Total Services	17	17	11	8	13	14	11	13	17	16	15	16	15	17	13	13	10	15	13	9	17

Note A: Includes services such as transportation/fleet, aviation, real estate, facilities, security and rights of way.

Note B: These are service companies whose FERC Form 60s included detailed information on services provided to affiliates.

Source: FERC Form 60 (2018); Corix/WSC information; Baryenbruch & Company, LLC, analysis.

IV – Necessity of Corix and WSC Services

Question 2 – Benefits from Services

Corix and WSC follow a centralized model for the delivery of Corporate and Shared Services to CRU US's regulated utilities. By consolidating executive, professional and operational support services into a centralized service organization utility, the following benefits are realized for CRU US utilities and their customers:

- Governance – Corix and WSC departments provide oversight and management control over functional or operating areas and processes. These governance activities include, among other things, planning and reporting of actual performance. The centralization of Corporate and Shared Services facilitates effective collaboration among Corix and WSC staff in support of CRU US utilities.
- Compliance – Corix and WSC departments help ensure compliance with regulatory, legal, financial and other obligations of individual operating companies and the combined company.
- Economies – Corix and WSC departments facilitate cost savings from purchasing and operating economies of scale. Corix and WSC are able to employ greater bargaining power to realize better prices for common goods and services and pass those savings on to CRU US utilities. It can also more efficiently utilize staff through workload balancing and specialization which allows operating companies to avoid the need to staff for less than a full-time workload.
- Continuity of Service – Corix and WSC departments help ensure on-going provision of service through the centralization of staff performing similar activities. Larger concentrations of these resources mean there is coverage of work during potential disruptions such as absences and departures.
- Standards – Corix and WSC departments play a role in ensuring that standard policies, procedures and practices are established and followed across the enterprise.
- Other – Corix and WSC departments facilitate service company management, operations, business and accounting processes.

Exhibit 6 (page 25) presents an analysis of 2019 charges to CRU US utilities by Corix and WSC department. The six right-hand columns of this exhibit designate which of the above benefits are provided to CRU US utilities by each Corix and WSC department:

Exhibit 7 (pages 26-27) provides examples of specific benefits to CRU US utilities that were identified during interviews with Corix and WSC management.

Question 3 – Redundancy of Services

The need for Corix and WSC's services was also evaluated by determining if they would be required if CRU US utilities were stand-alone utilities. This evaluation began by determining in detail what Corix and WSC does for CRU US utilities. Based on discussions with Corix and WSC personnel, the matrix in Exhibit 8 (pages 28-30) was created showing which entity—Corix, WSC or CRU US utilities—is responsible for each function that must be performed for CRU US utilities to ultimately provide service to their customers. This matrix was reviewed to determine: (1) if there was redundancy or overlap in the services being provided by Corix and WSC and (2) if Corix and WSC services are typical of those needed by a stand-alone electric utility.

IV – Necessity of Corix and WSC Services

Upon review of Exhibit 8, the following conclusions can be drawn:

- The services that Corix and WSC provide are necessary and would be required even if CRU US utilities were stand-alone water utilities.
- There is no redundancy or overlap in the services provided by Corix and WSC to CRU US utilities.
- For all of the services listed in Exhibit 7, there was only one entity that was primarily responsible for the services provided by Corix and WSC to CRU US utilities.

**Corix Regulates Utilities (US) Inc.
Necessity of Services Matrix**

Corix Corporate Services (A)	2019 Charges to CRU US Utilities	Services Pertinent to CRU US Utilities	Reasons Services Are Necessary to CRU US Utilities					
			Governance	Compliance	Economies	Continuity of Service	Enterprise Standards	Accounting Processes
Corporate Communications	\$ 147,039	Yes	X		X		X	
Continuous Improvement	\$ 722,017	Yes	X		X			
Executive Management	\$ 1,881,447	Yes	X	X	X	X	X	
Finance and Accounting	\$ 1,383,391	Yes	X	X	X		X	
Health, Safety & Environmental	\$ 157,084	Yes	X	X	X	X	X	
Human Resources	\$ 452,248	Yes	X	X	X		X	
Information Technology	\$ 628,835	Yes	X	X	X	X	X	
Legal	\$ 345,737	Yes	X	X	X	X	X	
Treasury	\$ 123,946	Yes	X	X	X		X	
Total Corix Corporate Services	\$ 5,841,745							

Note A: Excludes Business Development charges

WSC Shared Services

Accounting	\$ 2,157,804	Yes	X	X	X		X	
Administrative Services	\$ 2,015,229	Yes						X
Communications/Engineering	\$ 246,616	Yes	X		X		X	
Corporate Projects	\$ (93,833)	Yes						X
Customer Care & Billing	\$ 998,123	Yes			X	X	X	
Customer Service	\$ 1,872,167	Yes			X	X	X	
Executive Management	\$ 2,466,571	Yes	X	X	X	X	X	
Health, Safety & Environmental	\$ 256,704	Yes	X	X	X	X	X	
Human Resources	\$ 1,025,948	Yes	X	X	X		X	X
Information Technology	\$ 5,424,679	Yes	X	X	X	X	X	
Water Service Corporation	\$ 555,089	Yes						X
Total WSC Shared Services	\$ 16,925,098							

Source: Company information; Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc.
Examples of Benefits to CRU US Utilities and Their Customers
from WSC and Corix Services

Function/Service	Benefits to CRU (US) Utilities and Their Customers
Finance	<p>Financing - CRU US utilities benefit from Corix's stakeholder relations program, which maintains communications with Corix equity and debt investors. This eliminates the need for WSC to maintain its own investor relations program.</p> <p>Also, the Corix and WSC finance teams provide support and arrange for debt financing issued by CRU US to fund capital work of the Corix utilities. Corix assists by identifying lower-cost sources of financing based on its experience in the debt market. Compared to individual CRU US utilities obtaining their own financing, this arrangement provides economies of scale (e.g., less record keeping and compliance) and lower financing costs (larger issuances backed by diversified collateral is viewed favorably by the investment community).</p> <p>Audit Fees – Both Corix and CRU US are required to have an annual financial audit. This combined purchasing power results in lower audit fees compared to what CRU US utilities would pay for a standalone audit.</p> <p>Internal Audit – The Corix Internal Audit function regularly conducts audits of CRU US operations. Examples include the following:</p> <ul style="list-style-type: none"> • Design of the health, safety and environmental programs throughout Corix, including CRU US operations and evaluation of their adequacy from the standpoint of compliance with legal and regulatory requirements. (2019) • Corix's whistle-blower program (2019) • CRU US's Westgate, South Carolina, plant operations policies and procedures and monitoring processes (2019) • Internal controls review of Corix procurement practices (2019) • Asset management program design (2018) • Integration of Corix-wide IT systems (2018) • SCADA system controls review of policies and procedures and access controls (2018) • Management retention program (2018) • Enterprise risk management program (2018) <p>Tax Expertise - Tax expertise is available to CRU US utilities that CRU US utilities would otherwise have to obtain from outside service providers. Corix Corporate Services' tax unit monitors federal and state legislation that could impact CRU US utilities. In the past few years, Corix corporate has brought tax work back in house, thus allowing it to reduce tax-related fees to outside tax service providers.</p>
Information Technology	<p>IT Security – The Corix enterprise is moving to a single IT security platform, with security policies and procedures, testing, incident investigation and resolution process; cloud reduces the number of access points that need to be secured and monitored.</p> <p>Standard Applications – The Corix enterprise is implementing standard systems—financial, billing, customer service, human capital management and other back-end platforms—that will be used by all Corix businesses. Common systems will improve operational efficiency. This will result in lower operating and support costs and lower application maintenance fees for the same functionality.</p> <p>Standard Network and Computing Infrastructure – The Corix enterprise is migrating to a single cloud-based IT infrastructure. This will facilitate standardized access across all Corix companies, improved access to data (facilitates improved operating efficiencies and customer service) and fewer connections to secure. The transition to cloud computing will result in more predictable IT costs because there will no longer be a need to periodic upgrade the computing infrastructure.</p>

Corix Regulates Utilities (US) Inc.
Examples of Benefits to CRU US Utilities and Their Customers
from WSC and Corix Services

Function/Service	Benefits to CRU (US) Utilities and Their Customers
Insurance	<p>Corix undertook an insurance consolidation initiative in 2019, with Corporate Services arranging for insurance coverage for the Corix utilities for general liability, workers compensation, automobile and excess liability risks. The consolidation of coverage has generally improved coverage terms and resulted in lower overall costs based on scale.</p>
Human Resources	<p>Wage and Salary Design and Administration – Corix designed and administered the enterprise wage and salary programs and provides support to CRU US utilities in matters of compensation. Corix Human Resources also engaged outside providers to perform compensation surveys for all Corix positions, including those occupied by WSC and CRU US personnel.</p> <p>Benefit Plan Design and Administration – Benefit plans for all Corix companies were designed by Corix Human Resources with input from WSC Human Resources. WSC Human Resources was responsible for administering the programs that are offered to WSC and CRU US operations employees.</p> <p>Services for CRU US Utilities – WSC’s Human Resources department provided a complete set of services to management and staff of the CRU US utilities operations organization. These services include employee relations and communications, recruiting, training, on boarding, off boarding, payroll administration, benefits administration, employment information administration, workers compensation administration and succession planning.</p> <p>Medical Plan and 401k Administrative Fees – Administration of these plans has been consolidated for US employee medical and 401K plans under single outside administrators. This has resulted in fewer outside contractors to deal with and lower administrative costs due to the larger pool of employees now being served (from 500 to 700 employees).</p>
Customer Service	<p>Call Centers – CRU US customers can contact call centers with all requests for service. Calls are directed to a call queue which facilitates service quality and balanced workloads of call center representatives. WSC’s call centers achieve economies of scale and efficiency across the business and time zones to optimize for peak call volume and eliminate the need for local staffing to handle customer requests.</p> <p>Customer Billing – Bills for all CRU US customers are prepared by WSC’s Billing and Collection department. Billing is performed in cycles so workloads are leveled and staffing levels are optimized. Billing is accomplished without the need for local utility staff involvement.</p> <p>Customer System – WSC operates and maintains a single customer system for all CRU US utilities. The system is supported by WSC’s Information Technology department.</p>
Asset Management Framework	<p>Asset Management – At the request of CRU US utilities staff, WSC established a standard asset management framework that is now followed by all CRU US utilities. Among other things, it covers asset registries, maintenance and replacement practices for CRU US utilities’ fixed assets in order to maintain high service levels with an efficient use of resources.</p>
Fleet Management	<p>Fleet Services – Many aspects of vehicle management are administered by WSC for CRU US utilities, using the latest technology and outsourced solutions that help automate the following aspects of fleet management:</p> <ul style="list-style-type: none"> • Vehicle acquisition • Fuel and maintenance procurement and tracking • Vehicle tracking • Vehicle divestiture

Corix Regulates Utilities (US) Inc.
Responsibility Matrix

Primarily Responsible P			
Provides Support S			
Water and Waste Water Function	CRU US utilities	Water Service Corporation	Corporate
Engineering and Construction Management			
Long Term System Planning	P	S	
Project Design			
Major Projects (e.g., new treatment plant)	P	S	
Minor Projects (e.g., pipelines)	P	S	
Construction Project Management			
Major Projects	P	S	
Minor Projects	P	S	
Hydraulics Review	P		
Developers Extensions	P	S	
Tank Painting	P	S	
Water Quality and Purification			
Water Quality Standards Development	S	P	S
Research Studies	S	P	S
Water Quality Program Implementation	P	S	
Water Treatment Operations & Maintenance	P		
Compliance Sampling	P		
Testing/Other Sampling	P		
Transmission and Distribution			
Preventive Maintenance Program Development	S	P	S
System Maintenance	P		
Leak Detection	P		
Customer Service			
Community Relations	P	S	
Customer Contact	S	P	
Call Processing	S	P	
Service Order Creation	P	P	
Service Order Processing	P	S	
Customer Credit	S	P	
Meter Reading	P		
Customer Bill Preparation	S	P	
Bill Collection	S	P	
Customer Payment Processing		P	
Meter Standards Development	P	S	
Meter Testing, Maintenance & Replacement	P	S	
Purchasing and Materials Management			
Specification Development	P		
Bid Solicitation	P		
Contract Administration	P	S	
Ordering	P		
Inventory Management	P		

Source: Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc.
Responsibility Matrix

Primarily Responsible P			
Provides Support S			
Water and Waste Water Function	CRU US utilities	Water Service Corporation	Corporate
Financial Management			
Financial Planning - Enterprise-Wide	S	S	P
Financial Planning - UI-Wide	S	P	
Financial Planning - UI Utility Specific	P	S	
Financings—Equity		S	P
Financings--Long Term Debt		S	P
Short Term Lines of Credit Arrangements		S	P
Insurance Program Administration	S	P	S
Cash Management/Disbursements		P	S
Budgeting and Variance Reporting			
Overall Guidance	S	S	P
Operating Budget Preparation			
Revenue	P	S	S
O&M	P	S	S
Service Company Charges	S	P	P
Depreciation and Interest Expense	P	S	S
Capital Budget Preparation			
Project Work	P	S	
Non-Project Work	P	S	
Financial Planning and Analysis - Enterprise		S	P
Financial Planning and Analysis - UI	P	S	S
Year-End Projections	P	S	S
Accounting			
Accounts Payable Accounting		P	
Payroll Accounting	S	P	
Work Order Accounting	P		
Fixed Asset Accounting	S	P	
General Accounting - Corix Corporate		S	P
General Accounting - Business Unit	P	S	
State Commission Reporting	P		
Audit Services - Corp		S	P
Audit Services - UI	S	P	S
Taxes			
Tax Strategy and Planning	S	S	P
State and Federal Taxes		S	P
Property Taxes	S	S	P
Gross Receipts Taxes	S	S	p
Rates			
Rate Studies & Tariff Change Administration	P	S	
Rate Case Planning and Preparation	P	S	
Rate Case Administration	P	S	
Commission Inquiry Response	P	S	S

Source: Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc. Responsibility Matrix

Primarily Responsible P			
Provides Support S			
Water and Waste Water Function	CRU US utilities	Water Service Corporation	Corporate
Legal			
Legal - Enterprise		S	P
Legal - Regulatory		P	S
Information Technology Services			
IT Governance			P
IT Security			P
IT Operations - Enterprise Infrastructure			P
IT Operations - UI Infrastructure		P	
Application Services - Enterprise Applications			P
Application Services - UI Applications		P	
Local IT Support		P	
Human Resources Management			
Employee Communications Corix-Wide			P
Employee Communications UI Employees		P	
Recruiting, On Boarding, Off Boarding, Leave, Unemployment Admin UI Employees	S	P	
Benefit Plan Design		S	P
Benefit Plan Administration UI Employees		P	
Management Compensation Admin		S	P
Wage & Salary Plan Design		S	P
Wage & Salary Plan Admin UI Employees	S	P	
Training - Corix-Wide		S	P
Training - UI-Wide	S	P	
Compliance with HR-Related Laws & Regs		P	S
Affirmative Action Program Admin		S	P
Employee Information Admin - UI Employees		P	
Employee Relations UI Employees	P	S	
Workers Compensation Admin UI Employees		P	
Succession Planning UI Employees	P	S	
Health, Safety and Environmental			
Governance (Policies, Standards, Tools)		S	P
Compliance with Corporate Requirements	S	P	
Compliance with Local Requirements	P	S	
Communications		S	P
Traning Development		S	P
Training Delivery	S	P	
Program Implementation & Support	P	S	
Communications			
Corix/Enterprise-Wide Communications			P
UI-Wide Communications		P	
UI Utility-Specific Communications	P	S	
Fleet Management	S	P	

Source: Baryenbruch & Company, LLC, analysis

IV – Necessity of Corix and WSC Services

Question 4 – Governance Structures and Processes

A number of management oversight practices and controls exist to ensure that Corix and WSC charges to CRU US operating subsidiaries are necessary and reasonable. The most important of these review, approval and monitoring mechanisms are described below.

Management Oversight

The following are the principal enterprise-level governance bodies whose scope includes Corix corporate-wide planning, budgeting and cost management:

- Corix Board of Directors – Corix is governed by Board of Directors, currently with eight members. Four members of the Board are outside directors, three are employees of the British Columbia Investment Management Corporation and one is the President & CEO of Corix. Certain of the Board’s overall responsibilities cover Corix Corporate Services and WSC Shared Services, including the following:
 - Review and approve corporate strategy, including how Corporate and Shared Services are structured.
 - Oversee risk management, including security-related risks associated with the information technology systems used by Corix Corporate Services and WSC Shared Services.
 - Review and approve Corix Corporate Services and WSC Shared Services O&M and capital spending plans and monitor budget versus actual spending against those plans.
 - Review and approve major individual O&M and capital projects proposed by Corix Corporate Services and WSC Shared Services as part of the authorization process.
 - Monitor actual versus planned performance for Key Performance Indicators, some of which pertain to Corix Corporate Services and WSC Shared Services.
 - Monitor compliance with laws and regulations, including those of the states in which CRU US utilities do business.
- Corix Executive Team (Corix EMT) – For most of 2019, the Corix EMT was composed of Corix Chief Executive Officer, Chief Financial Officer, Vice President and General Counsel, Chief Operating Officer Regulated Utilities, Chief Operating Officer Contract Utilities, Chief Shared Services Officer, Chief Human Resources Officer and Chief Information Officer. Corix EMT oversees the quality and cost of Corix Corporate Services provided to affiliates, including CRU US utilities. Among other things, the Corix EMT reviews and approves the Corporate Services annual 3-year budget and monitors actual spending against that budget.
- CRU US EMT – For most of 2019, the CRU US EMT included CRU US’ President and CEO, seven region Presidents and CRU US Chief Shared Services Officer. Concerning WSC Shared Services, the CRU US EMT oversees the quality and cost of Shared Services delivered to CRU US utilities. Among other things, the CRU US EMT reviews and approves the Shared Services 3-year budget and monitors actual spending against that budget.

Audit Review

The Corix Audit Committee is responsible for overseeing financial reporting, the system of internal controls, the enterprise risk management framework, ethics and compliance with laws and regulations. It oversees the work of the internal and independent auditors. Ernst & Young LLP performs annual audits of both Corix and CRU US.

IV – Necessity of Corix and WSC Services

Corix's Internal Audit function works with Corix management to identify, assess and monitor risk to the organization. Internal Audit develops an audit to examine higher-risk areas and reports results to the Corix Audit Committee.

Budgeting

O&M Budgeting – It is Corix's corporate practice to prepare an annual 3-year budget. The O&M portion for Corix Corporate Services and WSC Shared Services are prepared, reviewed and approved in the following steps:

- Guidance instructions are provided by Corix Corporate Services to all business groups and by WSC to the CRU US utility regions.
- Initial budgets for Corix Corporate Services and WSC Shared Services are compiled by the respective finance groups of both organizations after discussions and input from the management teams of CRU US and other Corix business groups. Budgets identify the amounts that will be assigned to each Corix business group, including CRU US.
- The Corix Corporate Services budget is presented to the Corix EMT and, in turn, to the management teams of the all Corix business units including the CRU US utilities. The WSC Shared Services budget is formally presented by WSC department heads to the CRU US EMT and the business unit management.
- After receiving feedback and making adjustments, the Corix Corporate Services and WSC Shared Services budgets are combined with those of the other Corix business groups and presented in sequence to:
 - Corix's CEO and EMT
 - Corix Audit Committee
 - Corix Board of Directors

Capital Budgeting – Budgets are prepared for the following two categories of capital spending:

- Non-Project Capital Spending (e.g., vehicle purchases, on-going replacement of IT hardware and software) – An annual budget is prepared for these capital expenditures and approved by the Corix EMT and the Corix Board of Directors. This capital spending is included in the annual budget package described above under O&M budgeting.
- Project Capital Spending (e.g., Shared Services Transition Initiative) – Estimates are initially developed for each project included in the annual budget. Estimates are later updated and included in the business case that is required as part of the authorization process that occurs before any expenditures can be made. Project budgets must be approved by its executive sponsors, the Corix EMT, and the Corix Board of Directors (for larger projects).

Variance Analysis

Actual O&M and capital spending for Corix Corporate Services and WSC Shared Services are monitored in the following manner:

- Finance personnel in Corix Corporate Services and WSC Shared Services research material budget versus actual spending variances by department and account. Finance personnel also develop a year-end forecast.
- A standard monthly variance report package is prepared for the Corix EMT and business unit management that explains budget versus actual variances for the month, year to date and year-end forecast.

IV – Necessity of Corix and WSC Services

- Every quarter, the Corix EMT business unit management each meet to review actual performance against Key Performance Indicators (KPI), one of which relates to budget versus actual spending.

Corix Corporate Services charges are invoiced to WSC. The invoice is reviewed by WSC's Director of Services and explanations for variances from budget are obtained from the Corix Finance organization. When necessary, the Corix Controller participates in the WSC quarterly performance reviews to answer questions from the presidents of CRU US divisions.

Actual versus budget variances for WSC Shared Services charges to CRU US utilities are analyzed and explained in the standard monthly variance report package. During the quarterly performance reviews, WSC department heads present the status of their organizations to CRU US division presidents. Among the topics each department head must cover are any differences between actual and budgeted WSC Shared Services charges.

Accounting Controls/Transaction Validation

Internal controls incorporated into accounting processes ensure that transactions are validated at the point of origination and that they receive proper levels of review and approval. Corix and WSC financial systems automate these controls and facilitate their consistent application and effectiveness. Controls are scrutinized and tested in connection with the annual financial audits performed by EY.

Cost Allocation Manual

A Cost Allocation Manual (CAM) that documents the process by which Corix Corporate Services expenses and WSC Shared Services expenses are allocated to affiliates. Baryenbruch & Company, LLC's, review of the CAM found it to be a complete reference document that provides thorough directions to Corix and WSC personnel responsible for assigning expenses to CRU US utilities.

The practices described above support the conclusion that the governance structure and practices applied to Corix and WSC charges directly contribute to ensuring that Corix and WSC services are necessary to CRU US utilities. Furthermore, these governance arrangements ensure Corix and WSC charges to CRU US utilities are accurate and reasonable.

V – Reasonableness Charges for Corix and WSC Services

Comparison Group Administrative and General Charges per Customer

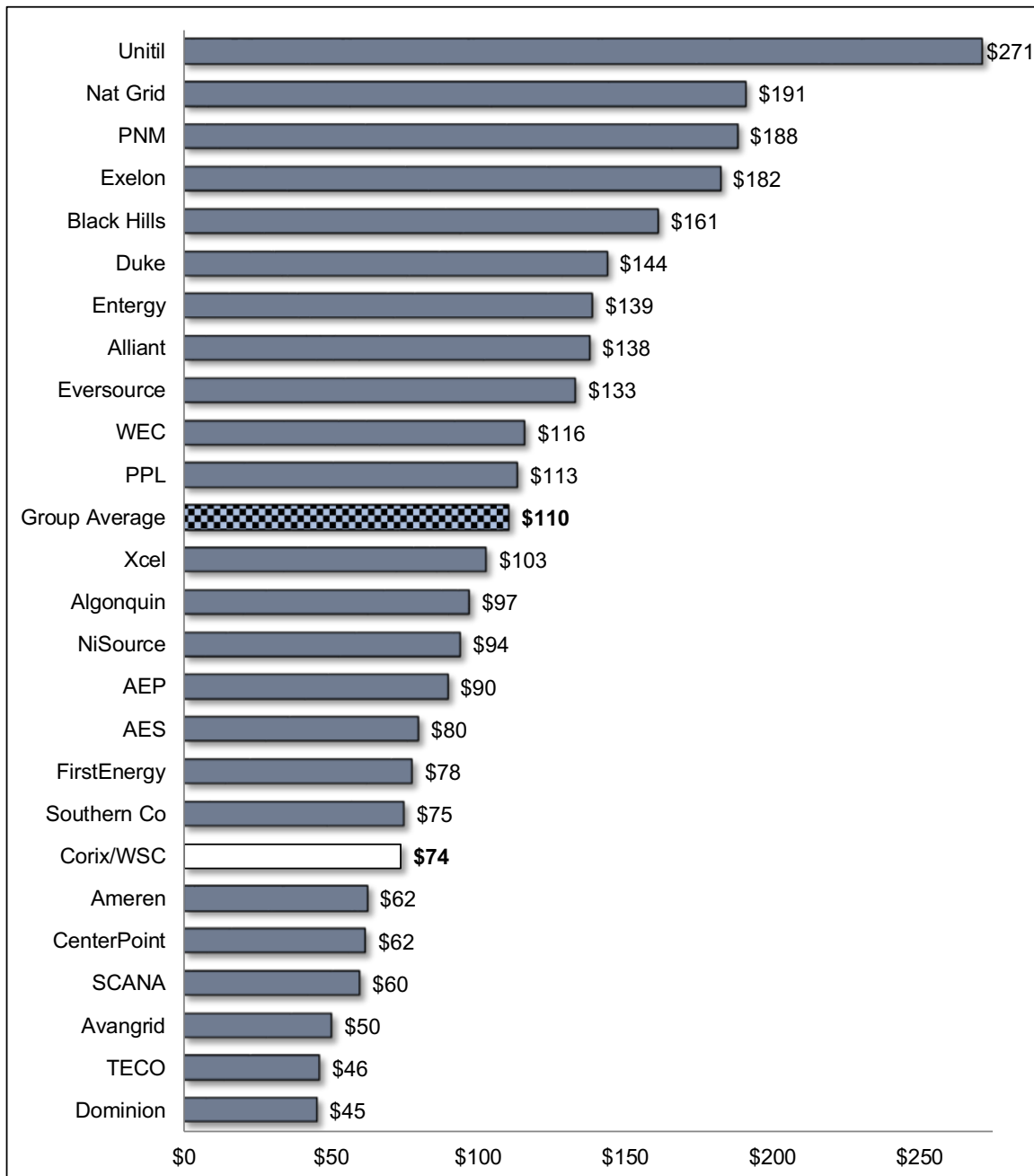
The table below shows the calculation for 2018 A&G expenses per customer charged by service companies owned by the 24 utility holding companies in the comparison group. The charges are to the same FERC accounts used to calculate Corix/WSC's A&G charges to CRU US utilities during 2019. Charges to comparison group service companies were obtained from Schedule XVI – Analysis of Charges for Service Associate and Non-Associate Companies (pages 303 to 306) of each entity's FERC Form 60. This schedule shows charges by FERC Account. Number of customers were obtained from company information (e.g., annual report, 10K).

Utility Company	2018 Regulated Retail Service Company A&G Expenses	Regulated Retail Customers	Cost per Customer
AEP	\$484,049,781	5,400,000	\$ 90
AES	\$60,595,090	760,363	\$ 80
Algonquin	\$58,060,459	599,000	\$ 97
Alliant	\$190,233,088	1,380,688	\$ 138
Ameren	\$205,559,876	3,300,000	\$ 62
Avangrid	\$160,829,920	3,200,000	\$ 50
Black Hills	\$193,265,896	1,200,000	\$ 161
CenterPoint	\$365,837,151	5,923,429	\$ 62
Dominion	\$225,914,181	5,000,000	\$ 45
Duke	\$1,336,101,135	9,300,000	\$ 144
Entergy	\$430,086,378	3,100,000	\$ 139
Eversource	\$484,549,188	3,643,000	\$ 133
Exelon	\$1,821,608,837	10,000,000	\$ 182
FirstEnergy	\$465,651,717	6,000,000	\$ 78
Nat Grid	\$1,316,939,956	6,900,000	\$ 191
NiSource	\$365,027,769	3,886,000	\$ 94
PNM	\$99,240,311	528,000	\$ 188
PPL	\$305,600,670	2,700,000	\$ 113
SCANA	\$134,903,853	2,258,300	\$ 60
Southern Co	\$672,479,493	9,000,000	\$ 75
TECO	\$76,917,009	1,670,000	\$ 46
Unitil	\$51,070,829	188,300	\$ 271
WEC	\$356,626,220	3,081,300	\$ 116
Xcel	\$575,049,933	5,600,000	\$ 103
Total/Average	\$10,436,198,740	94,618,380	\$ 110

Source: FERC Form 60; Baryenbruch & Company, LLC, analysis

Exhibit 9 (page 36) shows Corix/WSC's 2019 A&G charges per CRU US utilities customer of \$74 are lower than the comparison group's average of \$110 per customer. CRU US utilities' cost is lower than 18 comparison group companies and higher than 6. Based on this comparison, it is possible to say the cost of Corix/WSC A&G-related services are reasonable.

Corix Regulates Utilities (US) Inc.
2019 Service Company A&G Charges Per Customer



V – Reasonableness Charges for Corix and WSC Services

Question 6 – Lower of Cost or Market Pricing

During 2019, Corix and WSC billed CRU US regulated utilities approximately \$22.8 million for Corporate and Shared Services. These billings are market-tested by comparing Corix/WSC's cost per hour for their services to those of outside service providers to whom the services could be outsourced. The following outside providers were selected for comparison:

- Management Consultants – executive management, external affairs, human resources, communications, health, safety and environmental
- Certified Public Accountants – accounting, tax, finance, treasury, audit and regulatory
- Information Technology Consultants – information technology

Corix/WSC Hourly Rates

This study assigns Corix's charges to one of the three outside provider categories (described above) based on the specific nature of the service provided to CRU US utilities. The following adjustments were made to ensure that Corix/WSC-related cost pools reflect the costs recovered by outside providers in their hourly billing rates:

- Corix charges excluded from cost pools include the following items:
 - Travel Expenses – Client-related travel expenses are typically not recovered by outside service providers through their hourly billing rates. Rather, actual out-of-pocket travel expenses are billed to clients in addition to fees for professional services. Thus, these charges were removed from the hourly rate calculation.
 - Outside Services – These expenses are not associated with the cost of Corix personnel performing services for CRU US utilities (outside firms perform the work under the direction of Corix). Charges from outside professional firms to perform certain corporate-wide services (e.g., audit, consulting) represent services that have, in effect, already been outsourced by Corix. Thus, these charges are also removed from the hourly rate calculation.
 - Non-Service Expenses – Some Corix charges are not directly associated with Corix personnel providing professional services to CRU US utilities and other affiliates. Examples of these items include directors' fees and promotions expenses. An outside provider would not be expected to recover these Corix costs in their hourly billing rates. Here too, these charges are excluded from the hourly rate calculation.
 - Corix Enterprise It Expenses – Corix pays for the licenses for several applications used by the entire enterprise. The portion of these expenses that pertain to Corix employees providing Corporate Services are included in the cost pool. The remainder represents costs of other Corix enterprise employees and is excluded from the hourly rate calculation since outside providers of professional services would not be expected to recover these in their hourly billing rates.
 - Other Costs Excluded from Scope – Corix Business Development-related charges are eliminated because CRU US utilities do not attempt to recover them from their customers.
- WSC charges excluded from cost pools include the following items:
 - Corix Corporate Services Allocation – 2019 Corporate Services charges are recorded on the books of WSC and then allocated to CRU US utilities. These expenses are

V – Reasonableness Charges for Corix and WSC Services

eliminated for purposes of the hourly rate calculation so as not to double count the cost of Corix's Corporate Services.

- Travel Expenses – Client-related travel expenses are typically not recovered by outside service providers through their hourly billing rates. Rather, actual out-of-pocket travel expenses are billed to clients in addition to fees for professional services. Thus, these charges were removed from the hourly rate calculation.
- Outside Services – These expenses are not associated with the cost of WSC personnel performing services for CRU US utilities (outside firms perform the work under the direction of WSC). Charges from outside professional firms to perform certain corporate-wide services (e.g., audit, legal) represent services that have, in effect, already been outsourced by Corix/WSC. Thus, these charges are also removed from the hourly rate calculation.
- Non-Service Expenses – Some WSC charges are not directly associated with the personnel providing professional services to CRU US utilities and other affiliates. Examples of these items include card stock, envelopes and postage for customer bills, gains(losses) on the sale of assets and interest during construction. An outside provider would not be expected to recover these WSC costs in their hourly billing rates. Here too, these charges are excluded from the hourly rate calculation.
- Enterprise IT Expenses – WSC pays for the maintenance fees for IT hardware and software used throughout CRU US. The portion of these expenses that pertain to WSC employees providing Shared Services are included in the cost pool. The remainder represents costs of other CRU US employees and is excluded from the hourly rate calculation since outside providers of professional services would not be expected to recover these in their hourly billing rates.
- Other Costs Excluded from Scope – WSC's Shared Services organization includes 6 accounts payable clerks. The work of these positions would typically not be outsourced to any of the three professional services providers. For this reason, the salaries and benefits of these positions were excluded from the hourly rate calculation.

Also excluded from the hourly rate calculation are expenses of WSC's Customer Services and Customer Care and Billing units. Here too, these services typically are not outsourced to the professional service providers.

Exhibit 10 (page 39) presents the reconciliation of the total 2019 total charges from Corix and WSC to testable charges for purposes of developing hourly rates that can be compared to those of outside service providers.

Based on the nature of the services provided by each Corix and WSC department, their testable charges are assigned to the three outside provider categories, as shown in Exhibit 11 (page 40). The hours associated with Corix and WSC testable charges are assigned to the three outside provider categories in Exhibit 12 (page 41).

Based on the cost and hour pools, the average 2019 hourly rate for Corix and WSC services are calculated in the table below.

	2019 Combined Hourly Rates			Total
	Mgmt Consultant	Certified Public Acctt	IT Professional	
Service-Related Charges	\$ 6,485,917	\$ 3,557,523	\$ 1,482,642	\$ 11,526,082
Hours	47,215	37,491	20,328	105,033
Consolidated Hourly Rates	\$ 137	\$ 95	\$ 73	

Source: Company information; Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc.
Calculation of 2019 Net Testable Corix Charges

Corix Corporate Services			WSC Shared Services		
2019 Corp Services Charges From Corix	\$	6,630,587	2019 Shared Services Charges From WSC	\$	16,925,098
Less: Cost Items Eliminated from Market Test			Less: Cost Items Eliminated from Market Test		
<u>Travel Expenses</u>			<u>Travel Expenses</u>		
Employee Mileage Claim	\$	1,260	6185 Travel Lodging	\$	106,294
Fuel	\$	299	6190 Travel Airfare	\$	114,127
Meals & Entertainment	\$	57,504	6195 Travel Transportation	\$	24,536
Travel	\$	165,255	6200 Travel Meals	\$	57,468
Vehicle Insurance	\$	650	6207 Travel Other	\$	67,894
			6215 Fuel	\$	777
			6220 Auto Repair/Tires	\$	2,484
			6230 Other Trans Expenses	\$	2,798
Total Travel Expenses	\$	224,968	Total Travel Expenses	\$	376,377
	\$	(224,968)		\$	(376,377)
<u>Outside Services</u>			<u>Outside Services</u>		
Accounting	\$	197,044	6010 Audit Fees	\$	432,000
Computer Consultant Services	\$	2,909	6015 Employ Finder Fees	\$	1,939
Consulting	\$	469,204	6025 Legal Fees	\$	24,376
Other Outside Services	\$	90,585	6035 Payroll Services	\$	165,159
			6040 Tax Return Review	\$	225,926
			6050 Other Outside Services	\$	373,533
			6045 Temp Employ - Clerical	\$	31,732
Total Outside Services	\$	759,742	Total Outside Services	\$	1,254,665
	\$	(759,742)		\$	(1,254,665)
<u>Other Non-Service Expenses</u>			<u>Other Non-Service Expenses</u>		
Director's Fees	\$	25,909	5505 Agency Expense	\$	13,609
Gain/Loss-Sale of Fixed Assets	\$	165	5530 Billing Computer Supplies	\$	300
Interest Income - General	\$	(500)	5540 Billing Postage	\$	(12,815)
Miscellaneous Revenue	\$	(12,207)	5545 Customer Service Printing	\$	9,945
Promotion	\$	12,410	5790 Bank Service Charge	\$	122,717
Other	\$	2	7665 Extraordinary Gain/Loss	\$	708,000
Trade Shows	\$	708	7735 S/T Int Exp Bank One	\$	(12,044)
			7750 Interest During Construction	\$	(122,861)
			6445 Deprec-Organization	\$	1,653
Total Non-Services Expenses	\$	26,486	Total Non-Services Expenses	\$	708,503
	\$	(26,486)		\$	(708,503)
<u>Corix Enterprise IT Expenses</u>	\$	463,391	<u>Enterprise IT Expenses</u>	\$	3,622,766
<u>Normalize Non-Recurring Expenses</u>	\$	247,916	<u>Functions Excluded from Scope</u>		
<u>Functions Excluded from Scope</u>			Business Development	\$	788,842
Business Development	\$	788,842			
			980433.1553	\$	980,433
			2283166.487	\$	2,283,166
			294000	\$	294,000
			Total Excluded From Scope	\$	3,557,600
				\$	(3,557,600)
Net Testable 2019 Corix Corporate Services Charges	\$	4,119,242	Net Testable 2019 WSC Shared Services Charges	\$	7,405,187
Total Net Testable 2019 Testable Charges			Total Net Testable 2019 Testable Charges		
		\$ 11,524,429			\$ 11,524,429

Source: Company information; Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc.
2019 Market Testable Charges by Outside Service Provider Category

Department		Outside Provider Category			Total
		Consultant	CPA	IT Professional	
Corix	Corporate Administration	\$ 134,116			\$ 134,116
	Corporate Communications	\$ 1,017,179			\$ 1,017,179
	Finance		\$ 1,100,934		\$ 1,100,934
	Health, Safety & Environmental	\$ 134,082			\$ 134,082
	Human Resources	\$ 443,200			\$ 443,200
	Information Technology			\$ 338,674	\$ 338,674
	Legal	\$ 260,656			\$ 260,656
	Transformation	\$ 205,173			\$ 205,173
	Transition	\$ 289,114			\$ 289,114
	Treasury		\$ 196,112		\$ 196,112
	Total Corix	\$ 2,483,521	\$ 1,297,047	\$ 338,674	\$ 4,119,242

Department		Outside Provider Category			Total
		Consultant	CPA	Professional	
WSC	Administrative Services		\$ 819,481		\$ 819,481
	Communications/Engineering	\$ 299,104			\$ 299,104
	Executive	\$ 2,896,036			\$ 2,896,036
	Finance		\$ 1,440,996		\$ 1,440,996
	Health, Safety & Environment	\$ 316,555			\$ 316,555
	Human Resources	\$ 490,701			\$ 490,701
	Information Technology			\$ 1,143,967	\$ 1,143,967
	Total WSC	\$ 4,002,396	\$ 2,260,476	\$ 1,143,967	\$ 7,406,840

Total 2019 Testable Charges	\$ 6,485,917	\$ 3,557,523	\$ 1,482,642	\$ 11,526,082
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Source: Company Information; Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc.
2019 Market Testable Hours by Outside Service Provider Category

Department		Outside Provider Category			Total
		Consultant	CPA	IT Professional	
Corix	Corporate Administration	960			960
	Corporate Communications	2,154			2,154
	Finance		11,324		11,324
	Health, Safety & Environmental	2,936			2,936
	Human Resources	3,721			3,721
	Information Technology			2,938	2,938
	Legal	2,742			2,742
	Transformation	2,742			2,742
	Treasury		1,727		1,727
	Total Corix	15,255	13,051	2,938	31,243

Department		Outside Provider Category			Total
		Consultant	CPA	IT Professional	
WSC	Administrative Services		18,800		18,800
	Communications/Engineering		5,640		5,640
	Executive	5,640			5,640
	Finance	11,593			11,593
	Health, Safety & Environment	2,977			2,977
	Human Resources	11,750			11,750
	Information Technology			17,390	17,390
	Total WSC	31,960	24,440	17,390	73,790

Total 2019 Hours	47,215	37,491	20,328	105,033
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Source: Company Information; Baryenbruch & Company, LLC, analysis

V – Reasonableness Charges for Corix and WSC Services

Outside Service Provider Hourly Rates

The next step in the cost comparison is to calculate the average billing rates for each type of outside service provider. The source of this information and the determination of the average rates are described below.

It should be noted that professionals working for three of the five outside provider categories may be licensed to practice by state regulatory bodies. However, not every professional working for these firms is licensed. For instance, among US certified public accounting firms, only more experienced staff are predominantly CPAs, as shown in the table below. Some Corix and WSC employees also have professional licenses. Thus, it is valid to compare the Corix and WSC hourly rates to those of the outside professional service providers included in this study.

Position	% Who Are CPAs
Partners/Owners	98%
Directors (over 10 years experience)	87%
Managers (6-10 years experience)	79%
Sr Associates (4-5 years experience)	50%
Associates (1-3 years experience)	22%
New Professionals	10%

Source: AICPA's National PCPS/TSCPA Management of an Accounting Practice Survey (2010)

Management Consultants

The cost per hour for management consultants was developed from 2018 survey information from ALM Intelligence, a research firm that follows the consulting industry. The survey includes rates that were in effect during 2018 for firms throughout the United States. Consultants typically do not limit their practice to any one region and must travel to a client's location. Thus, in this case the U.S. national average is appropriate for comparison.

The first step in the hourly rate calculation, presented in Exhibit 13 (page 44), is to determine an average rate by consultant position level. From these rates, a single weighted average hourly rate was calculated based upon the percent of time that is typically applied to a consulting assignment by each consultant position level. Since the survey includes hourly rates that were in effect during 2018, the calculated average rate was escalated to June 30, 2019—the midpoint of 2019.

Certified Public Accountants

The average hourly rate for Illinois CPAs was developed from a 2018 survey performed by the American Institute of Certified Public Accountants (AICPA). The Virginia version of this survey was used to develop hourly rates for member firms in Illinois.

As shown in Exhibit 14 (page 45), a weighted average hourly rate was developed based on a set of accountant positions and a percent of time that is typically applied to an accounting assignment, based on Baryenbruch & Company, LLC's, experience. Since the survey includes hourly rates that were in effect at December 31, 2017, the calculated average rate was escalated to June 30, 2019—the midpoint of 2019.

V – Reasonableness Charges for Corix and WSC Services

Information Technology Consultants

The average hourly rate for information technology consultants and contractors was developed from survey information from ALM Intelligence and Baryenbruch & Company, LLC. As shown in Exhibit 15 (page 46), that data was compiled and a weighted average was calculated based on the composition of IT departments of Corix and WSC.

**Corix Regulates Utilities (US) Inc.
2019 Billing Rates for Management Consultants**

Survey billing rates in effect in 2018 (Note A)

A. Calculation of Average Hourly Billing Rate by Consultant Position

Average Hourly Rates (Note A)					
Analyst Consultant	Associate	Sr. Assoc/ Manager	Principal	Partner	
Average	\$ 217	\$ 244	\$ 303	\$ 461	\$ 540

B. Calculation of Overall Average Hourly Billing Rate Based on a Typical Distribution of Time on an Engagement

	Entry-Level Consultant	Associate Consultant	Senior Consultant	Junior Partner	Senior Partner	
Average Hourly Billing Rate (from above)	\$ 217	\$ 244	\$ 303	\$ 461	\$ 540	
Percent of Consulting Assignment	30%	30%	25%	10%	5%	Weighted Average
	\$ 65	\$ 73	\$ 76	\$ 46	\$ 27	\$ 287

Escalation to 2019 Midpoint (June 30, 2019)

CPI at December 31, 2018	251.2
CPI at June 30, 2019	256.1
Inflation/Escalation (Note B)	2.0%
Average Hourly Billing Rate for Management Consultants at June 30, 2019	\$ 293

Note A: Source is ALM Intelligence

Note B: Source is U.S. Bureau of Labor Statistics (<http://data.bls.gov/cgi-bin/surveymost>)

Corix Regulates Utilities (US) Inc.
2019 Billing Rates for Certified Public Accountants

A. Calculation of Average Hourly Billing Rate by Public Accounting Position
Survey billing rates were those in effect in 2017 (Note A)

Average Hourly Billing Rate (Note A)					
	Staff Accountant	Senior Accountant	Director/ Manager	Partner	
Average Hourly Billing Rate by CPA Firm Position	\$ 112	\$ 132	\$ 185	\$ 235	
Percent of Accounting Assignment	30%	30%	20%	20%	Weighted Average
	\$ 34	\$ 40	\$ 37	\$ 47	\$ 157
<u>Escalation to 2019 Midpoint (June 30, 2019)</u>					
					CPI at December 31, 2017 246.5
					CPI at June 30, 2019 256.1
					Inflation/Escalation (Note B) 3.9%
Average Hourly Billing Rate for Certified Public Accountants at June 30, 2019					\$ 164

Note A: Source is AICPA's 2018 National PCPS/TSCPA Management of an Accounting Practice Survey (Illinois edition)

Note B: Source is U.S. Bureau of Labor Statistics (<http://data.bls.gov/cgi-bin/surveymost>)

Corix Regulates Utilities (US) Inc.
2019 Billing Rates for IT Consultants

A. Calculation of Average Hourly Billing Rate by Information Technology Position
Survey billing rates were those in effect in 2019 (Note A)

		Average Hourly Billing Rate (Note A)				
		Contractor Positions		Consultant Positions		
		Senior Contractor	Associate	Manager	Partner	
Average Hourly Billing Rate by IT Position Category		\$ 85	\$ 173	\$ 231	\$ 341	\$ 423
Percent of IT Assignment		13%	58%	17%	8%	4%
		\$ 11	\$ 101	\$ 38	\$ 28	\$ 18
						\$ 196

Note A: Source is Company information; ALM Intelligence and Baryenbruch & Company, LLC

V – Reasonableness of Corix and WSC Services

Comparison of Hourly Rates

As shown in the table below, Corix's and WSC's costs per hour in 2019 are significantly lower than those of outside providers.

Service Provider	Cost Per Hour Difference		
	Corix/WSC	Outside Providers	Difference - Corix/WSC Greater(Less) Than Outside
Management Consultant	\$ 137	\$ 293	\$ (156)
Certified Public Accountant	\$ 95	\$ 164	\$ (69)
IT Consultant	\$ 73	\$ 196	\$ (123)

Source: Company information; Baryenbruch & Company, LLC, analysis

Based on the cost per hour differentials and the number of hours Corix and WSC billed CRU US utilities during 2019, Corix's and WSC's services would have cost approximately \$12.1 million more from outside providers, as calculated below. This is nearly 108% more than Corix's and WSC's testable charges to CRU US utilities during 2019 ($\$12,452,673 / \$11,526,082 = 108\%$).

Service Provider	Total Cost Difference		
	Hourly Rate Difference - Corix/WSC Greater(Less) Than Outside	Corix/WSC Hours Charged	Dollar Difference
Management Consultant	\$ (156)	47,215	\$ (7,365,486)
Certified Public Accountant	\$ (69)	37,491	\$ (2,586,884)
IT Consultant	\$ (123)	20,328	\$ (2,500,303)
Net Corix/WSC Less Than Outside Providers			\$ (12,452,673)

Source: Company information; Baryenbruch & Company, LLC, analysis

As a final step in this lower of cost or market pricing analysis, the 2019 income statements of Corix and WSC were reviewed. That of WSC was found to have no net income and Corix's had a net loss. This provides further evidence that CRU US utilities received services from Corix and WSC at cost, which is below market, and that these charges are reasonable.

V – Reasonableness of Charges for Corix and WSC Services

Question 7 – Customer Accounts Services Cost Comparison

Customer Accounts Services involve the processes that occur from the time meter-read data is recorded in the customer information system through the printing and mailing of bills, concluding with the collection and processing of customer payments. Customer Accounts Services are accomplished by the following utility functions:

- Customer Call Center Operations – customer calls/contact, credit, order taking/disposition, bill collection efforts and outage calls
- Customer Call Center Maintenance – support of phone banks, voice recognition units, call center software applications and telecommunications
- Customer billing – bill printing, stuffing and mailing
- Remittance processing – processing customer payments received in the mail
- Bill payment centers – processing customer payments at locations where customers can pay their bills in person

Comparison group electric utility cost information comes from the FERC Form 1 that each utility subject to FERC regulation must file. FERC’s chart of accounts is defined in Chapter 18, Part 101, of the Code of Federal Regulations. FERC accounts that contain expenses related to customer accounts services are Account 903 Customer Accounts Expense – Records and Collection Expense and Account 905 Customer Accounts Expense – Miscellaneous Customer Accounts Expense. Exhibit 16 (page 45) provides FERC’s definition of the type of expenses that should be recorded in these accounts.

In addition to the charges in these FERC accounts, labor-related overhead charged to the following FERC accounts must be added to the labor components of Accounts 903 and 905:

- Account 926 Employee Pension and Benefits
- Account 408 Taxes Other Than Income (employer’s portion of FICA)

Comparison Group

The comparison group includes utilities that provide service in the same states as CRU US utilities and that filed a Form 1 for 2018 with the FERC. The following 51 utilities make up this group:

Utility	State	Utility	State
Alabama Power	Alabama	Kentucky Power	Kentucky
Ameren Illinois	Illinois	Kentucky Utilities	Kentucky
Appalachian Power	Virginia	Kingsport Power	Tennessee
Arizona Public Service	Arizona	Louisville Gas & Electric	Kentucky
Atlantic City Electric	New Jersey	Metropolitan Edison	Pennsylvania
Baltimore Gas & Electric	Maryland	MidAmerica Energy	Illinois
CenterPoint Electric	Texas	Nevada Power	Nevada
CLECO	Louisiana	NIPSCO	Indiana
Com Edison	Illinois	Oncor Electric	Texas
Delmarva Power & Light	Maryland	PECO Energy	Pennsylvania
Duke Energy Carolinas	North & South Carolina	Pennsylvania Electric	Pennsylvania
Duke Energy Florida	Florida	Pennsylvania Power	Pennsylvania
Duke Energy Indiana	Indiana	Potomac Edison	Maryland
Duke Energy Kentucky	Kentucky	Potomac Electric	Maryland
Duke Energy Progress	North & South Carolina	PPL Electric Utilities	Pennsylvania
Duquesne Light	Pennsylvania	Public Service Electric & Gas	New Jersey
El Paso Electric	Texas	Rockland Electric	New Jersey
Entergy Louisiana	Louisiana	Sierra Pacific Power	Nevada
Entergy New Orleans	Louisiana	South Carolina Electric & Gas	South Carolina
Entergy Texas	Texas	Southwest Public Service	Texas
Florida Power & Light	Florida	Southwestern Electric Power	Texas & Louisiana
Georgia Power	Georgia	Tampa Electric	Florida
Gulf Power	Florida	Tucson Electric	Arizona
Indiana Michigan Power	Indiana	Vectren	Indiana
Indianapolis Pwr & Light	Indiana	Virginia Elect Power	Virginia
Jersey Central Power	New Jersey	West Penn Power	Pennsylvania

Corix Regulates Utilities (US) Inc.
FERC Account Descriptions

903 – Customer Records and Collection Expenses

This account shall include the cost of labor, materials used and expenses incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints.

Labor

1. Receiving, preparing, recording and handling routine orders for service, disconnections, transfers or meter tests initiated by the customer, excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
2. Investigations of customers' credit and keeping of records pertaining thereto, including records of uncollectible accounts written off.
3. Receiving, refunding or applying customer deposits and maintaining customer deposit, line extension, and other miscellaneous records.
4. Checking consumption shown by meter readers' reports where incidental to preparation of billing data.
5. Preparing address plates and addressing bills and delinquent notices.
6. Preparing billing data.
7. Operating billing and bookkeeping machines.
8. Verifying billing records with contracts or rate schedules.
9. Preparing bills for delivery, and mailing or delivering bills.
10. Collecting revenues, including collection from prepayment meters unless incidental to meter reading operations.
11. Balancing collections, preparing collections for deposit, and preparing cash reports.
12. Posting collections and other credits or charges to customer accounts and extending unpaid balances.
13. Balancing customer accounts and controls.
14. Preparing, mailing, or delivering delinquent notices and preparing reports of delinquent accounts.
15. Final meter reading of delinquent accounts when done by collectors incidental to regular activities.
16. Disconnecting and reconnecting services because of nonpayment of bills.
17. Receiving, recording, and handling of inquiries, complaints, and requests for investigations from customers, including preparation of necessary orders, but excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
18. Statistical and tabulating work on customer accounts and revenues, but not including special analyses for sales department, rate department, or other general purposes, unless incidental to regular customer accounting routines.
19. Preparing and periodically rewriting meter reading sheets.
20. Determining consumption and computing estimated or average consumption when performed by employees other than those engaged in reading meters.

Materials and expenses

21. Address plates and supplies.
22. Cash overages and shortages.
23. Commissions or fees to others for collecting.
24. Payments to credit organizations for investigations and reports.
25. Postage.
26. Transportation expenses, including transportation of customer bills and meter books under centralized billing procedure.
27. Transportation, meals, and incidental expenses.
28. Bank charges, exchange, and other fees for cashing and depositing customers' checks.
29. Forms for recording orders for services, removals, etc.
30. Rent of mechanical equipment.

905 – Miscellaneous Customer Accounts Expenses

This account shall include the cost of labor, materials used and expenses incurred not provided for in other accounts.

Labor

1. General clerical and stenographic work.
2. Miscellaneous labor.

Materials and expenses

3. Communication service.
4. Miscellaneous office supplies and expenses and stationery and printing other than those specifically provided for in accounts 902 and 903.

V – Reasonableness of Charges for Corix and WSC Services

WSC's Cost per Customer

As calculated below, WSC's customer accounts services expense per customer was \$26.22 for 2019. The cost pool used to calculate this average includes charges for WSC services (e.g., call center, billing, payment processing) and lock box payment processing charges, which are incurred directly by CRU US utilities. It is necessary to adjust the WSC's charges because electric utilities experience an average of 2.50 calls per customer compared to CRU US utilities' 1.07 calls per customer during 2019. Thus, WSC's expenses had to be increased, for comparison purposes, to reflect its costs if it had had 2.50 calls per customer.

Utilities Inc. Customer Account Services Expenses per Customer (2019)			Service Co	Adjustment Fewer Calls For																																																	
Cost Component		Charges	Water Cos. (A)	Adjusted																																																	
WSC Expenses																																																					
Customer Care & Billing	Order processing, billing & collection	\$1,190,446			\$ 1,190,446																																																
Customer Service	Customer contact	\$2,326,481	\$ 2,224,659		\$ 4,551,140																																																
CRU US Utilities Expenses																																																					
Postage and Forms					\$ 1,160,287																																																
Lock Box Charges	Payment processing bank charges				\$ 168,779																																																
			Cost Pool Total		\$ 7,070,652																																																
				Total Customers	269,714																																																
	2019 Customer Account Services Cost Per CRU US Utility Customer				<u>\$ 26.22</u>																																																
<p>Note A: Adjustment for CRU US utilities fewer calls per customer (this adjustment is necessary because water utilities experience fewer calls per customer than do electric utilities)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>2019 Customer Service customer contact expenses</td> <td></td> <td style="text-align: right;">\$ 1,654,387</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Electric utility industry's average calls/customer</td> <td style="text-align: center;">2.50</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CRU US utilities 2019 average calls/customer</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Number of Total Calls</td> <td style="text-align: right;">287,578</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Number of Customers</td> <td style="text-align: right;"><u>269,714</u></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> WSC's average calls/customer</td> <td style="text-align: right;">1.07</td> <td></td> <td style="text-align: right;">1.07</td> <td></td> <td></td> </tr> <tr> <td> Percent different</td> <td></td> <td></td> <td style="text-align: right;">134%</td> <td style="text-align: right;">134%</td> <td></td> </tr> <tr> <td> Total Adjustment</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">\$ 2,224,659</td> </tr> </table>						2019 Customer Service customer contact expenses		\$ 1,654,387				Electric utility industry's average calls/customer	2.50					CRU US utilities 2019 average calls/customer						Number of Total Calls	287,578					Number of Customers	<u>269,714</u>					WSC's average calls/customer	1.07		1.07			Percent different			134%	134%		Total Adjustment					\$ 2,224,659
2019 Customer Service customer contact expenses		\$ 1,654,387																																																			
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Percent different			134%	134%																																																	
Total Adjustment					\$ 2,224,659																																																

Source: Company information; Baryenbruch & Company, LLC, analysis

Electric Utility Group Cost per Customer

Exhibit 17 (pages 51) shows the calculation of customer accounts expense per customer for 2018 for the electric utility comparison group. All of the underlying data was taken from the utilities' FERC Form 1.

Summary of Results

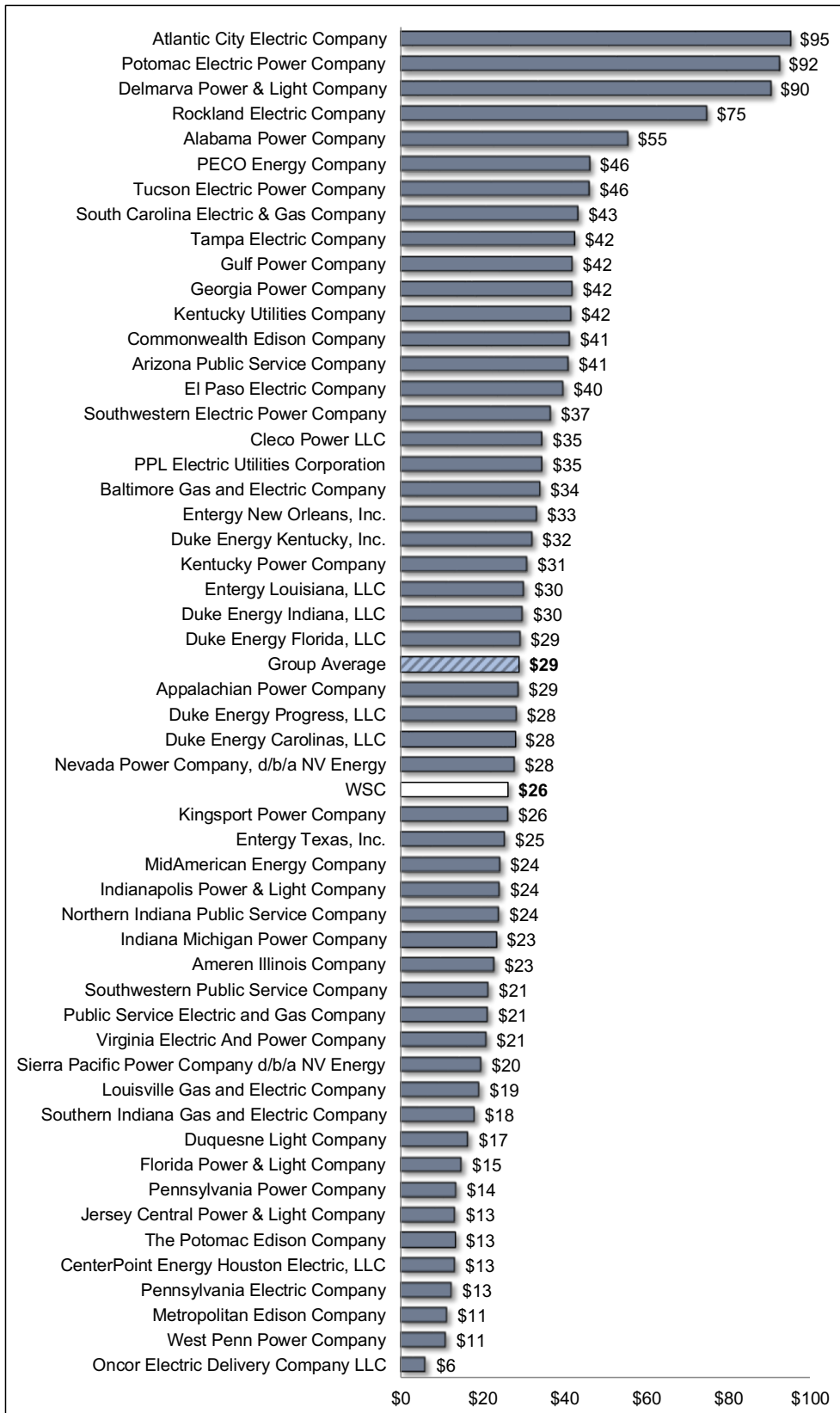
As shown in the Exhibit 18 (page 52), CRU US utilities' 2019 cost of \$26.22 per customer is lower than the 2018 average cost of \$28.49 for the electric utility comparison group. It can be concluded that 2019 customer accounts services charges from WSC are comparable to those of other utilities and, thus, reasonable.

Corix Regulates Utilities (US) Inc.
Comparison Group 2018 Customer Accounts Expense Per Customer

Comparison Group	Customer Accounts Services Cost Pool				Total Customers	Customer Account Services Expenses per Customer
	Employee Benefits			Total Cost Pool		
	Account 903 and 905	Employee Pension and Benefits	Payroll Taxes			
Alabama Power Company	\$ 71,684,001	\$ 5,977,539	\$ 4,149,746	\$ 81,811,286	1,477,326	\$ 55.38
Ameren Illinois Company	\$ 26,642,131	\$ 402,335	\$ 791,285	\$ 27,835,750	1,220,681	\$ 22.80
Appalachian Power Company	\$ 26,681,491	\$ 220,129	\$ 560,231	\$ 27,461,851	955,578	\$ 28.74
Arizona Public Service Company	\$ 47,657,381	\$ 1,102,312	\$ 1,849,483	\$ 50,609,176	1,235,451	\$ 40.96
Atlantic City Electric Company	\$ 52,141,740	\$ 374,231	\$ 194,968	\$ 52,710,939	554,881	\$ 95.00
Baltimore Gas and Electric Company	\$ 38,962,195	\$ 2,834,312	\$ 1,820,648	\$ 43,617,155	1,282,599	\$ 34.01
CenterPoint Energy Houston Electric, LLC	\$ 31,249,862	\$ 1,225,828	\$ 444,481	\$ 32,920,172	2,484,085	\$ 13.25
Cleco Power LLC	\$ 8,619,537	\$ 1,213,072	\$ 227,612	\$ 10,060,220	290,740	\$ 34.60
Commonwealth Edison Company	\$ 147,299,368	\$ 13,398,443	\$ 6,059,948	\$ 166,757,759	4,036,731	\$ 41.31
Delmarva Power & Light Company	\$ 46,768,268	\$ 266,164	\$ 223,588	\$ 47,258,020	523,856	\$ 90.21
Duke Energy Carolinas, LLC	\$ 67,343,085	\$ 2,438,798	\$ 2,315,472	\$ 72,097,355	3,357,953	\$ 21.47
Duke Energy Florida, LLC	\$ 48,461,677	\$ 2,089,413	\$ 2,016,215	\$ 52,567,304	1,801,551	\$ 29.18
Duke Energy Indiana, LLC	\$ 23,216,514	\$ 900,596	\$ 613,120	\$ 24,730,230	830,270	\$ 29.79
Duke Energy Kentucky, Inc.	\$ 4,196,046	\$ 205,172	\$ 164,741	\$ 4,565,959	142,393	\$ 32.07
Duke Energy Progress, LLC	\$ 40,490,147	\$ 2,480,873	\$ 1,415,170	\$ 44,386,191	1,571,011	\$ 28.25
Duquesne Light Company	\$ 7,905,392	\$ 1,375,514	\$ 612,076	\$ 9,892,982	597,498	\$ 16.56
EI Paso Electric Company	\$ 14,561,836	\$ 1,602,074	\$ 583,563	\$ 16,747,473	422,281	\$ 39.66
Entergy Louisiana, LLC	\$ 30,913,209	\$ 1,507,743	\$ 162,334	\$ 32,583,286	1,083,560	\$ 30.07
Entergy New Orleans, Inc.	\$ 6,447,727	\$ 223,654	\$ 60,093	\$ 6,731,475	202,634	\$ 33.22
Entergy Texas, Inc.	\$ 11,238,956	\$ 220,490	\$ 74,447	\$ 11,533,893	453,260	\$ 25.45
Florida Power & Light Company	\$ 69,159,485	\$ 2,002,921	\$ 3,020,379	\$ 74,182,785	4,961,313	\$ 14.95
Georgia Power Company	\$ 98,802,006	\$ 4,068,713	\$ 3,524,172	\$ 106,394,890	2,536,685	\$ 41.94
Gulf Power Company	\$ 17,833,216	\$ 1,005,672	\$ 655,273	\$ 19,494,161	464,682	\$ 41.95
Indiana Michigan Power Company	\$ 13,455,803	\$ 198,378	\$ 242,798	\$ 13,896,979	595,192	\$ 23.35
Indianapolis Power & Light Company	\$ 9,863,257	\$ 1,695,895	\$ 432,863	\$ 11,992,015	495,419	\$ 24.21
Jersey Central Power & Light Company	\$ 15,842,348	\$ (1,339,799)	\$ 607,205	\$ 15,109,754	1,131,190	\$ 13.36
Kentucky Power Company	\$ 5,004,514	\$ 40,382	\$ 94,675	\$ 5,139,571	166,603	\$ 30.85
Kentucky Utilities Company	\$ 20,050,146	\$ 2,143,791	\$ 790,759	\$ 22,984,696	552,923	\$ 41.57
Kingsport Power Company	\$ 1,241,189	\$ (6,956)	\$ 23,389	\$ 1,257,622	48,032	\$ 26.18
Louisville Gas and Electric Company	\$ 7,082,557	\$ 573,850	\$ 251,611	\$ 7,908,018	411,711	\$ 19.21
Metropolitan Edison Company	\$ 7,194,586	\$ (910,781)	\$ 189,967	\$ 6,473,772	569,982	\$ 11.36
MidAmerican Energy Company	\$ 17,031,939	\$ 542,765	\$ 983,659	\$ 18,558,363	765,804	\$ 24.23
Nevada Power Company, d/b/a NV Energy	\$ 22,812,822	\$ 2,213,568	\$ 932,242	\$ 25,958,632	934,534	\$ 27.78
Northern Indiana Public Service Company	\$ 10,406,903	\$ 401,192	\$ 488,657	\$ 11,296,753	469,917	\$ 24.04
Oncor Electric Delivery Company LLC	\$ 19,597,001	\$ 1,737,845	\$ 463,638	\$ 21,798,484	3,592,113	\$ 6.07
PECO Energy Company	\$ 70,806,731	\$ 2,574,072	\$ 2,426,698	\$ 75,807,501	1,642,854	\$ 46.14
Pennsylvania Electric Company	\$ 7,571,326	\$ (358,038)	\$ 154,953	\$ 7,368,242	586,891	\$ 12.55
Pennsylvania Power Company	\$ 2,094,621	\$ 131,943	\$ 26,375	\$ 2,252,939	166,182	\$ 13.56
Potomac Electric Power Company	\$ 77,888,559	\$ 1,931,112	\$ 989,434	\$ 80,809,105	875,876	\$ 92.26
PPL Electric Utilities Corporation	\$ 45,238,473	\$ 3,020,454	\$ 1,549,697	\$ 49,808,624	1,440,560	\$ 34.58
Public Service Electric and Gas Company	\$ 160,042,249	\$ 1,196,400	\$ 3,890,437	\$ 165,129,086	7,761,647	\$ 21.28
Rockland Electric Company	\$ 4,203,507	\$ 1,115,504	\$ 170,209	\$ 5,489,220	73,526	\$ 74.66
Sierra Pacific Power Company d/b/a NV Energy	\$ 6,249,058	\$ 313,984	\$ 259,656	\$ 6,822,698	347,196	\$ 19.65
South Carolina Electric & Gas Company	\$ 37,022,654	\$ 3,174,642	\$ 1,307,150	\$ 41,504,446	958,319	\$ 43.31
Southern Indiana Gas and Electric Company	\$ 2,607,410	\$ 6,810	\$ 90,255	\$ 2,704,475	150,157	\$ 18.01
Southwestern Electric Power Company	\$ 35,580,936	\$ 630,473	\$ 329,426	\$ 36,540,836	998,408	\$ 36.60
Southwestern Public Service Company	\$ 7,247,079	\$ 851,588	\$ 304,164	\$ 8,402,832	391,714	\$ 21.45
Tampa Electric Company	\$ 26,890,676	\$ 3,978,571	\$ 1,235,254	\$ 32,104,501	756,254	\$ 42.45
The Potomac Edison Company	\$ 5,122,434	\$ 185,605	\$ 183,277	\$ 5,491,317	411,623	\$ 13.34
Tucson Electric Power Company	\$ 18,123,432	\$ 970,829	\$ 476,130	\$ 19,570,391	425,044	\$ 46.04
Virginia Electric And Power Company	\$ 48,098,120	\$ 3,986,097	\$ 2,256,584	\$ 54,340,801	2,601,179	\$ 20.89
West Penn Power Company	\$ 7,589,502	\$ 260,559	\$ 201,838	\$ 8,051,899	726,159	\$ 11.09
Total	\$ 1,650,235,102	\$ 78,396,733	\$ 52,892,048	\$ 1,781,523,883	62,534,028	\$ 28.49

Source: FERC Form 1; Baryenbruch & Company, LLC, analysis

Corix Regulates Utilities (US) Inc.
Comparison Group Customer Accounts Services Expense Per Customer



V – Reasonableness of Charges for Corix and WSC Services

Question 8 – Provision of Services at the Same Cost

Financial Systems Descriptions - Corix

The following are systems of Corix that provide the capability to account for its corporate costs and assign them to the affiliates it serves:

- General Ledger System (Microsoft Dynamics Navision or “MS NAV”) – Maintains the official financial records for CORIX. MS NAV has been customized to include the trade and non-trade inter-company billing module that automates accounting for transactions among all Canadian and US affiliates except for certain US subsidiaries on a different ERP system (e.g. Corix Regulates Utilities (US) Inc., Fairbanks Sewer and Water Inc., Doyon Utilities, LLC, Tribus Services, Inc., Cleveland Thermal, LLC). There is also a job-costing module that is used for job/project cost tracking.
- Asset Accounting System (MS NAV) – Maintains fixed asset records relating to acquisitions, depreciation, disposal, etc. This is included in the fixed asset module.
- Asset Work Management System (MS NAV) – Work management systems used by generation, transmission and distribution functions. Among other things, work orders can be set up in these systems.
- Time Reporting System (MS NAV) – Employee time reporting and resource accounting to jobs.
- Accounts Receivable System (MS NAV) – Customer sale and payment accounting.
- Accounts Payable System (MS NAV) – Vendor purchase and payment accounting.
- Materials and Supplies (MS NAV) – Materials and supplies inventory accounting; however, this is not applicable for Corix corporate companies with only head office costs.
- Employee & Travel Expense System (Nexonia) – A 3rd party platform that provides business travel expense management and credit card transactions. The platform is integrated with MS NAV.

Corix transactions recorded in the MS NAV System are assigned a standard set of information. One of the key data elements is Department which identifies the Corix department or business unit responsible for the charge. This element facilitates the compilation of Corporate Services expenses and their allocation to affiliates.

Financial Systems Descriptions – WSC

The following systems of CRU US provide the capability to account for its WSC costs and assign them to the affiliates it serves:

- General Ledger System (Oracle JD Edwards EnterpriseOne or JDE) – Maintains the official financial records for CRU US and its subsidiaries, including WSC.
- Asset Accounting System (JDE) – Maintains fixed asset records, acquisition, depreciation, disposal, etc. This is included in the fixed asset module.
- Asset Work Management System (JDE) – Maintains fixed asset records relating to acquisition, depreciation, disposal, etc.
- Time Reporting System (JDE/Paychex) – Employee time is entered into JDE, which transfers it to Paychex, a third-party provider of payroll services. Once the payroll has been processed, Paychex transfers the relevant data back to JDE.
- Accounts Receivable System (JDE) – Revenues and payment accounting.
- Accounts Payable System (JDE) – Vendor purchase and payment accounting.
- Materials and Supplies (JDE) – Materials and supplies inventory accounting (this module is not currently utilized by CRU US, since inventoried items are not significant).

V – Reasonableness of Charges for Corix and WSC Services

- Employee & Travel Expense Reporting (manual) – Employee and travel-related expenses are documented on a manual expense report from which relevant information is entered into JDE.

WSC transactions are also assigned a set of data elements of which Business Unit (e.g., WSC department, CRU US utility business unit) is key to the allocation of WSC Shared Services expenses to CRU US utilities. The table below shows examples of Business Unit values in the JDE system.

WSC Business Units	CRU US Utilities Business Units
102101 Accounting	182106 Sugar Mountain – Water
102103 Human Resources	182107 Sugar Mountain – Sewer
102104 Information Technology	182108 Sugar Mountain – Common

Cost Allocation

CORIX assigns the cost of Corporate Services to affiliates based on its methodology as described in the Corix Cost Allocation Manual. The cost assignment process is illustrated in Exhibit 19 (page 55). Based upon the Department data element, Corix Corporate Services expenses are compiled into cost pools: (1) direct assigned, (2) allocated to affiliates and (3) retained (i.e., not assigned to Corix affiliates). The portion that is allocated is assigned to affiliates based on the following two steps:

- Tier 1 Allocation – The first step allocates expenses among CRU US and other Corix entities based on a Modified Massachusetts Formula composite average with the following components:

Factor	Weighting
Gross Revenue	33.33%
Headcount	33.33%
Gross Property, Plant and Equipment	33.33%

- Tier 2 Allocation – The second step allocates expenses among individual CRU US utilities. The basis for this allocation is Equivalent Residential Connections (ERC).

2019 Tier 1 and Tier 2 allocations were tested by Baryenbruch & Company, LLC, in the following ways:

- Tier 1 Corix Allocation – Exhibit 20 (page 56) shows the recalculation of the 2019 Corix Tier 1 allocation of recoverable Corporate Services expenses to WSC (\$5,841,745, which excludes Business Development charges from Corix).
- Tier 2 WSC Allocation – Exhibit 21 (page 57) shows the recalculation of the 2019 Tier 2 allocation of WSC’s total charges to individual CRU US utilities. The recalculation showed an average of only 1.3% difference between the Tier 2 allocation and the amounts charged to and recorded on the books of individual utilities during 2019. This is very close given the nature of the recalculation as a reasonableness test.

Corix Regulates Utilities (US) Inc.
Overview of Corix Corporate Services Allocation

Corix Total Corporate Services Expenses	\$ XXX
Less: Direct-Charge Expenses (A)	<u>\$ (XXX)</u>
Remainder: Corix Indirect Expenses	\$ XXX ←

Tier 1 Allocation of Corix Indirect Expenses (B)

Regulated Utilities:			
CRU US	XX%	\$ XXX	
Fairbanks Sewer & Water, Inc.	XX%	\$ XXX	
Canadian Utilities	XX%	\$ XXX	
Canadian District Energy	XX%	\$ XXX	
Gillem Enclave	XX%	\$ XXX	
CU Oklahoma	XX%	\$ XXX	
Cleveland Thermal	XX%	\$ XXX	
Doyon	XX%	\$ XXX	
Total Corix Indirect Expenses	100%	\$ XXX	\$ XXX ←

Tier 2 Allocation to Regulated Utilities of Corix Indirect Expenses (C)

UI Utilities			
ACME Water Supply & Mgmt	XX%	\$ XXX	
Apple Canyon Utility Co	XX%	\$ XXX	
Bermuda Water Co	XX%	\$ XXX	
etc.	XX%	\$ XXX	
CRU US Portion of Corix Indirect Expenses	100%	\$ XXX	

Note A: Direct charges are only made to Tribus, Contract Utilities and Shareholders

Note B: Allocation based on composite allocation with the following factors:

Gross Revenue	33.33%
Headcount	33.33%
Gross Plant, Property & Equipment	33.33%

Note C: Allocation based on Equivalent Residential Units (ERC) attributed to it for purposes of calculating its composite allocator.

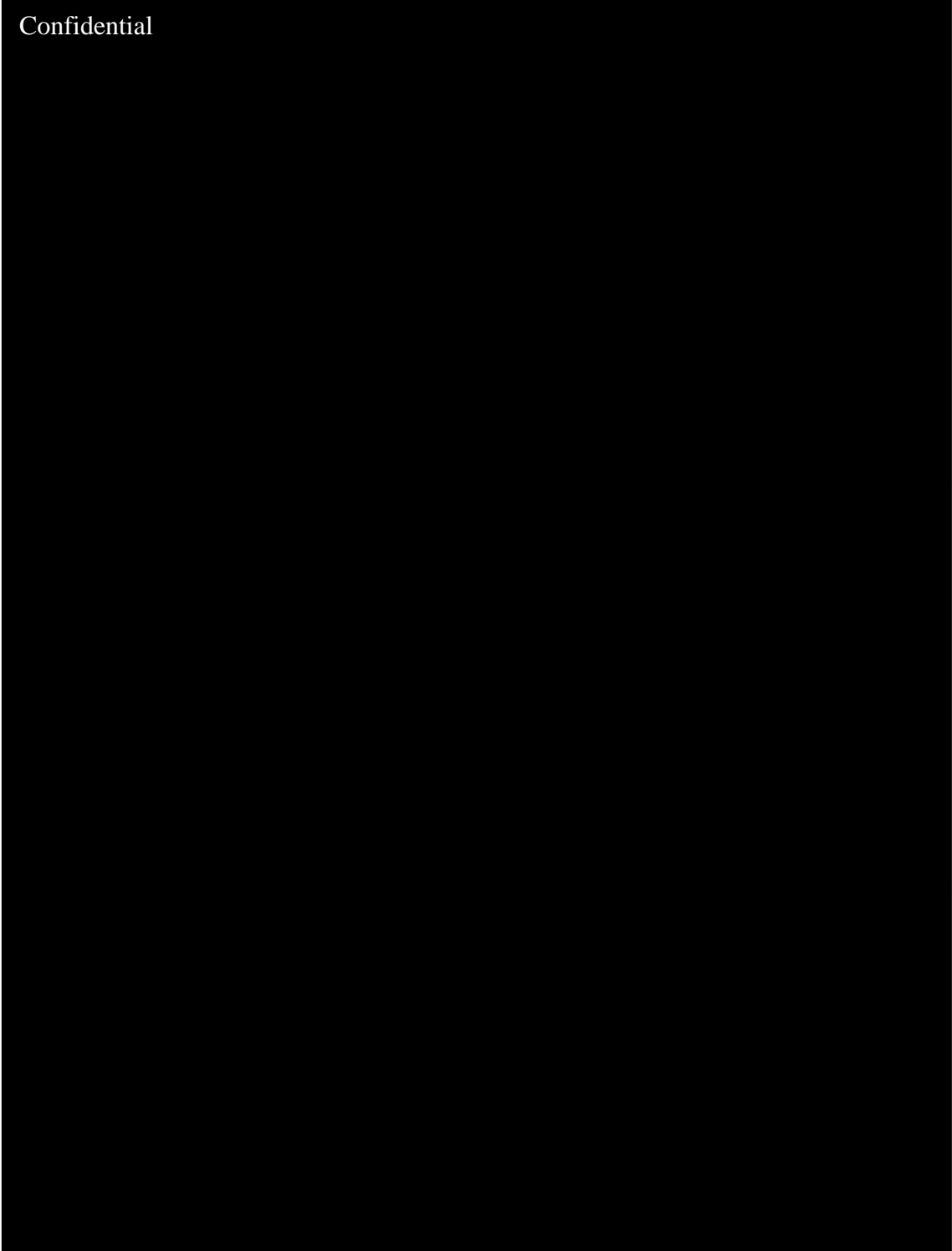
Source: Company information; Baryenbruch & Company, LLC, analysis

Corix Regulated Utilities (US) Inc.
Test of 2019 Tier 1 Corix Corporate Services to WSC

Calculation of 2019 Composite Allocation for Tier 1 Allocation

(USD)

Confidential



Corix Regulates Utilities (US) Inc. Test of 2019 Tier 2 Allocation of WSC Charges to CRU US Utilities

2019 ERCs			2019 WSC Charges			Difference		Absolute
Company	Average ERCs	% Total ERCs	Company	Amount	% Total Charges	Amount	% Different	% Different
110 Apple Canyon Utility Co	962.33	0.32%	110 Apple Canyon Utility Co	\$ 71,348	0.33%	0.00%	-0.9%	0.9%
111 Camelot Utilities Inc	439.50	0.15%	111 Camelot Utilities Inc	\$ 32,345	0.15%	0.00%	-0.1%	0.1%
112 Charmar Water Co	51.33	0.02%	112 Charmar Water Co	\$ 3,805	0.02%	0.00%	-0.9%	0.9%
113 Cherry Hill Water Co	257.85	0.09%	113 Cherry Hill Water Co	\$ 19,117	0.09%	0.00%	-0.9%	0.9%
114 Clarendon Water Co	304.33	0.10%	114 Clarendon Water Co	\$ 22,562	0.10%	0.00%	-0.9%	0.9%
117 Del Mar Water Co	81.83	0.03%	117 Del Mar Water Co	\$ 6,068	0.03%	0.00%	-0.9%	0.9%
118 Ferson Creek Utilities Co	761.92	0.26%	118 Ferson Creek Utilities Co	\$ 56,068	0.26%	0.00%	-0.1%	0.1%
119 Galena Territory Utilities	3,104.81	1.04%	119 Galena Territory Utilities	\$ 229,272	1.05%	0.00%	-0.5%	0.5%
120 Killarney Water Co	354.00	0.12%	120 Killarney Water Co	\$ 26,242	0.12%	0.00%	-0.9%	0.9%
121 Lake Holiday Utilities	1,880.17	0.63%	121 Lake Holiday Utilities	\$ 139,410	0.64%	-0.01%	-0.9%	0.9%
122 Lake Wildwood Utilities Co	508.67	0.17%	122 Lake Wildwood Utilities Co	\$ 37,716	0.17%	0.00%	-0.9%	0.9%
123 Northern Hills W & S Co	351.67	0.12%	123 Northern Hills W & S Co	\$ 25,871	0.12%	0.00%	-0.1%	0.1%
124 Lake Marian Water Corp	295.00	0.10%	124 Lake Marian Water Corp	\$ 21,871	0.10%	0.00%	-0.9%	0.9%
125 Wildwood Water Service Co	194.17	0.07%	125 Wildwood Water Service Co	\$ 14,398	0.07%	0.00%	-0.9%	0.9%
126 Valentine Water Service	71.92	0.02%	126 Valentine Water Service	\$ 5,332	0.02%	0.00%	-0.9%	0.9%
127 Walk Up Woods Water Co	220.75	0.07%	127 Walk Up Woods Water Co	\$ 16,367	0.07%	0.00%	-0.9%	0.9%
128 Whispering Hills Water Co	2,354.42	0.79%	128 Whispering Hills Water Co	\$ 174,567	0.80%	-0.01%	-0.9%	0.9%
129 Holiday Hills Util Inc	246.08	0.08%	129 Holiday Hills Util Inc	\$ 18,246	0.08%	0.00%	-0.9%	0.9%
130 Medina Utilities Corp	438.95	0.15%	130 Medina Utilities Corp	\$ 32,051	0.15%	0.00%	0.6%	0.6%
131 Westlake Utilities Inc	1,027.95	0.34%	131 Westlake Utilities Inc	\$ 75,641	0.34%	0.00%	-0.1%	0.1%
132 Cedar Bluff Utilities Inc	102.33	0.03%	132 Cedar Bluff Utilities Inc	\$ 7,472	0.03%	0.00%	0.6%	0.6%
133 Harbor Ridge Utilities Inc	644.50	0.22%	133 Harbor Ridge Utilities Inc	\$ 47,429	0.22%	0.00%	-0.1%	0.1%
134 Great Northern Utilities	358.00	0.12%	134 Great Northern Utilities	\$ 26,543	0.12%	0.00%	-0.9%	0.9%
136 Galena Territory-Oakwood	1,457.58	0.49%	136 Galena Territory-Oakwood	\$ 107,283	0.49%	0.00%	-0.2%	0.2%
150 Twin Lakes Utilities Inc	6,332.62	2.12%	150 Twin Lakes Utilities Inc	\$ 466,014	2.12%	0.00%	-0.1%	0.1%
151 WSC Indiana	429.07	0.14%	151 WSC Indiana	\$ 31,489	0.14%	0.00%	0.1%	0.1%
152 Indiana Water Service Inc	1,862.62	0.62%	152 Indiana Water Service Inc	\$ 138,110	0.63%	-0.01%	-0.9%	0.9%
180 Hardscrabble	99.92	0.03%	180 Hardscrabble	\$ 7,296	0.03%	0.00%	0.6%	0.6%
181 Elk River Utilities Inc	464.85	0.16%	181 Elk River Utilities Inc	\$ 34,340	0.16%	0.00%	-0.5%	0.5%
182 Carolina Water Service NC	33,554.75	11.24%	182 Carolina Water Service NC	\$ 2,473,507	11.28%	-0.03%	-0.3%	0.3%
183 CWS Systems	13,280.43	4.45%	183 CWS Systems	\$ 958,931	4.37%	0.08%	1.7%	1.7%
187 Carolina Trace Util Inc	3,251.95	1.09%	187 Carolina Trace Util Inc	\$ 239,315	1.09%	0.00%	-0.1%	0.1%
188 Transylvania Utilities Inc	3,042.65	1.02%	188 Transylvania Utilities Inc	\$ 224,221	1.02%	0.00%	-0.3%	0.3%
191 Bradford Farms Water Co	2,852.77	0.96%	191 Bradford Farms Water Co	\$ 203,684	0.93%	0.03%	2.8%	2.8%
195 Cross State	168.50	0.06%	195 Cross State	\$ 12,495	0.06%	0.00%	-0.9%	0.9%
196 Riverbend Estates Water System	141.08	0.05%	196 Riverbend Estates Water System	\$ 10,459	0.05%	0.00%	-0.9%	0.9%
220 Tennessee Water Service	240.33	0.08%	220 Tennessee Water Service	\$ 17,842	0.08%	0.00%	-1.0%	1.0%
241 Tierra Verde Utilities Inc	2,094.20	0.70%	241 Tierra Verde Utilities Inc	\$ 152,933	0.70%	0.00%	0.6%	0.6%
242 Lake Placid Utilities Inc	268.32	0.09%	242 Lake Placid Utilities Inc	\$ 19,744	0.09%	0.00%	-0.1%	0.1%
246 Utilities Inc of Longwood	1,667.71	0.56%	246 Utilities Inc of Longwood	\$ 121,785	0.56%	0.00%	0.6%	0.6%
248 Cypress Lakes Util Inc	2,647.87	0.89%	248 Cypress Lakes Util Inc	\$ 194,922	0.89%	0.00%	-0.2%	0.2%
249 Utilities Inc Eagle Ridge	2,515.10	0.84%	249 Utilities Inc Eagle Ridge	\$ 183,667	0.84%	0.01%	0.6%	0.6%
250 Mid-County Services Inc	3,355.00	1.12%	250 Mid-County Services Inc	\$ 245,006	1.12%	0.01%	0.6%	0.6%
251 Lake Utility Services Inc	16,880.33	5.66%	251 Lake Utility Services Inc	\$ 1,244,876	5.68%	-0.02%	-0.3%	0.3%
252 Utilities Inc of Florida	9,649.90	3.23%	252 Utilities Inc of Florida	\$ 712,425	3.25%	-0.01%	-0.5%	0.5%
254 ACME Water Supply & Mgmt	828.58	0.28%	254 ACME Water Supply & Mgmt	\$ 60,505	0.28%	0.00%	0.6%	0.6%
255 Sanlando Utilities Corp	22,102.52	7.41%	255 Sanlando Utilities Corp	\$ 1,627,847	7.42%	-0.02%	-0.2%	0.2%
256 Utilities Inc Sandalhaven	1,252.72	0.42%	256 Utilities Inc Sandalhaven	\$ 91,471	0.42%	0.00%	0.6%	0.6%
259 Labrador Utilities Inc	1,526.87	0.51%	259 Labrador Utilities Inc	\$ 112,368	0.51%	0.00%	-0.1%	0.1%
260 Utilities Inc Pennbrooke	2,741.75	0.92%	260 Utilities Inc Pennbrooke	\$ 201,895	0.92%	0.00%	-0.2%	0.2%
286 Green Ridge Utilities Inc	934.00	0.31%	286 Green Ridge Utilities Inc	\$ 69,250	0.32%	0.00%	-0.9%	0.9%
287 Provinces Utilities Inc	1,496.83	0.50%	287 Provinces Utilities Inc	\$ 110,970	0.51%	0.00%	-0.9%	0.9%
288 Maryland Water Serv Inc	2,200.80	0.74%	288 Maryland Water Serv Inc	\$ 161,986	0.74%	0.00%	-0.2%	0.2%
300 Montague Water & Sewer Co	1,070.18	0.36%	300 Montague Water & Sewer Co	\$ 79,044	0.36%	0.00%	-0.5%	0.5%
315 Utilities Inc of Westgate	997.33	0.33%	315 Utilities Inc of Westgate	\$ 73,947	0.34%	0.00%	-0.9%	0.9%
316 Util Inc of Pennsylvania	1,479.62	0.50%	316 Util Inc of Pennsylvania	\$ 108,108	0.49%	0.00%	0.6%	0.6%
317 Penn Estates Utilities Inc	3,456.92	1.16%	317 Penn Estates Utilities Inc	\$ 254,398	1.16%	0.00%	-0.1%	0.1%
319 Tamimment	898.80	0.30%	319 Tamimment	\$ 28,850	0.13%	0.17%	56.3%	56.3%
332 Colchester Utilities Inc	169.00	0.06%	332 Colchester Utilities Inc	\$ 12,342	0.06%	0.00%	0.6%	0.6%
333 Massanutten Public Serv	6,095.68	2.04%	333 Massanutten Public Serv	\$ 448,508	2.05%	0.00%	-0.1%	0.1%
345 Water Serv Corp Kentucky	7,108.94	2.38%	345 Water Serv Corp Kentucky	\$ 527,098	2.40%	-0.02%	-0.9%	0.9%
356 Louisiana Water Serv Inc	10,532.26	3.53%	356 Louisiana Water Serv Inc	\$ 775,175	3.53%	-0.01%	-0.1%	0.1%
357 Utilities Inc of Louisiana	16,919.60	5.67%	357 Utilities Inc of Louisiana	\$ 1,245,175	5.68%	-0.01%	-0.1%	0.1%
358 Density Utilities of LA	2,345.98	0.79%	358 Density Utilities of LA	\$ 171,323	0.78%	0.00%	0.6%	0.6%
359 WTSO	2,379.00	0.80%	359 WTSO	\$ 174,246	0.79%	0.00%	0.3%	0.3%
385 Utilities Inc of Georgia	14,503.22	4.86%	385 Utilities Inc of Georgia	\$ 1,068,734	4.87%	-0.01%	-0.3%	0.3%
386 Water Service Co Georgia	2,371.25	0.79%	386 Water Service Co Georgia	\$ 175,523	0.80%	-0.01%	-0.7%	0.7%
390 Utility Management of AL	893.42	0.30%	390 Utility Management of AL	\$ 65,241	0.30%	0.00%	0.6%	0.6%
391 Canaan Systems of AL	1,240.17	0.42%	391 Canaan Systems of AL	\$ 90,578	0.41%	0.00%	0.6%	0.6%
400 Carolina Water Service Inc	22,354.99	7.49%	400 Carolina Water Service Inc	\$ 1,644,903	7.50%	-0.01%	-0.1%	0.1%
401 Util Serv South Carolina	6,920.33	2.32%	401 Util Serv South Carolina	\$ 512,725	2.34%	-0.02%	-0.8%	0.8%
402 Southland Utilities Inc	172.67	0.06%	402 Southland Utilities Inc	\$ 12,800	0.06%	0.00%	-0.9%	0.9%
403 United Utility Companies, Inc	1,032.08	0.35%	403 United Utility Companies, Inc	\$ 75,457	0.34%	0.00%	0.5%	0.5%
425 Bermuda Water Co	9,700.98	3.25%	425 Bermuda Water Co	\$ 719,358	3.28%	-0.03%	-0.9%	0.9%
450 Utilities Inc of Nevada	3,995.79	1.34%	450 Utilities Inc of Nevada	\$ 296,332	1.35%	-0.01%	-0.9%	0.9%
451 Spring Creek Utilities Co	5,612.03	1.88%	451 Spring Creek Utilities Co	\$ 415,897	1.90%	-0.02%	-0.8%	0.8%
452 Sky Ranch Water Service	602.75	0.20%	452 Sky Ranch Water Service	\$ 44,690	0.20%	0.00%	-0.9%	0.9%
453 Util Inc of Central Nevada	13,624.23	4.57%	453 Util Inc of Central Nevada	\$ 1,004,180	4.58%	-0.01%	-0.3%	0.3%
500 Corix Utilities Texas	6,465.17	2.17%	500 Corix Utilities Texas	\$ 477,325	2.18%	-0.01%	-0.5%	0.5%
501 Mitchell County Utility Co	1,130.54	0.38%	501 Mitchell County Utility Co	\$ 83,569	0.38%	0.00%	-0.6%	0.6%
Total	298,427.00	100.00%	Total	\$21,931,904	100.00%	Avg Percent Difference	1.3%	
						Number <1% Different	76	
						Total Companies	80	
						Percent <1%	95%	

Source: Company information; Baryenbruch & Company, LLC, analysis

V – Reasonableness of Charges for Corix and WSC Services

Baryenbruch & Company, LLC, Evaluation

Baryenbruch & Company, LLC, evaluated the design and implementation of Corix and WSC's allocation methodology. The following criteria was considered in this examination:

1. Separate books of accounts and records are maintained for Corix and WSC
2. Costs are allocated and assigned on a fully distributed cost basis
3. Allocation factors are reasonable
4. Services are priced the same for all affiliates
5. Cross-subsidization is avoided

Based on Baryenbruch & Company, LLC's, evaluation, the following conclusions were reached:

1. Separate books of accounts and records are maintained for both Corix Corporate Services and WSC Shared Services. The financial systems provide the capability to separately account for Corix Corporate Services and WSC Shared Services expenses.
2. Corix Corporate Services and WSC Shared Services costs are allocated and assigned on a fully distributed cost basis. Charges to affiliates include labor overheads (e.g., non-productive time, payroll taxes, benefit plan expenses) and indirect expenses (e.g., office rent, office expenses).
3. The allocation factors employed are commonly used by other utility service companies. Other service-providing affiliates in a utility holding company structure also have a two-tiered allocation process with the first allocating between regulated and non-regulated businesses and the second among regulated operating company affiliates. The allocation bases—modified Massachusetts formula and ERCs—are commonly used in the utility industry.
4. Services are priced the same to all affiliates; that is, at Corix's and WSC's cost of providing the service. The Tier 2 allocation method, based on ERCs, results in the assignment of a uniform cost to CRU US utilities and their customers.
5. Cross subsidization is avoided. The previously discussed analysis of WSC's 2019 allocation shows a fair distribution of common support costs to CRU US utilities.

The evidence presented above supports the conclusion that Corix Corporate Services and WSC Shared Services are priced at fully distributed costs and that the factors used to allocate Corix and WSC's expenses are reasonable and are comparably priced to all affiliates, including CRU US utilities.

Application

Exhibit 6

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Calculation of Average Bill Increase
Test Year Ended 3/31/2020

Exhibit 6
Exhibit AD-8

	A	B	C	D	E	F	G	H	I	J
Line No.		# of Bills	Tier 1 Present Gallonage	Tier 2 Present Gallonage	Pro Forma Revenue	Current Avg Bill	Proposed Revenue	Proposed Avg Bill	Dollar Increase	% Increase
1.	5/8" and 3/4" Meter	69,533	237,922,986	1,373,514	\$ 1,990,371	\$ 28.66	\$ 2,663,811	\$ 41.81	\$ 13.16	45.91%
2.	1" Meter	1,259	14,276,092	101,232	\$ 107,770	\$ 85.72	\$ 156,871	\$ 125.78	\$ 40.06	46.74%
3.	1.5" Meter	418	10,109,730	2,461,608	\$ 82,736	\$ 207.56	\$ 122,198	\$ 306.09	\$ 98.53	47.47%
4.	2" Meter	621	22,621,439	29,769,469	\$ 269,747	\$ 513.22	\$ 404,417	\$ 763.18	\$ 249.96	48.70%
5.	3" Meter	94	3,935,234	20,470,316	\$ 104,476	\$ 1,202.26	\$ 158,756	\$ 1,817.12	\$ 614.86	51.14%
6.	4" Meter	36	2,260,664	748,283	\$ 24,064	\$ 706.24	\$ 35,144	\$ 1,029.96	\$ 323.72	45.84%
7.	6" Meter	36	3,041,732	42,453,778	\$ 177,937	\$ 4,992.20	\$ 272,429	\$ 7,640.46	\$ 2,648.27	53.05%
8.	Municipally Owned Hydrants	3,948			\$ 29,215	\$ 7.40	\$ 40,411	\$ 10.24	\$ 2.84	38.32%
9.	Private Hydrants	719			\$ 24,098	\$ 33.50	\$ 33,332	\$ 46.34	\$ 12.84	38.32%
10.	Ambleside Private Fire Surcharge	2,622			\$ 8,730	\$ 3.33	\$ 12,076	\$ 4.61	\$ 1.28	38.32%
	Low Income Customers		Average Gallonage	Low Income Gallonage	Tier 1 Gallonage	Current Avg Bill		Proposed Avg Bill	Dollar Increase	% Increase
11.	5/8" and 3/4" Meter		3,395	3,000	395	\$ 28.42		36.59	8.17	28.75%
12.	1" Meter		9,208	3,000	6,208	\$ 74.67		104.24	29.57	39.60%
13.	1.5" Meter		1,519	1,519	-	\$ 64.84		88.19	23.34	36.00%
14.	2" Meter		16,955	3,000	13,955	\$ 176.37		249.81	73.44	41.64%

Application

Exhibit 7

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Revenues at Present Rates
Test Year Ended 3/31/2020

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.	# of Bills	Rate	Flat Revenue	Tier 1 Gallons Consumed	Tier 1 Rate	Volumetric Tier 1 Revenue	Tier 2 Gallons Consumed	Tier 2 Rate	Volumetric Tier 2 Revenue	Billing Adjustments	Total Revenue	
Water Service Corporation of Kentucky												
1.	5/8"	63,457	\$ 11.45	\$ 726,587	219,531,298	\$ 5.00	\$ 1,097,656	993,849	\$ 3.35	\$ 3,329	\$ -	\$ 1,827,573
2.	3/4"	6,076	\$ 11.45	\$ 69,567	18,391,688	\$ 5.00	\$ 91,958	379,665	\$ 3.35	\$ 1,272	\$ -	\$ 162,798
3.	1"	1,259	\$ 28.63	\$ 36,051	14,276,092	\$ 5.00	\$ 71,380	101,232	\$ 3.35	\$ 339	\$ -	\$ 107,770
4.	1.5"	418	\$ 57.25	\$ 23,941	10,109,730	\$ 5.00	\$ 50,549	2,461,608	\$ 3.35	\$ 8,246	\$ -	\$ 82,736
5.	2"	621	\$ 91.60	\$ 56,912	22,621,439	\$ 5.00	\$ 113,107	29,769,469	\$ 3.35	\$ 99,728	\$ -	\$ 269,747
6.	3"	94	\$ 171.75	\$ 16,224	3,935,234	\$ 5.00	\$ 19,676	20,470,316	\$ 3.35	\$ 68,576	\$ -	\$ 104,476
7.	4"	36	\$ 286.25	\$ 10,254	2,260,664	\$ 5.00	\$ 11,303	748,283	\$ 3.35	\$ 2,507	\$ -	\$ 24,064
8.	6"	36	\$ 572.50	\$ 20,508	3,041,732	\$ 5.00	\$ 15,209	42,453,778	\$ 3.35	\$ 142,220	\$ -	\$ 177,937
9.	Municipally Owned Hydrants	3,948	\$ 7.40	\$ 29,215	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 29,215
10.	Private Hydrants and Sprinklers	719	\$ 33.50	\$ 24,098	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 24,098
11.	Ambleside	2,622	\$ 3.33	\$ 8,730	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 8,730
12.	Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143
26.	WSCKY Total	79,287		\$ 1,022,087	294,167,878		\$ 1,470,839	97,378,200		\$ 326,217	\$ -	\$ 2,819,143
			% Flat	36%				% Vol	64%			100%

Application

Exhibit 8

WATER SERVICE CORPORATION OF KENTUCKY

Schedule D

Case No. 2020-00160

Revenue Requirement

Test Year Ended 3/31/2020

A	B	
Line No.	Item	
		Operating Ratio Method
		(d)
1.	Total Operating Expenses	\$ 3,063,291
2.	Less: Federal & State Income Taxes	113,088
3.		<hr/>
4.	Operating Expenses Net of Income Taxes	\$ 3,176,379
5.	Divide by: Operating Ratio	88%
6.		<hr/>
7.	Revenue to Cover Operating Ratio	\$ 3,609,522
8.	Less: Operating Expenses Net of Income Taxes	\$ (3,176,379)
9.		<hr/>
10.	Net Operating Income After Income Taxes	\$ 433,143
11.	Less: Pro Forma Net Income	348,676
12.		<hr/>
13.	Net Operating Income Adjustment	\$ 781,819
14.	Multiplied by Gross-up Factor	1.381778306
15.		<hr/>
16.	Revenue Requirement	\$ 1,080,300
17.		<hr/> <hr/>
18.	Percentage Increase/Decrease	38.32%
		<hr/> <hr/>

Application

Exhibit 9

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 9

Case No. 2020-00160

Reconciliation of Rate Base and Capital

Test Year Ended 3/31/2020

A	B
Line No.	As of 3/31/2020
1. Total Capitalization:	\$ 8,399,024
2.	
3. Reconciling Items:	
4. Reduction of Gross Plant in Service	\$ 461,724
5. Restatement of Accumulated Depreciation	(475,384)
6. Actual and Estimated Cash Working Capital	369,217
7. Contributions in Aid of Construction	(259,534)
8. Advances in aid of construction	-
9. Accumulated deferred income taxes	(710,462)
10. Customer deposits	(57,340)
11. Plant acquisition adjustment	119,881
12. Work in process on books at 12/31/17	(44,057)
13. Cash	(12,954)
14. Accounts receivable - net	(1,247,431)
15. Other current assets	(14,677)
16. Deferred charges	(204,035)
17.	
18.	
19. Net Rate Base Used to Determine Interest Expense:	<u>\$ 6,323,972</u>

Application

Exhibit 10

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1000		TOTAL ASSETS	BS
1005		LONG TERM ASSETS	BS
1010		PROPERTY, PLANT & EQPT	BS
1015		WTR UTILITY PLANT IN SER	BS
1020		ORGANIZATION	BS
1025		FRANCHISES	BS
1030		LAND & LAND RIGHTS PUMP	BS
1035		LAND & LAND RIGHTS WTR	BS
1040		LAND & LAND RIGHTS TRAN	BS
1045		LAND & LAND RIGHTS GEN	BS
1050		STRUCT & IMPRV SRC SUPP	BS
1055		STRUCT & IMPRV WTR TRT	BS
1060		STRUCT & IMPRV TRANS DI	BS
1065		STRUCT & IMPRV GEN PLT	BS
1070		COLLECTING RESERVOIRS	BS
1075		LAKE, RIVER, OTHER INTA	BS
1080		WELLS & SPRINGS	BS
1085		INFILTRATION GALLERY	BS
1090		SUPPLY MAINS	BS
1095		POWER GENERATION EQUIP	BS
1100		ELECTRIC PUMP EQUIP SRC	BS
1105		ELECTRIC PUMP EQUIP WTP	BS
1110		ELECTRIC PUMP EQUIP TRA	BS
1115		WATER TREATMENT EQPT	BS
1120		DIST RESV & STANDPIPES	BS
1125		TRANS & DISTR MAINS	BS
1130		SERVICE LINES	BS
1135		METERS	BS
1140		METER INSTALLATIONS	BS
1145		HYDRANTS	BS
1150		BACKFLOW PREVENTION DEV	BS
1155		OTH PLT&MISC EQUIP INTA	BS
1160		OTH PLT&MISC EQUIP SRC	BS
1165		OTH PLT&MISC EQUIP WTP	BS
1170		OTH PLT&MISC EQUIP TRAN	BS
1175		OFFICE STRUCT & IMPRV	BS
1180		OFFICE FURN & EQPT	BS
1185		STORES EQUIPMENT	BS
1190		TOOL SHOP & MISC EQPT	BS
1195		LABORATORY EQUIPMENT	BS
1200		POWER OPERATED EQUIP	BS
1205		COMMUNICATION EQPT	BS
1210		MISC EQUIPMENT	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1215		WATER PLANT ALLOCATED	BS
1220		OTHER TANGIBLE PLT WATE	BS
1240		SWR UTILITY PLANT IN SER	BS
1245		ORGANIZATION	BS
1250		FRANCHISES INTANG PLT	BS
1255		FRANCHISES RECLAIM WTR	BS
1260		LAND & LAND RIGHTS INTA	BS
1265		LAND & LAND RIGHTS COLL	BS
1270		LAND & LAND RIGHTS TRTM	BS
1275		LAND & LAND RIGHTS RECL	BS
1280		LAND & LAND RIGHTS RCL	BS
1285		LAND & LAND RIGHTS GEN	BS
1290		STRUCT/IMPRV COLL PLT	BS
1295		STRUCT/IMPRV PUMP PLT L	BS
1300		STRUCT/IMPRV TREAT PLT	BS
1305		STRUCT/IMPRV RECLAIM WT	BS
1310		STRUCT/IMPRV RECLAIM WT	BS
1315		STRUCT/IMPRV GEN PLT	BS
1320		POWER GEN EQUIP COLL PL	BS
1325		POWER GEN EQUIP PUMP PL	BS
1330		POWER GEN EQUIP TREAT P	BS
1335		POWER GEN EQUIP RECLAIM	BS
1340		POWER GEN EQUIP RCL WTR	BS
1345		SEWER FORCE MAIN	BS
1350		SEWER GRAVITY MAIN	BS
1353		MANHOLES	BS
1355		SPECIAL COLL STRUCTURES	BS
1360		SERVICES TO CUSTOMERS	BS
1365		FLOW MEASURE DEVICES	BS
1370		FLOW MEASURE INSTALL	BS
1375		RECEIVING WELLS	BS
1380		PUMPING EQUIPMENT PUMP	BS
1385		PUMPING EQUIPMENT RECLA	BS
1390		PUMPING EQUIPMENT RCL W	BS
1395		TREAT/DISP EQUIP LAGOON	BS
1400		TREAT/DISP EQUIP TRT PL	BS
1405		TREAT/DISP EQUIP RCL WT	BS
1410		PLANT SEWERS TRTMT PLT	BS
1415		PLANT SEWERS RECLAIM WT	BS
1420		OUTFALL LINES	BS
1425		OTHER PLT TANGIBLE	BS
1430		OTHER PLT COLLECTION	BS
1435		OTHER PLT PUMP	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1440		OTHER PLT TREATMENT	BS
1445		OTHER PLT RECLAIM WTR T	BS
1450		OTHER PLT RECLAIM WTR D	BS
1455		OFFICE STRUCT & IMPRV	BS
1460		OFFICE FURN & EQPT	BS
1465		STORES EQUIPMENT	BS
1470		TOOL SHOP & MISC EQPT	BS
1475		LABORATORY EQPT	BS
1480		POWER OPERATED EQUIP	BS
1485		COMMUNICATION EQPT	BS
1490		MISC EQUIP SEWER	BS
1495		SEWER PLANT ALLOCATED	BS
1500		OTHER TANGIBLE PLT SEWE	BS
1520		REUSE PLANT	BS
1525		REUSE SERVICES	BS
1530		REUSE MTR/INSTALLATIONS	BS
1535		REUSE DIST RESERVOIRS	BS
1540		REUSE TRANMISSION & DIS	BS
1550		TRANSPORTATION EQPT	BS
1555		TRANSPORTATION EQPT WTR	BS
1560		TRANSPORTATION EQPT SWR	BS
1570		COMPUTER EQUIPMENT WTR	BS
1575		DESKTOP COMPUTER WTR	BS
1580		MAINFRAME COMPUTER WTR	BS
1585		MINI COMPUTERS WTR	BS
1590		COMP SYS COST WTR	BS
1595		MICRO SYS COST WTR	BS
1600		GAS PLANT	BS
1605		ORGANIZATION	BS
1606		FRANCHISES INTANG PLT	BS
1607		LAND & LAND RIGHTS	BS
1608		STRUCT/IMPRV PRODUCTION	BS
1609		STRUCT/IMPRV NATUAL GAS	BS
1610		STRUCT/IMPRV TRANSMISSI	BS
1611		STRUCT/IMPRV DISTRIB PL	BS
1612		STRUCT/IMPRV GEN PLT	BS
1613		MAINS	BS
1614		SERVICE LINES	BS
1615		METERS	BS
1616		METER INSTALLATIONS	BS
1617		RESERVOIRS	BS
1618		HOUSE REGULATORS	BS
1619		HOUSE REGULATORY INSTAL	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1620		COMMUNICATION EQPT	BS
1621		OFFICE EQUIPMENT	BS
1622		POWER OPERATED EQUIP	BS
1623		MISC EQUIP GAS	BS
1640		OTHER PLANT	BS
1650		PLANT UNDER CONSTRUCTION	BS
1655		WORK IN PROGRESS	BS
1661		WATER PLANT IN PROCESS	BS
1665		WIP-CAP TIME WATER STO	BS
1666	101	WIP - INTEREST DURING	BS
1667	102	WIP - ENGINEERING	BS
1668	103	WIP - LABOR/INSTALLATI	BS
1669	104	WIP - EQUIPMENT	BS
1670	105	WIP - MATERIAL	BS
1671	106	WIP - ELECTRICAL	BS
1672	107	WIP - PIPING	BS
1673	108	WIP - SITE WORK	BS
1674	109	WIP - BUILDING ADDITIO	BS
1675	110	WIP - CARPENTRY	BS
1676	111	WIP - CRANE	BS
1677	112	WIP - DRILLING COSTS	BS
1678	101	WIP - FOUNDATION	BS
1679	102	WIP - LAND/LEASE	BS
1680	103	WIP - MAIN EXTENSION/T	BS
1681	104	WIP - PERMITS	BS
1682	105	WIP - PLUMBING	BS
1683	106	WIP - PUMPS/EQUIPMENT	BS
1684	107	WIP - RELOCATION	BS
1685	108	WIP - RESTORATION	BS
1686	109	WIP - SOIL BORING	BS
1687	110	WIP - TANK/COST OF	BS
1688	111	WIP - TANK/DETENTION A	BS
1689	112	WIP - TANK/PNEUMATIC	BS
1690	101	WIP - TESTS/DRAWDOWN	BS
1691	102	WIP - WELL ABANDONMENT	BS
1692	103	WIP - WELL HOUSE	BS
1697	105	WIP - CLOSE CP TO GL L	BS
1698	106	WIP - J/E CLEARING LEG	BS
1699	107	WIP - TRANSFER TO FIXE	BS
1701	109	SEWER PLANT IN PROCESS	BS
1705	112	WIP-CAP TIME EXPAND/MO	BS
1706	101	WIP - INTEREST DURING	BS
1707	105	WIP - ENGINEERING	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1708	106	WIP - LABOR/INSTALLATI	BS
1709	108	WIP - EQUIPMENT	BS
1710	109	WIP - MATERIAL	BS
1711	110	WIP - ELECTRICAL	BS
1712	111	WIP - PIPING	BS
1713	112	WIP - SITE WORK	BS
1714	103	WIP - BUILDING ADDITIO	BS
1715	106	WIP - BUILDING/BLOWER	BS
1716	108	WIP - CONCRETE CONTRAC	BS
1717	109	WIP - CONSTRUCTION	BS
1718	110	WIP - DRAINING/PLANT	BS
1719	111	WIP - FOUNDATION	BS
1720	112	WIP - INSTALLATION OF	BS
1721	101	WIP - LAND/LEASE	BS
1722	102	WIP - MODIFICATION/LIF	BS
1723	103	WIP - PACKAGE PLANT PU	BS
1724	104	WIP - PERMITS	BS
1725	105	WIP - PUMP REMOVAL	BS
1726	106	WIP - PUMPS/EQUIPMENT	BS
1727	107	WIP - RELOCATION	BS
1728	108	WIP - SAND	BS
1729	109	WIP - SLUDGE/DISPOSAL	BS
1730	110	WIP - SURVEY	BS
1731	111	WIP - TESTS/SOIL BORE	BS
1732	112	WIP - VEGITATION/REMOV	BS
1739	101	WIP - TRANSFER TO FIXE	BS
1741	102	OTHER PLANT IN PROCESS	BS
1745	103	WIP-CAP TIME OFFICE RE	BS
1746	106	WIP - INTEREST DURING	BS
1747	107	WIP - LABOR/INSTALLATI	BS
1748	109	WIP - EQUIPMENT	BS
1749	110	WIP - MATERIAL	BS
1750	112	WIP - ELECTRICAL	BS
1751	101	WIP - SITE WORK	BS
1752	103	WIP - CONTRACTOR/LABOR	BS
1753	105	WIP - ARCHITECT/DESIGN	BS
1754	106	WIP - BUILDING ADDITIO	BS
1755	109	WIP - FURNITURE	BS
1756	102	WIP - HEATING/AIR COND	BS
1757	103	WIP - INTERIOR FINISH	BS
1758	104	WIP - MODIFICATION/CON	BS
1759	105	WIP - REMODELING	BS
1769	103	WIP - TRANSFER TO FIXE	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1770		DEFERRED PLANT IN PROCE	BS
1771	107	DEFERRED PLANT IN PROC	BS
1775	109	WIP-CAP TIME WATER TOW	BS
1776	102	WIP - INTEREST DURING	BS
1777	101	WIP - ENGINEERING	BS
1778	106	WIP - LABOR/INSTALLATI	BS
1779	101	WIP - EQUIPMENT	BS
1780	102	WIP - MATERIAL	BS
1781	105	WIP - SITE WORK	BS
1782	106	WIP - CONTRACTOR/LABOR	BS
1783	101	WIP - GROUTING/SEALING	BS
1784	101	WIP - JET CLEANING	BS
1785	107	WIP - PUMP & HAUL SLUD	BS
1786	107	WIP - RENTAL/MACHINE	BS
1787	104	WIP - REPAIR	BS
1799	111	WIP - TRANSFER TO FIXE	BS
1800		PLANT HELD FOR FUTURE USE	BS
1805		PLT HELD FUTURE USE-WTR	BS
1810		PLT HELD FUTURE USE-SWR	BS
1815		PLT HELD FUTURE USE-REUS	BS
1825		ACCUMULATED DEPRECIATION	BS
1830		ACC DEPR WATER PLANT	BS
1835		ACC DEPR-ORGANIZATION	BS
1840		ACC DEPR-FRANCHISES	BS
1845		ACC DEPR-STRUCT&IMPRV S	BS
1850		ACC DEPR-STRUCT&IMPRV W	BS
1855		ACC DEPR-STRUCT&IMPRV T	BS
1860		ACC DEPR-STRUCT&IMPRV G	BS
1865		ACC DEPR-COLLECTING RES	BS
1870		ACC DEPR-LAKE,RIVER,OTH	BS
1875		ACC DEPR-WELLS & SPRING	BS
1880		ACC DEPR-INFILTRATION G	BS
1885		ACC DEPR-SUPPLY MAINS	BS
1890		ACC DEPR-POWER GENERATI	BS
1895		ACC DEPR-ELECT PUMP EQU	BS
1900		ACC DEPR-ELECT PUMP EQU	BS
1905		ACC DEPR-ELECT PUMP EQU	BS
1910		ACC DEPR-WATER TREATMEN	BS
1915		ACC DEPR-DIST RESV & ST	BS
1920		ACC DEPR-TRANS & DISTR	BS
1925		ACC DEPR-SERVICE LINES	BS
1930		ACC DEPR-METERS	BS
1935		ACC DEPR-METER INSTALLS	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
1940		ACC DEPR-HYDRANTS	BS
1945		ACC DEPR-BACKFLOW PREVE	BS
1950		ACC DEPR-OTH PLANT&MISC	BS
1955		ACC DEPR-OTH PLANT&MISC	BS
1960		ACC DEPR-OTH PLANT&MISC	BS
1965		ACC DEPR-OTH PLANT&MISC	BS
1970		ACC DEPR-OFFICE STRUCTU	BS
1975		ACC DEPR-OFFICE FURN/EQ	BS
1980		ACC DEPR-STORES EQUIPME	BS
1985		ACC DEPR-TOOL SHOP & MI	BS
1990		ACC DEPR-LABORATORY EQU	BS
1995		ACC DEPR-POWER OPERATED	BS
2000		ACC DEPR-COMMUNICATION	BS
2005		ACC DEPR-MISC EQUIPMENT	BS
2010		ACC DEPR-OTHER TANG PLT	BS
2025		ACC DEPR SEWER PLANT	BS
2030		ACC DEPR-ORGANIZATION	BS
2040		ACC DEPR FRANCHISES INT	BS
2045		ACC DEPR FRANCH RCLM WT	BS
2050		ACC DEPR-STRUCT/IMPRV C	BS
2055		ACC DEPR-STRUCT/IMPRV P	BS
2060		ACC DEPR-STRUCT/IMPRV T	BS
2065		ACC DEPR-STRUCT/IMPRV R	BS
2070		ACC DEPR-STRUCT/IMPRV R	BS
2075		ACC DEPR-STRUCT/IMPRV G	BS
2080		ACC DEPR-PWR GEN EQP CO	BS
2085		ACC DEPR-PWR GEN EQP PU	BS
2090		ACC DEPR-PWR GEN EQP TR	BS
2095		ACC DEPR-PWR GEN EQP RC	BS
2100		ACC DEPR-PWR GEN EQP RC	BS
2105		ACC DEPR-SEWER FORCE MA	BS
2110		ACC DEPR-SEWER GRAVITY	BS
2113		ACC DEPR-MANHOLES	BS
2115		ACC DEPR-SPECIAL COLL S	BS
2120		ACC DEPR-SERVICES TO CU	BS
2125		ACC DEPR-FLOW MEASURE D	BS
2130		ACC DEPR-FLOW MEASURE I	BS
2135		ACC DEPR-RECEIVING WELL	BS
2140		ACC DEPR-PUMP EQP PUMP	BS
2145		ACC DEPR-PUMP EQP RCLM	BS
2150		ACC DEPR-PUMP EQP RCLM	BS
2155		ACC DEPR-TREAT/DISP EQP	BS
2160		ACC DEPR-TREAT/DISP EQP	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2165		ACC DEPR-TREAT/DISP EQP	BS
2170		ACC DEPR-PLANT SEWERS T	BS
2175		ACC DEPR-PLANT SEWERS R	BS
2180		ACC DEPR-OUTFALL LINES	BS
2185		ACC DEPR-OTHER PLT TANG	BS
2190		ACC DEPR-OTHER PLT COLL	BS
2195		ACC DEPR-OTHER PLT PUMP	BS
2200		ACC DEPR-OTHER PLT TREA	BS
2205		ACC DEPR-OTHER PLT RCLM	BS
2210		ACC DEPR-OTHER PLT RCLM	BS
2215		ACC DEPR-OFFICE STRUCTU	BS
2220		ACC DEPR-OFFICE FURN/EQ	BS
2225		ACC DEPR-STORES EQUIPME	BS
2230		ACC DEPR-TOOL SHOP & MI	BS
2235		ACC DEPR-LABORATORY EQP	BS
2240		ACC DEPR-POWER OPERATED	BS
2245		ACC DEPR-COMMUNICATION	BS
2250		ACC DEPR-MISC EQUIP SEW	BS
2255		ACC DEPR-OTHER TANG PLT	BS
2265		ACC DEPR REUSE PLANT	BS
2270		ACC DEPR-REUSE SERVICES	BS
2275		ACC DEPR-REUSE MTR/INST	BS
2280		ACC DEPR-REUSE DIST RES	BS
2285		ACC DEPR-REUSE TRANS/DI	BS
2295		ACC DEPR-TRANSPORTATION	BS
2300		ACC DEPR-TRANSPORTATION	BS
2305		ACC DEPR-TRANSPORTATION	BS
2310		ACC DEPR COMPUTER WTR	BS
2315		ACC DEPR-DESKTOP COMPUT	BS
2320		ACC DEPR-MAINFRAME COMP	BS
2325		ACC DEPR-MINI COMP WTR	BS
2330		COMP SYS AMORTIZATION W	BS
2335		MICRO SYS AMORTIZATION	BS
2340		ACC DEPR GAS PLANT	BS
2345		ACC DEPR-ORGANIZATION	BS
2346		ACC DEPR-FRANCHISES INT	BS
2347		ACC DEPR-STRUCT/IMPRV P	BS
2348		ACC DEPR-STRUCT/IMPRV N	BS
2349		ACC DEPR-STRUCT/IMPRV T	BS
2350		ACC DEPR-STRUCT/IMPRV D	BS
2351		ACC DEPR-STRUCT/IMPRV G	BS
2352		ACC DEPR-MAINS	BS
2353		ACC DEPR-SERVICE LINES	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2354		ACC DEPR-METERS	BS
2355		ACC DEPR-METER INSTALLA	BS
2356		ACC DEPR-RESERVOIRS	BS
2357		ACC DEPR-HOUSE REGULATO	BS
2358		ACC DEPR-HOUSE REGULATO	BS
2359		ACC DEPR-COMMUNICATION	BS
2360		ACC DEPR-OFFICE EQUIPME	BS
2361		ACC DEPR-POWER OPERATED	BS
2362		ACC DEPR-MISC EQUIP SEW	BS
2365		MICRO SYS AMORTIZATION	BS
2370		ACC DEPR PLT LEASED TO O	BS
2375		ACC DEPR PLT HELD FUT US	BS
2380		ACC DEPR PLT HELD FUT US	BS
2385		ACC DEPR PLT HELD FUT US	BS
2395		PLANT ACQ ADJ	BS
2400		UTILITY PAA WTR PLANT AM	BS
2405		UTILITY PAA WTR PLANT UN	BS
2410		UTILITY PAA SWR PLANT AM	BS
2415		UTILITY PAA SWR PLANT UN	BS
2417		UTILITY PAA GAS PLANT AM	BS
2420		ACC AMORT UTIL PAA-WATER	BS
2425		ACC AMORT UTIL PAA-SEWER	BS
2427		ACC AMORT UTIL PAA-GAS	BS
2435		INVESTMENT IN OPER COS	BS
2440		INVEST IN OPERATING COS	BS
2445	10	INVEST IN OPER COS	BS
2445	11	INVEST IN WTR SERV CORP	BS
2445	12	INVEST IN WTR SERV DISB	BS
2445	13	INVEST IN APPLE CANYON	BS
2445	14	INVEST IN CAMELOT	BS
2445	15	INVEST IN CHARMAR	BS
2445	16	INVEST IN CHERRY HILL	BS
2445	17	INVEST IN CLARENDON	BS
2445	18	INVEST IN COUNTY LINE	BS
2445	19	INVEST IN DEL MAR	BS
2445	20	INVEST IN FERSON CREEK	BS
2445	21	INVEST IN GALENA TERRIT	BS
2445	22	INVEST IN KILLARNEY	BS
2445	23	INVEST IN LAKE HOLIDAY	BS
2445	24	INVEST IN LAKE WILDWOOD	BS
2445	25	INVEST IN NORTHERN HILL	BS
2445	26	INVEST IN PRESTWICK	BS
2445	27	INVEST IN LAKE MARIAN	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2445	28	INVEST IN WILDWOOD	BS
2445	29	INVEST IN VALENTINE	BS
2445	30	INVEST IN WALK UP WOODS	BS
2445	31	INVEST IN WHISPERING HI	BS
2445	32	INVEST IN HOLIDAY HILLS	BS
2445	33	INVEST IN MEDINA	BS
2445	34	INVEST IN WESTLAKE	BS
2445	35	INVEST IN CEDAR BLUFF	BS
2445	36	INVEST IN HARBOR RIDGE	BS
2445	37	INVEST IN GREAT NORTHER	BS
2445	38	INVEST IN ILL COST CTR	BS
2445	39	INVEST IN UI OF NEVADA	BS
2445	40	INVEST IN SPRING CREEK	BS
2445	41	INVEST IN LA WTR SERV	BS
2445	42	INVEST IN UI OF LA	BS
2445	43	INVEST IN U I OF MARYLA	BS
2445	44	INVEST IN COLCHESTER	BS
2445	45	INVEST IN GREENRIDGE	BS
2445	46	INVEST IN PROVINCES	BS
2445	47	INVEST IN PINTO	BS
2445	48	INVEST IN OCCOQUAN SEWE	BS
2445	49	INVEST IN OCCOQUAN WATE	BS
2445	50	INVEST IN MASSANUTTEN S	BS
2445	51	INVEST IN HOLIDAY SERVI	BS
2445	52	INVEST IN WESTGATE	BS
2445	53	INVEST IN UI OF PA	BS
2445	54	INVEST IN PENN ESTATES	BS
2445	55	INVEST IND BLU MT LAKE	BS
2445	56	INVEST IN SKIDAWAY ISLA	BS
2445	57	INVEST IN ELK RIVER	BS
2445	58	INVEST IN MONTAGUE WATE	BS
2445	59	INVEST IN MONTAGUE SEWE	BS
2445	60	INVEST IN TWIN LAKES	BS
2445	61	INVEST IN TIERRE VERDE	BS
2445	62	INVEST IN LAKE PLACID	BS
2445	63	INVEST IN EAST LAKE	BS
2445	64	INVEST IN CHARLESTON U	BS
2445	65	INVEST IN PEBBLECREEK	BS
2445	66	INVEST IN ALAFAYA	BS
2445	67	INVEST IN LONGWOOD	BS
2445	68	INVEST IN WEDGEFIELD	BS
2445	69	INVEST IN CAROLINA WTR	BS
2445	70	INVEST IN UTIL SERV OF	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2445	71	INVEST IN CYPRESS LAKES	BS
2445	72	INVEST IN UTIL INC EAGL	BS
2445	73	INVEST IN SOUTHLAND	BS
2445	74	INVEST IN UNITED UTILIT	BS
2445	75	INVEST IN KEOWEE KEY	BS
2445	76	INVEST IN S C UTILITIES	BS
2445	77	INVEST IN WILD DUNES	BS
2445	78	INVEST IN TEGA CAY	BS
2445	79	INVEST IN CWS INC OF N	BS
2445	80	INVEST IN RIVER POINTE	BS
2445	81	INVEST IN FAIRFIELD	BS
2445	82	INVEST IN CNC-GENOA	BS
2445	83	INVEST IN WATAUGA VISTA	BS
2445	84	INVEST IN BRANDYWINE BA	BS
2445	85	INVEST IN TRANSYLVANIA	BS
2445	86	INVEST IN MID COUNTY	BS
2445	87	INVEST IN LAKE UTIL INC	BS
2445	88	INVEST IN U I OF FLORID	BS
2445	89	INVEST IN MILES GRANT	BS
2445	90	INVEST IN TENN WTR SERV	BS
2445	91	INVEST IN BIOTECH	BS
2445	92	INVEST IN HUTCHINSON IS	BS
2445	93	INVEST IN SANLANDO	BS
2445	94	INVEST IN LAKE GROVES	BS
2445	95	INVEST IN SANDALVEN	BS
2445	96	INVEST IN BAYSIDE	BS
2445	97	INVEST IN SOUTH GATE	BS
2445	98	INVEST IN LABRADOR UI	BS
2445	99	INVEST IN UI OF PENNBRO	BS
2445	100	INVEST IN UI OF HUTCHIN	BS
2445	101	INVEST IN SANDY CREEK	BS
2445	102	INVEST IN NORTH TOPSAIL	BS
2445	103	INVEST IN CAROLINA PINE	BS
2445	104	INVEST IN BRADFIELD FAR	BS
2445	105	INVEST IN NERO UTILITY	BS
2445	106	INVEST IN SKY RANCH	BS
2445	107	INVEST IN BERMUDA WATER	BS
2445	108	INVEST IN UI OF CENTRAL	BS
2445	109	INVEST IN WSC OF IND IN	BS
2445	110	INVEST IN INDIANA WATER	BS
2445	111	INVEST IN WTR SERV CORP	BS
2445	112	INVEST IN WSC OF GEORGI	BS
2450		NON-UTILITY INVESTMENTS	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2455		NON-UTILITY PROPERTY & I	BS
2460		NON-UTIL PROP & INVENTO	BS
2465		ORGANIZATION	BS
2470		LAND & LAB RIGHTS	BS
2475		PROCESSING PLANT	BS
2480		OFF STRUCT & IMPROV	BS
2485		PORTABLE OFFICE STRUCTU	BS
2490		OFFICE FURNITURE	BS
2495		OFFICE EQUIPMENT	BS
2500		MAINTENANCE STRUCT & IM	BS
2505		LAB FURNITURE	BS
2510		MAINTENANCE TOOL	BS
2515		EQUIPMENT & MACHINERY	BS
2520		COMMUNICATION EQUIPMENT	BS
2525		ACC DEPR NON-UTILITY PRO	BS
2530		ACC DEPR-PROP & INV	BS
2535		ACC DEPR-ORGANIZATION	BS
2540		ACC DEPR-LAND&LAB	BS
2545		ACC DEPR-PROCESSING PLA	BS
2550		ACC DEPR-OFF STRUCTURE	BS
2555		ACC DEPR-PORT OFF STRUC	BS
2560		ACC DEPR-OFF FURNITURE	BS
2565		ACC DEPR-OFF EQUIPMENT	BS
2570		ACC DEPR-MAINT STRUCTUR	BS
2575		ACC DEPR-LAB FURNITURE	BS
2580		ACC DEPR-MAINT TOOL	BS
2585		ACC DEPR-EQ & MACHINERY	BS
2590		ACC DEPR-COMMUN EQPT	BS
2595		NONREG GOODWILL	BS
2600		NONREGULATED GOODWILL	BS
2605		ACCUM AMORT NONREG GOOD	BS
2610		ESCROW DEPOSIT	BS
2615		ESCROW DEPOSIT	BS
2620		UTIL PLANT ACQUIRED/DIS	BS
2625		CURRENT ASSETS	BS
2630		CASH	BS
2635		CASH-IN BANK	BS
2640	11	CASH-CHASE-DEPOSITORY	BS
2640	10	CASH-CHASE-WSC DISBURSE	BS
2640	13	CASH CONSOLIDATION	BS
2640	14	CASH CLEARING ACCOUNT	BS
2640	16	CASH-CHASE-WSCIL	BS
2640	18	CASH-TD BANK CANADA USD	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2640	20	CASH-TD BANK NA USD	BS
2640	23	CASH-CHASE-CREDIT CARD	BS
2640	24	CASH-CHASE-FLEXSERV	BS
2640	25	CASH-BANK OF AMERICA-SC	BS
2640	31	CASH-BANK OF AMERICA-GA	BS
2640	32	CASH-BANK OF AMERICA-NV	BS
2640	40	CASH-COMMERICAL BANK-KY	BS
2640	43	CASH-BANK OF AMERICA-FL	BS
2640	47	CASH-BANK OF AMERICA-NC	BS
2640	53	CASH-1ST COMMUNITY BANK	BS
2640	19	CASH-BANK OF NEW YORK M	BS
2640	27	CASH-WIRE TRANSFER CLEA	BS
2640	39	CASH-AL WELLS FARGO	BS
2640	36	CASH-CHASE-BETTERMENT F	BS
2640	37	CASH-CHASE-PLT CAP FUND	BS
2640	38	CASH-CHASE-WTR STORAGE	BS
2640	51	CASH-CHASE-WTR RTS PRO	BS
2640	48	CASH-BANK OF AM-COLCHES	BS
2640	50	CASH-BB&T	BS
2640	12	CASH-CHASE MONEY MARKET	BS
2640	15	CASH CLEARING-COLLECT A	BS
2640	17	CASH-CHASE-WSC INS DISB	BS
2640	21	CASH-CHASE-CWS COLLECTI	BS
2640	22	CASH-BANK OF AMERICA-AC	BS
2640	26	CASH-WILLIAM BLAIR	BS
2640	28	CASH-CNC MOREHEAD CTY-W	BS
2640	29	CASH-CHASE-AZ 2185-0135	BS
2640	30	CASH-COBANK-AZ	BS
2640	33	CASH-CHASE-SPG CRK HYD	BS
2640	34	CASH-CHASE-SPG CRK CAP	BS
2640	35	CASH-BANK OF AMERICA-MD	BS
2640	41	CASH-CLINTON 1ST NATL B	BS
2640	44	CASH-NATIONS BANK-SEUI	BS
2640	45	CASH-BARNETT BANK	BS
2640	46	CASH-CHASE-LA	BS
2640	49	CASH-TALLAHATCHIE-MS	BS
2640	52	CASH-CHASE-UIL ESCROW	BS
2640	42	CASH-CLINTON-DEBT RESER	BS
2645		PETTY CASH	BS
2650	11	CASH-CWS PETTY CASH-BOA	BS
2650	12	CASH-CNC PETTY CASH-BOA	BS
2650	14	CASH-MD PETTY CASH-BOA	BS
2650	15	CASH-FL PETTY CASH-BOA	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2650	16	CASH-GA PETTY CASH-BOA	BS
2650	17	CASH-LA PETTY CASH-CHAS	BS
2650	20	CASH-AZ PETTY CASH-CHAS	BS
2650	10	CASH-WSC PETTY CASH-CHA	BS
2650	13	CASH-UUC PETTY CASH	BS
2650	18	CASH-MS PETTY CASH-TALL	BS
2650	19	CASH-BIOTECH PETTY CASH	BS
2650	21	CASH-NV PETTY CASH-BOA	BS
2650	22	PETTY CASH	BS
2655		ACCOUNTS RECEIVABLE	BS
2660		A/R CASH UNAPPLIED	BS
2665		CASH UNAPPLIED	BS
2670		ACCOUNTS RECEIVABLE CUST	BS
2675		A/R-CUSTOMER TRADE CC&B	BS
2676		A/R-TRADE US	BS
2677		A/R-OTHER USD	BS
2678		A/R-INTEREST	BS
2680		A/R-CUSTOMER ACCRUAL	BS
2685		A/R-CUSTOMER REFUNDS	BS
2690		ACCUM PROV UNCOLLECT ACC	BS
2695		ACCOUNTS RECEIVABLE OTHE	BS
2700		A/R-OTHER	BS
2710		A/R ASSOC COS	BS
2715		TOTAL NOTES RECEIVABLE	BS
2720		NOTES REC ACCOCIATED COS	BS
2725		N/R ASSOC COS	BS
2730		N/R OTHER	BS
2735		LONG TERM NOTES RECEIVAB	BS
2740		N/R STOCK PURCHASE	BS
2745		N/R STOCK PURCHASE	BS
2750		INVENTORY TOTAL	BS
2755		INVENTORY	BS
2770		TOTAL SPECIAL DEPOSITS	BS
2775		SPECIAL DEPOSITS	BS
2780		PREPAID EXPENSES	BS
2785		PREPAYMENTS	BS
2790		PREPAID INSURANCE	BS
2795		PREPAID REIMBURSEMENTS	BS
2800		PREPAID TARIFF FUNDS	BS
2805		OTHER CURRENT ASSETS	BS
2810		INTEREST & DIVIDENDS REC	BS
2815		INT & DIV RECEIVABLE	BS
2820		MISC CURRENT ASSETS	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
2825		MISC CURRENT ASSETS	BS
2830		INVESTMENTS IN STOCK	BS
2835		TEMPORARY CASH INVESTME	BS
2840		DEFERRED STOCK COMPENSA	BS
2845		CASH VALUE OF LIFE INS (COLI ASSET)	BS
2850		PRELIMINARY SURVEY	BS
2855		PRELIMINARY SURVEY	BS
2856	801	PRELIMINARY SURVEY PRO	BS
2860		CLEARING	BS
2865		PAYROLL CLEARING	BS
2870		FLEX SERV	BS
2875		401K CLEARING	BS
2880		DEF CHGS & OTHER ASSETS	BS
2885		UNAMORT DEBT DISCOUNT &	BS
2890		DEBT EXPENSE BEING AMOR	BS
2895		AMORT - DEBT EXPENSE	BS
2900		DEFERRED RATE CASE EXPEN	BS
2905		RATE CASE IN PROGRESS	BS
2906	901	RCIP - ATTORNEY FEES	BS
2907	901	RCIP - CAPITALIZED TIM	BS
2908	901	RCIP - ADMINISTRATIVE	BS
2909	901	RCIP - TRAVEL	BS
2910	901	RCIP - CONSULTING FEES	BS
2914	901	RCIP - TRANSFER TO RC	BS
2915		REG EXP BEING AMORT	BS
2920		RATE CASE BEING AMORT	BS
2925		MISC REGULATORY COMM EX	BS
2930		RATE CASE ACCUM AMORT	BS
2933		WATER CONSERVATION REBA	BS
2935		ORIG COST EXPENSE	BS
2940		ORIG COST ACCUM AMORT	BS
2945		OTHER DEFERRED CHARGES	BS
2950		DEF CHGS-LANDSCAPING	BS
2955		DEF CHGS-CUSTOMER COMPL	BS
2960		DEF CHGS-TANK MAINT&REP	BS
2965		DEF CHGS-RELOCATION EXP	BS
2970		DEF CHGS-ATTORNEY FEE	BS
2975		DEF CHGS-HURRICANE/STOR	BS
2980		DEF CHGS-EMP FEES	BS
2985		DEF CHGS-OTHER	BS
3000		DEF CHGS-OTHER WTR & SW	BS
3005		DEF CHGS-MULTI YR TESTI	BS
3020		DEF CHGS-SLUDGE HAULING	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
3025		DEF CHGS-PR WASH/JET SW	BS
3030		DEF CHGS-TV SEWER MAINS	BS
3040		DEF CHGS-TANK MAINT&REP	BS
3080		AMORT - LANDSCAPING	BS
3090		AMORT - CUSTOMER COMPLA	BS
3110		AMORT - TANK MAINT&REP	BS
3120		AMORT - RELOCATION EXP	BS
3125		AMORT - ATTORNEY FEE	BS
3130		AMORT - HURRICANE/STORM	BS
3135		AMORT - EMPLOYEE FEES	BS
3140		AMORT - OTHER	BS
3155		AMORT - OTHER WTR & SWR	BS
3160		AMORT - MULTI YR TESTIN	BS
3175		AMORT - SLUDGE HAULING	BS
3180		AMORT - PR WASH/JET SWR	BS
3185		AMORT - TV SEWER MAINS	BS
3195		AMORT - TANK MAINT&REP	BS
3200		REGULATORY INCOME TAX AS	BS
3210		TOTAL LIABILITIES	BS
3215		LONG TERM LIABILITIES	BS
3220		ADVANCES IN AID OF CONSTR	BS
3225		ADV-IN-AID OF CONST-WATE	BS
3230		ADV-IN-AID OF CONST-SEWE	BS
3235		ACC AMORT-AIA-WATER	BS
3240		ACC AMORT-CIA-SEWER	BS
3245		CONTRIBUTIONS IN AID CONS	BS
3250		CONTRIBUTIONS IN AID WAT	BS
3255		CIAC-ORGANIZATION	BS
3260		CIAC-FRANCHISES	BS
3265		CIAC-STRUCT & IMPRV SRC	BS
3270		CIAC-STRUCT & IMPRV WTP	BS
3275		CIAC-STRUCT & IMPRV TRA	BS
3280		CIAC-STRUCT & IMPRV GEN	BS
3285		CIAC-COLLECTING RESERVO	BS
3290		CIAC-LAKE, RIVER, OTHER	BS
3295		CIAC-WELLS & SPRINGS	BS
3300		CIAC-INFILTRATION GALLE	BS
3305		CIAC-SUPPLY MAINS	BS
3310		CIAC-POWER GENERATION E	BS
3315		CIAC-ELEC PUMP EQP SRC	BS
3320		CIAC-ELEC PUMP EQP WTP	BS
3325		CIAC-ELEC PUMP EQP TRAN	BS
3330		CIAC-WATER TREATMENT EQ	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
3335		CIAC-DIST RESV & STANDP	BS
3340		CIAC-TRANS & DISTR MAIN	BS
3345		CIAC-SERVICE LINES	BS
3350		CIAC-METERS	BS
3355		CIAC-METER INSTALLS	BS
3360		CIAC-HYDRANTS	BS
3365		CIAC-BACKFLOW PREVENT D	BS
3370		CIAC-OTH PLT&MISC EQP I	BS
3375		CIAC-OTH PLT&MISC EQP S	BS
3380		CIAC-OTH PLT&MISC EQP W	BS
3385		CIAC-OTH PLT&MISC EQP D	BS
3390		CIAC-OFFICE STRUCTURE	BS
3395		CIAC-OFFICE FURN/EQPT	BS
3400		CIAC-STORES EQUIPMENT	BS
3405		CIAC-TOOL SHOP & MISC E	BS
3410		CIAC-LABORATORY EQUIPME	BS
3415		CIAC-POWER OPERATED EQU	BS
3420		CIAC-COMMUNICATION EQPT	BS
3425		CIAC-MISC EQUIPMENT	BS
3430		CIAC-OTHER TANGIBLE PLT	BS
3435		CIAC-WATER-TAP	BS
3440		CIAC-WTR MGMT FEE	BS
3442		CIAC-WTR LINE EXT FEE	BS
3445		CIAC-WTR RES CAP FEE	BS
3450		CIAC-WTR PLT MOD FEE	BS
3455		CIAC-WTR PLT MTR FEE	BS
3475		CONTRIBUTIONS IN AID SEW	BS
3480		CIAC-ORGANIZATION	BS
3485		CIAC-FRANCHISES INTANG	BS
3490		CIAC-FRANCHISES RCLM WT	BS
3495		CIAC-STRUCT/IMPRV COLL	BS
3500		CIAC-STRUCT/IMPRV PUMP	BS
3505		CIAC-STRUCT/IMPRV TREAT	BS
3510		CIAC-STRUCT/IMPRV RCLM	BS
3515		CIAC-STRUCT/IMPRV RCLM	BS
3520		CIAC-STRUCT/IMPRV GEN P	BS
3525		CIAC-POWER GEN EQUIP CO	BS
3530		CIAC-POWER GEN EQUIP PU	BS
3535		CIAC-POWER GEN EQUIP TR	BS
3540		CIAC-POWER GEN EQUIP RC	BS
3545		CIAC-POWER GEN EQUIP RC	BS
3550		CIAC-SEWER FORCE MAIN	BS
3555		CIAC-SEWER GRAVITY MAIN	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
3557		CIAC-MANHOLE	BS
3560		CIAC-SPECIAL COLL STRUC	BS
3565		CIAC-SERVICES TO CUSTOM	BS
3570		CIAC-FLOW MEASURE DEVIC	BS
3575		CIAC-FLOW MEASURE INSTA	BS
3580		CIAC-RECEIVING WELLS	BS
3585		CIAC-PUMP EQP PUMP PLT	BS
3590		CIAC-PUMP EQP RCLM WTP	BS
3595		CIAC-PUMP EQP RCLM DIST	BS
3600		CIAC-TREAT/DISP EQUIP L	BS
3605		CIAC-TREAT/DISP EQUIP T	BS
3610		CIAC-TREAT/DISP EQUIP R	BS
3615		CIAC-PLANT SEWERS TRTMT	BS
3620		CIAC-PLANT SEWERS RCLM	BS
3625		CIAC-OUTFALL LINES	BS
3630		CIAC-OTHER PLT TANGIBLE	BS
3635		CIAC-OTHER PLT COLLECTI	BS
3640		CIAC-OTHER PLT PUMP	BS
3645		CIAC-OTHER PLT TREATMEN	BS
3650		CIAC-OTHER PLT RCLM WTR	BS
3655		CIAC-OTHER PLT RCLM WTR	BS
3660		CIAC-OFFICE STRUCTURE	BS
3665		CIAC-OFFICE FURN/EQPT	BS
3670		CIAC-STORES EQUIPMENT	BS
3675		CIAC-TOOL SHOP & MISC E	BS
3680		CIAC-LABORATORY EQPT	BS
3685		CIAC-POWER OPERATED EQU	BS
3690		CIAC-COMMUNICATION EQPT	BS
3695		CIAC-MISC EQUIP SEWER	BS
3700		CIAC-OTHER TANGIBLE PLT	BS
3705		CIAC-SEWER-TAP	BS
3710		CIAC-SWR MGMT FEE	BS
3712		CIAC-SWR LINE EXT FEE	BS
3715		CIAC-SWR RES CAP FEE	BS
3720		CIAC-SWR PLT MOD FEE	BS
3725		CIAC-SWR PLT MTR FEE	BS
3726		CIAC-GAS	BS
3727		CIAC-ORGANIZATION	BS
3728		CIAC-FRANCHISES INTANG	BS
3729		CIAC-GAS-TAP	BS
3730		CIAC-STRUCT/IMPRV NATUA	BS
3731		CIAC-STRUCT/IMPRV TRANS	BS
3732		CIAC-STRUCT/IMPRV DISTR	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
3733		CIAC-STRUCT/IMPRV GEN P	BS
3734		CIAC-MAINS	BS
3735		CIAC-SERVICE LINES	BS
3736		CIAC-METERS	BS
3737		CIAC-METER INSTALLATION	BS
3738		CIAC-RESERVOIRS	BS
3739		CIAC-HOUSE REGULATORS	BS
3745		CIAC-REUSE	BS
3750		CIAC-REUSE SERVICES	BS
3755		CIAC-REUSE MTR/INSTALLA	BS
3760		CIAC-REUSE DIST RESERVO	BS
3765		CIAC-REUSE TRANMISSION	BS
3770		CIAC-REUSE-TAP	BS
3775		CIAC-REUSE MGMT FEE	BS
3777		CIAC-REUSE LINE EXT FEE	BS
3780		CIAC-REUSE RES CAP FEE	BS
3785		CIAC-REUSE PLT MOD FEE	BS
3790		CIAC-REUSE PLT MTR FEE	BS
3795		ACCUM AMORT OF CIA WATER	BS
3800		ACC AMORT ORGANIZATION	BS
3805		ACC AMORT FRANCHISES	BS
3810		ACC AMORT STRUCT & IMPR	BS
3815		ACC AMORT STRUCT & IMPR	BS
3820		ACC AMORT STRUCT & IMPR	BS
3825		ACC AMORT STRUCT & IMPR	BS
3830		ACC AMORT COLLECTING RE	BS
3835		ACC AMORT LAKE, RIVER,	BS
3840		ACC AMORT WELLS & SPRIN	BS
3845		ACC AMORT INFILTRATION	BS
3850		ACC AMORT SUPPLY MAINS	BS
3855		ACC AMORT POWER GEN EQP	BS
3860		ACC AMORT ELEC PUMP EQP	BS
3865		ACC AMORT ELEC PUMP EQP	BS
3870		ACC AMORT ELEC PUMP EQP	BS
3875		ACC AMORT WATER TREATME	BS
3880		ACC AMORT DIST RESV & S	BS
3885		ACC AMORT TRANS & DISTR	BS
3890		ACC AMORT SERVICE LINES	BS
3895		ACC AMORT METERS	BS
3900		ACC AMORT METER INSTALL	BS
3905		ACC AMORT HYDRANTS	BS
3910		ACC AMORT BACKFLOW PREV	BS
3915		ACC AMORT OTH PLT&MISC	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
3920		ACC AMORT OTH PLT&MISC	BS
3925		ACC AMORT OTH PLT&MISC	BS
3930		ACC AMORT OTH PLT&MISC	BS
3935		ACC AMORT OFFICE STRUCT	BS
3940		ACC AMORT OFFICE FURN/E	BS
3945		ACC AMORT STORES EQUIPM	BS
3950		ACC AMORT TOOL SHOP & M	BS
3955		ACC AMORT LABORATORY EQ	BS
3960		ACC AMORT POWER OPERATE	BS
3965		ACC AMORT COMMUNICATION	BS
3970		ACC AMORT MISC EQUIPMEN	BS
3975		ACC AMORT OTHER TANG PL	BS
3980		ACC AMORT WATER-CIAC TA	BS
3990		ACC AMORT WTR MGMT FEE	BS
3992		ACC AMORT WTR LINE EXT	BS
3995		ACC AMORT WTR RES CAP F	BS
4000		ACC AMORT WTR PLT MOD F	BS
4005		ACC AMORT WTR PLT MTR F	BS
4025		ACCUM AMORT OF CIA SEWER	BS
4030		ACC AMORT ORGANIZATION	BS
4035		ACC AMORT FRANCHISES IN	BS
4040		ACC AMORT FRANCHISES RC	BS
4045		ACC AMORTSTRUCT/IMPRV C	BS
4050		ACC AMORTSTRUCT/IMPRV P	BS
4055		ACC AMORTSTRUCT/IMPRV T	BS
4060		ACC AMORTSTRUCT/IMPRV R	BS
4065		ACC AMORTSTRUCT/IMPRV R	BS
4070		ACC AMORTSTRUCT/IMPRV G	BS
4075		ACC AMORT PWR GEN EQP C	BS
4080		ACC AMORT PWR GEN EQP P	BS
4085		ACC AMORT PWR GEN EQP T	BS
4090		ACC AMORT PWR GEN EQP R	BS
4095		ACC AMORT PWR GEN EQP R	BS
4100		ACC AMORT SEWER FORCE M	BS
4105		ACC AMORT SEWER GRAVITY	BS
4107		ACC AMORT MANHOLES	BS
4110		ACC AMORT SPCL COLL STR	BS
4115		ACC AMORT SERVICES TO C	BS
4120		ACC AMORT FLOW MEASURE	BS
4125		ACC AMORT FLOW MEASURE	BS
4130		ACC AMORT RECEIVING WEL	BS
4135		ACC AMORT PUMP EQP PUMP	BS
4140		ACC AMORT PUMP EQP RCLM	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
4145		ACC AMORT PUMP EQP RCLM	BS
4150		ACC AMORT TREAT/DISP EQ	BS
4155		ACC AMORT TREAT/DISP EQ	BS
4160		ACC AMORT TREAT/DISP EQ	BS
4165		ACC AMORT PLANT SWR TRT	BS
4170		ACC AMORT PLANT SWR RCL	BS
4175		ACC AMORT OUTFALL LINES	BS
4180		ACC AMORT OTH PLT TANGI	BS
4185		ACC AMORT OTH PLT COLLE	BS
4190		ACC AMORT OTH PLT PUMP	BS
4195		ACC AMORT OTH PLT TREAT	BS
4200		ACC AMORT OTH PLT RCLM	BS
4205		ACC AMORT OTH PLT RCLM	BS
4210		ACC AMORT OFFICE STRUCT	BS
4215		ACC AMORT OFFICE FURN/E	BS
4220		ACC AMORT STORES EQUIPM	BS
4225		ACC AMORT TOOL SHOP & M	BS
4230		ACC AMORT LABORATORY EQ	BS
4235		ACC AMORT POWER OPERATE	BS
4240		ACC AMORT COMMUNICATION	BS
4245		ACC AMORT MISC EQUIP SE	BS
4250		ACC AMORT STRUCT/IMPRV	BS
4255		ACC AMORT STRUCT/IMPRV	BS
4260		ACC AMORT OTHER TANG PL	BS
4265		ACC AMORT SEWER-TAP	BS
4270		ACC AMORT SWR MGMT FEE-	BS
4272		ACC AMORT SWR LINE EXT	BS
4275		ACC AMORT SWR RES CAP F	BS
4280		ACC AMORT SWR PLT MOD F	BS
4285		ACC AMORT SWR PLT MTR F	BS
4286		ACC AMORT-CIAC GAS	BS
4287		ACC AMORT-ORGANIZATION	BS
4288		ACC AMORT-FRANCHISES IN	BS
4289		ACC AMORT-GAS-TAP	BS
4290		ACC AMORT-STRUCT/IMPRV	BS
4291		ACC AMORT-STRUCT/IMPRV	BS
4292		ACC AMORT-STRUCT/IMPRV	BS
4293		ACC AMORT-STRUCT/IMPRV	BS
4294		ACC AMORT-MAINS	BS
4295		ACC AMORT-SERVICE LINES	BS
4296		ACC AMORT-METERS	BS
4297		ACC AMORT-METER INSTALL	BS
4298		ACC AMORT-RESERVOIRS	BS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

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Chart of Accounts

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Obj	Sub	Account Description	IS/BS
4299		ACC AMORT-HOUSE REGULAT	BS
4305		ACC AMORT-CIA REUSE	BS
4310		ACC AMORT-REUSE SERVICE	BS
4315		ACC AMORT-REUSE MTR/INS	BS
4320		ACC AMORT-REUSE DIST RE	BS
4325		ACC AMORT-REUSE TRANS D	BS
4330		ACC AMORT REUSE-TAP	BS
4335		ACC AMORT REUSE MGMT FE	BS
4337		ACC AMORT REUSE LINE EX	BS
4340		ACC AMORT REUSE RES CAP	BS
4345		ACC AMORT REUSE PLT MOD	BS
4350		ACC AMORT REUSE PLT MTR	BS
4360		DEFERRED INCOME TAXES	BS
4365		ACCUM DEFERRED FIT	BS
4367		ACCUM DEF INCOME TAX-FE	BS
4369		DEF FED TAX - CIAC PRE	BS
4371		DEF FED TAX - TAP FEE P	BS
4373		DEF FED TAX - IDC	BS
4375		DEF FED TAX - RATE CASE	BS
4377		DEF FED TAX - DEF MAINT	BS
4379		DEF FED TAX - OTHER OPE	BS
4381		DEF FED TAX - SOLD CO	BS
4383		DEF FED TAX - ORGN EXP	BS
4385		DEF FED TAX - BAD DEBT	BS
4387		DEF FED TAX - DEPRECIAT	BS
4389		DEF FED TAX - NOL	BS
4391		DEF FED TAX - CONT PROP	BS
4393		DEF FED TAX - AMT	BS
4395		DEF FED TAX - PRE ACRS	BS
4397		DEF FED TAX - RES CAP F	BS
4415		ACCUM DEFERRED SIT	BS
4417		ACCUM DEF INCOME TAX -	BS
4419		DEF ST TAX - CIAC PRE 1	BS
4421		DEF ST TAX - TAP FEE PO	BS
4423		DEF ST TAX - IDC	BS
4425		DEF ST TAX - RATE CASE	BS
4427		DEF ST TAX - DEF MAINT	BS
4429		DEF ST TAX - OTHER OPER	BS
4431		DEF ST TAX - SOLD CO	BS
4433		DEF ST TAX - ORGN EXP	BS
4435		DEF ST TAX - BAD DEBT	BS
4437		DEF ST TAX - DEPRECIATI	BS
4439		DEF ST TAX - NOL	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
4441		DEF ST TAX - CONT PROP	BS
4443		DEF ST TAX - AMT	BS
4445		DEF ST TAX - RES CAP FE	BS
4455		DEFERRED INV TAX CREDITS	BS
4460		UNAMORT INVEST TAX CREDI	BS
4465		LONG TERM DEBT	BS
4470		LONG TERM NOTES PAYABLE	BS
4475	10	L/T NOTES PAYABLE	BS
4475	11	L/T N/P \$180M 07/06	BS
4475	12	L/T N/P - IPRI	BS
4475	13	L/T N/P TO IDS LIFE INS	BS
4475	14	L/T N/P TEACHERS 8.95%	BS
4475	15	L/T N/P \$50MM	BS
4475	16	L/T N/P AMERICAN NATL	BS
4475	17	L/T N/P CENTURY 21	BS
4475	18	L/T N/P 20M @ 4.55%	BS
4475	19	L/T N/P 20M @ 4.62	BS
4475	20	L/T N/P TEACHERS 9.16%	BS
4475	21	L/T DEBT-SOUTHERN GULF	BS
4475	22	L/T N/P TEACHERS 9.01%	BS
4475	23	N/P CITY OF ST PETERSBU	BS
4475	24	N/P CITY OF ST PETERSBU	BS
4475	25	L/T N/P LINCOLN/AMERICA	BS
4475	26	L/T N/P FIRST UNION	BS
4475	27	L/T N/P \$41MM 8.42%	BS
4475	28	L/T DEBT BERMUDA	BS
4475	29	L/T N/P TO TIERRA VERDE	BS
4475	30	L/T N/P TO OFFICERS	BS
4480		BOOK VALUE IN EXCESS INV	BS
4485		UNAMORT EXCESS BK VAL	BS
4490		ACCUM AMORT OF EXC BK VA	BS
4495		CURRENT MATURITY L/T DEB	BS
4500		CURRENT LIABILITIES	BS
4505		ACCOUNTS PAYABLE	BS
4510		ACCOUNTS PAYABLE TRADE	BS
4515		A/P TRADE	BS
4516		INTERCO TRADE PAY-CII	BS
4517		INTERCO TRADE PAY-CWP(U	BS
4518		INTERCO TRADE PAY-CISUS	BS
4519		INTERCO PAYABLE-CU(US)	BS
4520		A/P RETIREMENT PLANS	BS
4521		INTERCO PAYABLE-IPRI	BS
4522		INTERCO PAYABLE-CI	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

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Obj	Sub	Account Description	IS/BS
4523		INTERCO PAYABLE-CWP(US)	BS
4524		INTERCO PAYABLE-CISUS	BS
4525		A/P TRADE - ACCRUAL	BS
4526		PAYROLL-CASH EXP PAYABL	BS
4527		A/P TRADE - RECD NOT VO	BS
4528		CONTRACT OBLIGATIONS	BS
4529		INTERCO PAYABLE-CU OU	BS
4530		ACCTS PAYABLE ASSOC COS	BS
4535		A/P-ASSOC COMPANIES	BS
4540		ACCOUNTS PAYABLE MISC	BS
4545		A/P MISCELLANEOUS	BS
4547		NON QUALIFIED DEF COMP	BS
4548		A/P 3RD PARTY LIABILITY	BS
4550		DEF CREDITS	BS
4555		DEF CREDITS OTHER	BS
4560		AMORT DEF CREDITS	BS
4565		ADVANCES FROM UTILITIES	BS
4570		NOTES PAYABLE TO BANKS	BS
4575		NOTES PAYABLE SHORT TERM	BS
4580	10	N/P SHORT TERM	BS
4580	11	N/P CHASE	BS
4580	12	N/P BANK OF AMERICA	BS
4580	13	N/P C & S NATIONAL BANK	BS
4580	14	N/P NATIONS BANK	BS
4580	15	S/T N/P FIRST UNION	BS
4580	16	N/P UTIL SUPPLY AMERICA	BS
4585		N/P TO ASSOC COS UI	BS
4590		CUSTOMER DEPOSITS	BS
4595		CUSTOMER DEPOSITS	BS
4600		METER DEPOSITS	BS
4605		ACCRUED TAXES	BS
4610		ACCRUED TAXES	BS
4612		ACCRUED TAXES GENERAL	BS
4614		ACCRUED GROSS RECEIPT T	BS
4616		ACCRUED FRANCHISE TAX A	BS
4617		ACCRUED FRANCHISE TAX B	BS
4618		ACCRUED UTIL OR COMM TA	BS
4619		ACCRUED ADEM / ADPH	BS
4620		ACCRUED SAFE DRINKING A	BS
4621		ACCRUED DEQ PERMIT	BS
4622		ACCRUED SUI	BS
4623		ACCRUED TCEQ	BS
4624		ACCRUED ST DISABILITY	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
4626		ACCRUED ASSOCIATION FEE	BS
4628		ACCRUED REAL EST TAX	BS
4630		ACCRUED PERS PROP & ICT	BS
4632		ACCRUED SPECIAL ASSESSM	BS
4634		ACCRUED SALES TAX	BS
4635		ACCRUED USE TAX	BS
4636		ACCRUED COUNTY TAX A	BS
4637		ACCRUED COUNTY TAX B	BS
4638		ACCRUED CITY TAX A	BS
4639		ACCRUED CITY TAX B	BS
4640		ACCRUED RESTOR FUND	BS
4642	10	ACCRUED ST W/H TAX GEOR	BS
4642	11	ACCRUED ST W/H TAX ILLI	BS
4642	12	ACCRUED ST W/H TAX INDI	BS
4642	13	ACCRUED ST W/H TAX MISS	BS
4642	14	ACCRUED ST W/H TAX N C	BS
4642	15	ACCRUED ST W/H TAX OHIO	BS
4642	16	ACCRUED ST W/H TAX S C	BS
4642	17	ACCRUED ST W/H TAX NONR	BS
4642	18	ACCRUED ST W/H TAX WISC	BS
4642	19	ACCRUED ST W/H TAX LOUI	BS
4642	20	ACCRUED ST W/H TAX TENN	BS
4642	21	ACCRUED ST W/H TAX MARY	BS
4642	22	ACCRUED ST W/H TAX PA	BS
4642	23	ACCRUED ST W/H TAX NJ	BS
4642	24	ACCRUED ST W/H TAX VIRG	BS
4642		ACCRUED ST W/H TAX	BS
4657		ACCRUED INCOME TAX	BS
4659		ACCRUED FED INCOME TAX	BS
4661		ACCRUED ST INCOME TAX	BS
4670		ACCRUED INTEREST	BS
4675		ACCRUED INTEREST	BS
4680		ACCRUED L/T INTEREST	BS
4685		ACCRUED CUST DEP INTERE	BS
4690		ACCRUED INS CO INTEREST	BS
4695		ACCRUED S/T BK DEBT INT	BS
4700		ACCRUED SALARIES	BS
4705		SALARIES PAYABLE	BS
4710		DEFERRED REVENUE	BS
4715		DEFERRED REVENUE	BS
4720		RESERVE-PEND REG MATTER	BS
4725		RESERVE-PEND REG MATTER	BS
4730		PAYABLE TO DEVELOPERS	BS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

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Obj	Sub	Account Description	IS/BS
4735		PAYABLE TO DEVELOPER	BS
4740		TOTAL EQUITY	BS
4745		EQUITY	BS
4750		COMMON SHAREHOLD EQUITY	BS
4755		COMMON STOCK / CS SUBSCR	BS
4760		COMMON STOCK	BS
4765		COMMON STOCK SUBSCRIBED	BS
4770		DEFERRED COMP-RESTRICTED	BS
4775		PREM ON COMMON STOCK	BS
4780		PAID IN CAPITAL	BS
4785		MISC PAID IN CAPITAL	BS
4790		CAPITAL STOCK EXPENSE	BS
4795		UNDISTRIBUTED STOCK	BS
4800		OTHER COMPREHENSIVE INCO	BS
4805		TREASURY STOCK	BS
4998		RETAINED EARN-PRIOR YEAR	BS
4999		RETAINED EARN-CURRENT YR	BS
5000		TOTAL REVENUE	IS
5005		OPERATING REVENUES	IS
5010		WATER OPERATING REVENUES	IS
5015		WATER REVENUE	IS
5020		WATER REVENUE UNMETERED	IS
5025		WATER REVENUE-RESIDENTI	IS
5030		WATER REVENUE-ACCRUALS	IS
5035		WATER REVENUE-COMMERCIA	IS
5040		WATER REVENUE-INDUSTRIA	IS
5045		WATER REVENUE-PUBLIC AU	IS
5050		WATER REVENUE-MULT FAM	IS
5051		WATER REVENUE-STORM REC	IS
5052		WATER REVENUE-GUARANTEE	IS
5055		FIRE PROTECTION REVENUE	IS
5060		PUBLIC FIRE PROTECTION	IS
5065		PRIVATE FIRE PROTECTION	IS
5070		OTHER SALES TO PUBLIC AUTHORIZATION	IS
5075		SALES TO IRRIGATION CUST	IS
5080		SALES FOR RESALE	IS
5085		INTERDEPARTMENTAL SALES	IS
5090		SEWER OPERATING REVENUES	IS
5095		SEWER REVENUE FLAT	IS
5100		SEWER REVENUE-RESIDENTI	IS
5105		SEWER REVENUE-ACCRUALS	IS
5110		SEWER REVENUE-COMMERCIA	IS
5115		SEWER REVENUE-INDUSTRIA	IS

WATER SERVICE CORPORATION OF KENTUCKY

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Chart of Accounts

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Obj	Sub	Account Description	IS/BS
5120		SEWER REVENUE-PUBLIC AU	IS
5125		SEWER REVENUE-MULT FAM	IS
5127		SEWER REVENUE-STORM REC	IS
5128		SEWER REVENUE-GUARANTEE	IS
5130		SEWER REVENUE-OTHER	IS
5135		SEWER REVENUE MEASURED	IS
5140		SEWER REVENUE-RESIDENTI	IS
5145		SEWER SOLIDS PUMPING CH	IS
5150		SEWER REVENUE-ACCRUALS	IS
5155		SEWER REVENUE-COMMERCIA	IS
5160		SEWER REVENUE-INDUSTRIA	IS
5165		SEWER REVENUE-PUBLIC AU	IS
5170		SEWER REVENUE-MULT FAM	IS
5175		REVENUES FROM PUBLIC AUT	IS
5180		REVENUES FROM OTHER SYST	IS
5185		INTERDEPARTMENTAL SALES	IS
5190		REUSE REVENUE	IS
5195		REUSE REVENUE FLAT	IS
5200		REUSE REVENUE-RESIDENTI	IS
5205		REUSE REVENUE-COMMERCIA	IS
5210		REUSE REVENUE-INDUSTRIA	IS
5215		REUSE REVENUE-PUBLIC AU	IS
5220		REUSE REVENUE-OTHER	IS
5225		REUSE REVENUE MEASURED	IS
5230		REUSE REVENUE-RESIDENTI	IS
5235		REUSE REVENUE-COMMERCIA	IS
5240		GAS OPERATING REVENUES	IS
5241		GAS REVENUE	IS
5242		GAS - RESIDENTIAL	IS
5243		GAS - COMMERCIAL	IS
5244		GAS - INDUSTRIAL	IS
5245		GAS - ACCRUALS	IS
5250		MISC OPERATING REVENUES	IS
5255		GUARANTEED REVENUES	IS
5260		SALE OF SLUDGE	IS
5265		FORFEITED DISCOUNTS	IS
5270		MISC SERVICE REVENUE	IS
5275		RENTS FROM W/S PROPERTY	IS
5280		INTERDEPARTMENTAL RENTS	IS
5285		OTHER W/S REVENUES	IS
5290		NON-REGULATED REVENUES	IS
5295		MAINTENANCE INTERNAL REV	IS
5300		MAINTENANCE REVENUE	IS

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Obj	Sub	Account Description	IS/BS
5305		MAINTENANCE-INTERNAL-LA	IS
5310		MAINTENANCE-INTERNAL-MA	IS
5315		MAINTENANCE EXTERNAL REV	IS
5320		MAINTENANCE-EXTERNAL-LA	IS
5325		MAINTENANCE-EXTERNAL-MA	IS
5330		SLUDGE INTERNAL REVENUE	IS
5335		REVENUE-INTERNAL-SLUDGE	IS
5340		REVENUE-INTERNAL-RECEIV	IS
5345		REVENUE-INTERNAL-TRANS	IS
5350		REVENUE-INTERNAL-SEPTAG	IS
5355		REVENUE-INTERNAL-MISC	IS
5360		SLUDGE EXTERNAL REVENUE	IS
5365		REVENUE-EXTERNAL-RECVG	IS
5370		REVENUE-EXTERNAL-TRANS	IS
5375		REVENUE-EXTERNAL-SEPTAG	IS
5380		REVENUE-EXTERNAL-MISC	IS
5385		3RD PARTY BILLING	IS
5390		3RD PARTY BILLING REVEN	IS
5395		3RD PARTY BILLING EXPEN	IS
5400		REV FROM MGMT SERVICES	IS
5405		REV FROM MGMT SERVICES	IS
5410		TOTAL OPERATING EXPENSES	IS
5415		OPERATING EXPENSES	IS
5420		OPERATING EXPENSES CONSOL	IS
5425		PURCHASED WATER EXPENSE	IS
5430		PURCHASED WATER	IS
5435		PURCHASED WATER-WATER S	IS
5440		PURCHASED WATER-SEWER S	IS
5445		PURCHASED WATER - BILLI	IS
5450		PURCHASED SEWER TREATMEN	IS
5455		PURCHASED SEWER TREATME	IS
5460		PURCHASED SEWER - BILLI	IS
5461		PURCHASED GAS EXPENSE	IS
5462		PURCHASED GAS TREATMEN	IS
5463		PURCHASED GAS - BILLIN	IS
5464		PURCHASED GAS TRANSMISSION	IS
5465	10	ELEC PWR - WTR SYSTEM S	IS
5465	11	ELEC PWR - WTR SYSTEM W	IS
5465	12	ELEC PWR - WTR SYSTEM T	IS
5465	13	ELEC PWR - WTR SYSTEM A	IS
5465		ELEC PWR - WATER SYSTEM	IS
5470	10	ELEC PWR - SWR SYSTEM C	IS
5470	11	ELEC PWR - SWR SYSTEM P	IS

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Obj	Sub	Account Description	IS/BS
5470	12	ELEC PWR - SWR SYSTEM T	IS
5470	13	ELEC PWR - SWR SYSTEM A	IS
5470	14	ELEC PWR - SWR SYSTEM R	IS
5470	15	ELEC PWR - SWR SYSTEM R	IS
5470		ELEC PWR - SWR SYSTEM	IS
5471		ELEC PWR - OTHER	IS
5475		CHEMICALS	IS
5480		CHLORINE	IS
5485		ODOR CONTROL CHEMICALS	IS
5490		OTHER TREATMENT CHEMICA	IS
5495		METER READING	IS
5500		BAD DEBT EXPENSE	IS
5505		AGENCY EXPENSE	IS
5510		UNCOLLECTIBLE ACCOUNTS	IS
5515		UNCOLL ACCOUNTS ACCRUAL	IS
5520		BILLING & CUSTOMER SERVI	IS
5525		BILL STOCK	IS
5530		BILLING COMPUTER SUPPLI	IS
5535		BILLING ENVELOPES	IS
5540		BILLING POSTAGE	IS
5545		CUSTOMER SERVICE PRINTI	IS
5570		NON-REGULATED COGS	IS
5575		NON-REGULATED COGS A	IS
5580		NON-REGULATED COGS B	IS
5585		NON-REGULATED COGS C	IS
5590		NON-REGULATED COGS D	IS
5595		NON-REGULATED COGS E	IS
5620		EMPLOYEE BENEFITS	IS
5625		401K	IS
5630		HEALTH ADMIN AND STOP L	IS
5635		DENTAL	IS
5645		EMPLOYEE INS DEDUCTIONS	IS
5650		HEALTH COSTS & OTHER	IS
5655		HEALTH INS CLAIMS	IS
5660		OTHER EMP BENEFITS	IS
5665		401K MATCH	IS
5670		TERM LIFE INS	IS
5675		TERM LIFE INS-OPT	IS
5680		DEPEND LIFE INS-OPT	IS
5685		SUPPLEMENTAL LIFE INS	IS
5690		TUITION	IS
5695		INSURANCE EXPENSE	IS
5700		INSURANCE-VEHICLE	IS

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Obj	Sub	Account Description	IS/BS
5705		INSURANCE-GEN LIAB	IS
5710		INSURANCE-WORKERS COMP	IS
5715		INSURANCE-OTHER	IS
5730		IT DEPARTMENT	IS
5735		COMPUTER MAINTENANCE	IS
5740		COMPUTER SUPPLIES	IS
5745		COMPUTER AMORT & PROG C	IS
5750		INTERNET SUPPLIER	IS
5755		MICROFILMING	IS
5760		WEBSITE DEVELOPMENT	IS
5780		MISCELLANEOUS EXPENSE	IS
5785		ADVERTISING/MARKETING	IS
5790		BANK SERVICE CHARGE	IS
5795		CONTRIBUTIONS	IS
5800		LETTER OF CREDIT FEE	IS
5805		LICENSE FEES	IS
5810		MEMBERSHIPS	IS
5815		PENALTIES/FINES	IS
5820		TRAINING EXPENSE	IS
5825		OTHER MISC EXPENSE	IS
5850		OFFICE EXPENSE	IS
5855		ANSWERING SERVICE	IS
5860		CLEANING SUPPLIES	IS
5865		COPY MACHINE	IS
5870		HOLIDAY EVENTS/PICNICS	IS
5875		KITCHEN SUPPLIES	IS
5880		OFFICE SUPPLY STORES	IS
5885		PRINTING/BLUEPRINTS	IS
5890		PUBL SUBSCRIPTIONS/TAPE	IS
5895		SHIPPING CHARGES	IS
5900		OTHER OFFICE EXPENSES	IS
5925		OFFICE UTILITIES/MAINTEN	IS
5930		OFFICE ELECTRIC	IS
5935		OFFICE GAS	IS
5940		OFFICE WATER	IS
5945		OFFICE TELECOM	IS
5950		OFFICE GARBAGE REMOVAL	IS
5955		OFFICE LANDSCAPE / MOW	IS
5960		OFFICE ALARM SYS PHONE	IS
5965		OFFICE MAINTENANCE	IS
5970		OFFICE CLEANING SERVICE	IS
5975		OFFICE MACHINE/HEAT&COO	IS
5980		OTHER OFFICE UTILITIES	IS

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Obj	Sub	Account Description	IS/BS
5985		TELEMETERING PHONE EXPE	IS
6000		OUTSIDE SERVICE EXPENSE	IS
6005		ACCOUNTING STUDIES	IS
6010		AUDIT FEES	IS
6015		EMPLOY FINDER FEES	IS
6020		ENGINEERING FEES	IS
6025		LEGAL FEES	IS
6030		MANAGEMENT FEES	IS
6035		PAYROLL SERVICES	IS
6040		TAX RETURN REVIEW	IS
6045		TEMP EMPLOY - CLERICAL	IS
6050		OTHER OUTSIDE SERVICES	IS
6060		REGULATORY COMMISSION EX	IS
6065		RATE CASE AMORT EXPENSE	IS
6070		MISC REG MATTERS COMM E	IS
6075		WATER RESOURCE CONSERV	IS
6080		MISC RATE CASE EXPENSES	IS
6085		RENT EXPENSE	IS
6090		RENT	IS
6100		SALARIES & WAGES	IS
6105		SALARIES-SYSTEM PROJECT	IS
6110		SALARIES-ACCOUNTING	IS
6115		SALARIES-ADMIN	IS
6120		SALARIES-OFFICERS/STKHL	IS
6125		SALARIES-HR	IS
6130		SALARIES-IT	IS
6135		SALARIES-LEADERSHIP OPS	IS
6140		SALARIES-HSE	IS
6145		SALARIES-CUSTOMER SERVI	IS
6146		SALARIES-BILLING	IS
6147		SALARIES-CORP SERVICE A	IS
6150		SALARIES-OPERATIONS FIE	IS
6155		SALARIES-OPERATIONS OFF	IS
6160		SALARIES-CHGD TO PLT-WS	IS
6165		CAPITALIZED TIME ADJUST	IS
6170		CAPITALIZED TIME ADJ-CO	IS
6180		TRAVEL EXPENSE	IS
6185		TRAVEL LODGING	IS
6190		TRAVEL AIRFARE	IS
6195		TRAVEL TRANSPORTATION	IS
6200		TRAVEL MEALS	IS
6205		TRAVEL ENTERTAINMENT	IS
6207		TRAVEL OTHER	IS

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Obj	Sub	Account Description	IS/BS
6210		FLEET TRANSPORTATION EXP	IS
6215		FUEL	IS
6220		AUTO REPAIR/TIRES	IS
6225		AUTO LICENSES	IS
6230		OTHER TRANS EXPENSES	IS
6250		MAINTENANCE TESTING	IS
6255		TEST-WATER	IS
6260		TEST-EQUIP/CHEMICAL	IS
6265		TEST-SAFE DRINKING WATE	IS
6270		TEST-SEWER	IS
6280		MAINTENANCE-WATER PLANT	IS
6285		WATER-MAINT SUPPLIES	IS
6290		WATER-MAINT REPAIRS	IS
6295		WATER-MAIN BREAKS	IS
6300		WATER-ELEC EQUIPT REPAI	IS
6305		WATER-PERMITS	IS
6310		WATER-OTHER MAINT EXP	IS
6315		MAINTENANCE-SEWER PLANT	IS
6320		SEWER-MAINT SUPPLIES	IS
6325		SEWER-MAINT REPAIRS	IS
6330		SEWER-MAIN BREAKS	IS
6335		SEWER-ELEC EQUIPT REPAI	IS
6340		SEWER-PERMITS	IS
6345		SEWER-OTHER MAINT EXP	IS
6350		MAINTENANCE-WTR&SWR PLAN	IS
6355		DEFERRED MAINT EXPENSE	IS
6360		COMMUNICATION EXPENSE	IS
6365		EQUIPMENT RENTALS	IS
6370		OPER CONTRACTED WORKERS	IS
6375		OUTSIDE LAB FEES-LAB,LA	IS
6380		REPAIRS & MAINT-MAINT,L	IS
6385		UNIFORMS	IS
6390		WEATHER/HURRICANE/FUEL	IS
6400		SEWER RODDING	IS
6410		SLUDGE HAULING	IS
6430		DEPRECIATION & AMORT NET	IS
6435		DEPRECIATION EXP-WATER	IS
6445		DEPREC-ORGANIZATION	IS
6450		DEPREC-FRANCHISES	IS
6455		DEPREC-STRUCT & IMPRV S	IS
6460		DEPREC-STRUCT & IMPRV W	IS
6465		DEPREC-STRUCT & IMPRV D	IS
6470		DEPREC-STRUCT & IMPRV G	IS

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Obj	Sub	Account Description	IS/BS
6475		DEPREC-COLLECTING RESER	IS
6480		DEPREC-LAKE, RIVER, OTH	IS
6485		DEPREC-WELLS & SPRINGS	IS
6490		DEPREC-INFILTRATION GAL	IS
6495		DEPREC-SUPPLY MAINS	IS
6500		DEPREC-POWER GEN EQP	IS
6505		DEPREC-ELEC PUMP EQP SR	IS
6510		DEPREC-ELEC PUMP EQP WT	IS
6515		DEPREC-ELEC PUMP EQP TR	IS
6520		DEPREC-WATER TREATMENT	IS
6525		DEPREC-DIST RESV & STAN	IS
6530		DEPREC-TRANS & DISTR MA	IS
6535		DEPREC-SERVICE LINES	IS
6540		DEPREC-METERS	IS
6545		DEPREC-METER INSTALLS	IS
6550		DEPREC-HYDRANTS	IS
6555		DEPREC-BACKFLOW PREVENT	IS
6560		DEPREC-OTH PLT&MISC EQP	IS
6565		DEPREC-OTH PLT&MISC EQP	IS
6570		DEPREC-OTH PLT&MISC EQP	IS
6575		DEPREC-OTH PLT&MISC EQP	IS
6580		DEPREC-OFFICE STRUCTURE	IS
6585		DEPREC-OFFICE FURN/EQPT	IS
6590		DEPREC-STORES EQUIPMENT	IS
6595		DEPREC-TOOL SHOP & MISC	IS
6600		DEPREC-LABORATORY EQUIP	IS
6605		DEPREC-POWER OPERATED E	IS
6610		DEPREC-COMMUNICATION EQ	IS
6615		DEPREC-MISC EQUIPMENT	IS
6620		DEPREC-OTHER TANG PLT W	IS
6635		DEPRECIATION EXP-SEWER	IS
6640		DEPREC-ORGANIZATION	IS
6645		DEPREC-FRANCHISES INTAN	IS
6650		DEPREC-FRANCHISES RCLM	IS
6655		DEPREC-STRUCT/IMPRV COL	IS
6660		DEPREC-STRUCT/IMPRV PUM	IS
6665		DEPREC-STRUCT/IMPRV TRE	IS
6670		DEPREC-STRUCT/IMPRV RCL	IS
6675		DEPREC-STRUCT/IMPRV RCL	IS
6680		DEPREC-STRUCT/IMPRV GEN	IS
6685		DEPREC-POWER GEN EQUIP	IS
6690		DEPREC-POWER GEN EQUIP	IS
6695		DEPREC-POWER GEN EQUIP	IS

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Obj	Sub	Account Description	IS/BS
6700		DEPREC-POWER GEN EQUIP	IS
6705		DEPREC-POWER GEN EQUIP	IS
6710		DEPREC-SEWER FORCE MAIN	IS
6715		DEPREC-SEWER GRAVITY MA	IS
6717		DEPREC-MANHOLES	IS
6720		DEPREC-SPECIAL COLL STR	IS
6725		DEPREC-SERVICES TO CUST	IS
6730		DEPREC-FLOW MEASURE DEV	IS
6735		DEPREC-FLOW MEASURE INS	IS
6740		DEPREC-RECEIVING WELLS	IS
6745		DEPREC-PUMP EQP PUMP PL	IS
6750		DEPREC-PUMP EQP RCLM WT	IS
6755		DEPREC-PUMP EQP RCLM WT	IS
6760		DEPREC-TREAT/DISP EQUIP	IS
6765		DEPREC-TREAT/DISP EQ TR	IS
6770		DEPREC-TREAT/DISP EQ RC	IS
6775		DEPREC-PLANT SEWERS TRT	IS
6780		DEPREC-PLANT SEWERS RCL	IS
6785		DEPREC-OUTFALL LINES	IS
6790		DEPREC-OTHER PLT TANGIB	IS
6795		DEPREC-OTHER PLT COLLEC	IS
6800		DEPREC-OTHER PLT PUMP	IS
6805		DEPREC-OTHER PLT TREATM	IS
6810		DEPREC-OTHER PLT RCLM W	IS
6815		DEPREC-OTHER PLT RCLM W	IS
6820		DEPREC-OFFICE STRUCTURE	IS
6825		DEPREC-OFFICE FURN/EQPT	IS
6830		DEPREC-STORES EQUIPMENT	IS
6835		DEPREC-TOOL SHOP & MISC	IS
6840		DEPREC-LABORATORY EQPT	IS
6845		DEPREC-POWER OPERATED E	IS
6850		DEPREC-COMMUNICATION EQ	IS
6855		DEPREC-MISC EQUIP SEWER	IS
6860		DEPREC-OTHER TANG PLT S	IS
6870		DEPRECIATION EXP-REUSE	IS
6875		DEPREC-REUSE SERVICES	IS
6880		DEPREC-REUSE MTR/INSTAL	IS
6885		DEPREC-REUSE DIST RESER	IS
6890		DEPREC-REUSE TRANSM / D	IS
6900		DEPREC EXP-AUTO TRANS	IS
6905		DEPREC-AUTO TRANS	IS
6915		DEPREC EXP-COMPUTER	IS
6920		DEPREC-COMPUTER	IS

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Obj	Sub	Account Description	IS/BS
6921		DEPREC EXP-GAS PLANT	IS
6922		DEPREC-ORGANIZATION	IS
6923		DEPREC-FRANCHISES INTAN	IS
6924		DEPREC-STRUCT/IMPRV PRO	IS
6925		DEPREC-STRUCT/IMPRV NAT	IS
6926		DEPREC-STRUCT/IMPRV TRA	IS
6927		DEPREC-STRUCT/IMPRV DIS	IS
6928		DEPREC-STRUCT/IMPRV GEN	IS
6929		DEPREC-MAINS	IS
6930		DEPREC-SERVICE LINES	IS
6931		DEPREC-METERS	IS
6932		DEPREC-METER INSTALLATI	IS
6933		DEPREC-RESERVOIRS	IS
6934		DEPREC-HOUSE REGULATORS	IS
6935		DEPREC-HOUSE REGULATORY	IS
6936		DEPREC-COMMUNICATION EQ	IS
6937		DEPREC-OFFICE EQUIPMENT	IS
6938		DEPREC-POWER OPERATED E	IS
6939		DEPREC-MISC EQUIP GAS	IS
6940		DEPRECIATION EXP-NONREGU	IS
6945		DEPRECIATION EXP-OTHER	IS
6950		AMORT EXP-AIA-WATER	IS
6955		AMORT EXP-AIA-SEWER	IS
6960		AMORT OF UTIL PAA-WATER	IS
6965		AMORT OF UTIL PAA-SEWER	IS
6967		AMORT OF UTIL PAA-GAS	IS
6980		AMORT EXP-CIA-WATER	IS
6985		AMORT-ORGANIZATION	IS
6990		AMORT-FRANCHISES	IS
6995		AMORT-STRCT&IMPRV SRC S	IS
7000		AMORT-STRCT&IMPRV WTP	IS
7005		AMORT-STRCT&IMPRV DIST	IS
7010		AMORT-STRCT&IMPRV GEN P	IS
7015		AMORT-COLLECTING RESERV	IS
7020		AMORT-LAKE, RIVER, OTHE	IS
7025		AMORT-WELLS & SPRINGS	IS
7030		AMORT-INFILTRATION GALL	IS
7035		AMORT-SUPPLY MAINS	IS
7040		AMORT-POWER GEN EQP	IS
7045		AMORT-ELEC PUMP EQP SRC	IS
7050		AMORT-ELEC PUMP EQP WTP	IS
7055		AMORT-ELEC PUMP EQP TRA	IS
7060		AMORT-WATER TREATMENT E	IS

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Obj	Sub	Account Description	IS/BS
7065		AMORT-DIST RESV & STAND	IS
7070		AMORT-TRANS & DISTR MAI	IS
7075		AMORT-SERVICE LINES	IS
7080		AMORT-METERS	IS
7085		AMORT-METER INSTALLS	IS
7090		AMORT-HYDRANTS	IS
7095		AMORT-BACKFLOW PREVENT	IS
7100		AMORT-OTH PLT&MISC EQP	IS
7105		AMORT-OTH PLT&MISC EQP	IS
7110		AMORT-OTH PLT&MISC EQP	IS
7115		AMORT-OTH PLT&MISC EQP	IS
7120		AMORT-OFFICE STRUCTURE	IS
7125		AMORT-OFFICE FURN/EQPT	IS
7130		AMORT-STORES EQUIPMENT	IS
7135		AMORT-TOOL SHOP & MISC	IS
7140		AMORT-LABORATORY EQUIPM	IS
7145		AMORT-POWER OPERATED EQ	IS
7150		AMORT-COMMUNICATION EQP	IS
7155		AMORT-MISC EQUIPMENT	IS
7160		AMORT-OTHER TANGIBLE PL	IS
7165		AMORT-WATER-TAP	IS
7170		AMORT-WTR MGMT FEE	IS
7172		AMORT-WTR LINE EXT FEE	IS
7175		AMORT-WTR RES CAP FEE	IS
7180		AMORT-WTR PLT MOD FEE	IS
7185		AMORT-WTR PLT MTR FEE	IS
7200		AMORT EXP-CIA-SEWER	IS
7205		AMORT-ORGANIZATION	IS
7210		AMORT-FRANCHISES INTANG	IS
7215		AMORT-FRANCHISES RCLM W	IS
7220		AMORT-STRUCT/IMPRV COLL	IS
7225		AMORT-STRUCT/IMPRV PUMP	IS
7230		AMORT-STRUCT/IMPRV TREA	IS
7235		AMORT-STRUCT/IMPRV RCLM	IS
7240		AMORT-STRUCT/IMPRV RCLM	IS
7245		AMORT-STRUCT/IMPRV GEN	IS
7250		AMORT-POWER GEN EQUIP C	IS
7255		AMORT-POWER GEN EQUIP P	IS
7260		AMORT-POWER GEN EQUIP T	IS
7265		AMORT-POWER GEN EQUIP R	IS
7270		AMORT-POWER GEN EQUIP R	IS
7275		AMORT-SEWER FORCE MAIN/	IS
7280		AMORT-SEWER GRAVITY MAI	IS

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Obj	Sub	Account Description	IS/BS
7283		AMORT-MANHOLES	IS
7285		AMORT-SPECIAL COLL STRU	IS
7290		AMORT-SERVICES TO CUSTO	IS
7295		AMORT-FLOW MEASURE DEVI	IS
7300		AMORT-FLOW MEASURE INST	IS
7305		AMORT-RECEIVING WELLS	IS
7310		AMORT-PUMP EQP PUMP PLT	IS
7315		AMORT-PUMP EQP RCLM WTP	IS
7320		AMORT-PUMP EQP RCLM DIS	IS
7325		AMORT-TREAT/DISP EQUIP	IS
7330		AMORT-TREAT/DISP EQUIP	IS
7335		AMORT-TREAT/DISP EQUIP	IS
7340		AMORT-PLANT SEWERS TRTM	IS
7345		AMORT-PLANT SEWERS RCLM	IS
7350		AMORT-OUTFALL LINES	IS
7355		AMORT-OTHER PLT TANGIBL	IS
7360		AMORT-OTHER PLT COLLECT	IS
7365		AMORT-OTHER PLT PUMP	IS
7370		AMORT-OTHER PLT TREATME	IS
7375		AMORT-OTHER PLT RCLM WT	IS
7380		AMORT-OTHER PLT RCLM WT	IS
7385		AMORT-OFFICE STRUCTURE	IS
7390		AMORT-OFFICE FURN/EQPT	IS
7395		AMORT-STORES EQUIPMENT	IS
7400		AMORT-TOOL SHOP & MISC	IS
7405		AMORT-LABORATORY EQPT	IS
7410		AMORT-POWER OPERATED EQ	IS
7415		AMORT-COMMUNICATION EQP	IS
7420		AMORT-MISC EQUIP SEWER	IS
7425		AMORT-OTHER TANGIBLE PL	IS
7430		AMORT-SEWER-TAP	IS
7435		AMORT-SWR MGMT FEE	IS
7437		AMORT-SWR LINE EXT FEE	IS
7440		AMORT-SWR RES CAP FEE	IS
7445		AMORT-SWR PLT MOD FEE	IS
7450		AMORT-SWR PLT MTR FEE	IS
7451		ACC AMORT-CIAC GAS	IS
7452		AMORT-ORGANIZATION	IS
7453		AMORT-FRANCHISES INTANG	IS
7454		AMORT-GAS-TAP	IS
7455		AMORT-STRUCT/IMPRV NATU	IS
7456		AMORT-STRUCT/IMPRV TRAN	IS
7457		AMORT-STRUCT/IMPRV DIST	IS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
7458		AMORT-STRUCT/IMPRV GEN	IS
7459		AMORT-MAINS	IS
7460		AMORT-SERVICE LINES	IS
7461		AMORT-METERS	IS
7462		AMORT-METER INSTALLATIO	IS
7463		AMORT-RESERVOIRS	IS
7464		AMORT-HOUSE REGULATORS	IS
7465		AMORT EXP-REUSE	IS
7470		AMORT-REUSE SERVICES	IS
7475		AMORT-REUSE MTR/INSTALL	IS
7480		AMORT-REUSE DIST RESERV	IS
7485		AMORT-REUSE TRANMISSION	IS
7495		AMORT OF EXCESS BK VALUE	IS
7500		TAXES OTHER THAN INCOME	IS
7505		PAYROLL TAXES	IS
7510		FICA EXPENSE	IS
7515		FEDERAL UNEMPLOYMENT TA	IS
7520		STATE UNEMPLOYMENT TAX	IS
7530		PROPERTY & OTHER TAXES	IS
7535		FRANCHISE TAX	IS
7540		GROSS RECEIPTS TAX	IS
7545		PERSONAL PROPERTY/ICT T	IS
7550		PROPERTY/OTHER GENERAL	IS
7555		REAL ESTATE TAX	IS
7560		SALES/USE TAX EXPENSE	IS
7565		SPECIAL ASSESSMENTS	IS
7570		UTILITY/COMMISSION TAX	IS
7580		INCOME TAXES	IS
7585		AMORT OF INVEST TAX CRED	IS
7590		DEF INCOME TAX-FED ITC	IS
7595		DEF INCOME TAX-FEDERAL	IS
7600		DEF INCOME TAXES-STATE	IS
7605		INCOME TAXES-FEDERAL	IS
7610		INCOME TAXES-STATE	IS
7620		TOTAL OTHER INCOME & EXPENS	IS
7625		OTHER INCOME	IS
7630		OTHER INCOME	IS
7635		DIVIDEND INCOME	IS
7640		INCOME FROM MGMT SERVICE	IS
7645		INTEREST INCOME-INTERCO	IS
7650		MISCELLANEOUS INC / EXP	IS
7655		DISALLOWED UTIL PLANT	IS
7660		MISCELLANEOUS EXP NON-U	IS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
7665		EXTRAORDINARY GAIN/LOSS	IS
7670		CIAC GROSS-UP TAX	IS
7675		RENTAL / OTHER INCOME	IS
7680		RENTAL INCOME	IS
7685		INTEREST INCOME	IS
7690		SALE OF EQUIPMENT	IS
7691		NET BOOK VALUE-DISPOSAL	IS
7692		DISPOSAL-CLEARING	IS
7693		DISPOSAL-PROCEEDS	IS
7695		OTHER EXPENSE	IS
7700		INTEREST EXPENSE	IS
7705		AMORT OF DEB & ACQ EXP	IS
7710		INTEREST EXPENSE-INTERCO	IS
7715		LONG TERM INTEREST EXP	IS
7720	10	L/T INT EXP \$50MM	IS
7720	11	L/T INT EXP 20M 4.55%	IS
7720	12	L/T INT EXP 20M 4.62	IS
7720	13	L/T INT EXP \$41MM 8.42%	IS
7720	14	L/T INT EXP TEACHERS IN	IS
7720	15	L/T INT EXP \$180 M 7/06	IS
7720	16	L/T INT EXP CUTX	IS
7720	17	L/T INT EXP BK OF AMERI	IS
7720	18	L/T INT EXP C&S NATL BK	IS
7720	19	L/T INT EXP N C NATIONA	IS
7720	20	L/T INT EXP CENTURY 21	IS
7720	21	L/T INT EXP IDS LIFE IN	IS
7720	22	L/T INT EXP PRUDENTIAL	IS
7720	23	L/T INT EXP FIRST UNION	IS
7720	24	L/T INT EXP LINCOLN LIF	IS
7720	25	L/T INT EXP 15M LINCOLN	IS
7720	26	L/T INT EXP MORTGAGES	IS
7720	27	L/T INT EXP DEBT DISC	IS
7720	28	L/T INT EXP OTHER	IS
7725		LOSS ON DEBT REFINANCING	IS
7730		SHORT TERM INTEREST EXP	IS
7735	10	S/T INT EXP BANK ONE	IS
7735	11	S/T INT EXP CUSTOMERS D	IS
7735	12	S/T INT EXP CHARGES	IS
7735	13	S/T INT EXP OTHER	IS
7735	14	INT INC/EXP ON I/C NOTE	IS
7735	15	S/T INT EXP C & S NATL	IS
7735	16	S/T INT EXP NATIONS BAN	IS
7735	17	S/T INT EXP FIRST UNION	IS

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 10

Case No. 2020-00160

Chart of Accounts

Test Year Ended 3/31/2020

Obj	Sub	Account Description	IS/BS
7735	18	S/T INT EXP UTIL SUP AM	IS
7735	19	S/T INT EXP MISC	IS
7745		ALLOW FUNDS USED CONSTR	IS
7750		INTEREST DURING CONSTRUC	IS
7760		GAIN/LOSS ON DISPOSITION	IS
7765		SALE OF UTILITY PROPERTY	IS
7770		TAX EFFECT OF CAP TRANS	IS
7775		CURRENT TAX-FIT-SOLD CO	IS
7780		DEFERRED TAX-FIT-SOLD C	IS
7785		CURRENT TAX-SIT-SOLD CO	IS
7790		DEFERRED TAX-SIT-SOLD C	IS
7795		TAX EFFECT OF CAP TRANS	IS

Application

Exhibit 11

CONSOLIDATED FINANCIAL STATEMENTS

Corix Regulated Utilities (US) Inc. and Subsidiaries
Years Ended December 31, 2019 and 2018
With Report of Independent Auditors

Ernst & Young LLP



Corix Regulated Utilities (US) Inc. and Subsidiaries

Consolidated Financial Statements

Years Ended December 31, 2019 and 2018

Contents

Report of Independent Auditors	1
Consolidated Financial Statements	
Consolidated Balance Sheets	3
Consolidated Statements of Operations	4
Consolidated Statements of Changes in Shareholder's Equity	5
Consolidated Statements of Cash Flows	6
Notes to Consolidated Financial Statements	7

CONFIDENTIAL

Report of Independent Auditors

The Board of Directors and Shareholder
Corix Regulated Utilities (US) Inc. and Subsidiaries

We have audited the accompanying consolidated financial statements of Corix Regulated Utilities (US) Inc. and Subsidiaries, which comprise the consolidated balance sheets as of December 31, 2019 and 2018, and the related consolidated statements of operations, changes in shareholder's equity and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States. 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 opinion.



Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Corix Regulated Utilities (US) Inc. and Subsidiaries at December 31, 2019 and 2018, and the consolidated results of their operations and their cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

Ernst + Young LLP

March 31, 2020

CONFIDENTIAL

Additional pages of this report are filed with a Petition for Confidentiality

Application

Exhibit 12

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Current and Proposed Depreciation Rates
Test Year Ended 3/31/2020

Exhibit 12

	A	B	C	D
	Account		Current Depreciation/ Amortization Rate	Proposed Depreciation/ Amortization Rate
Line No.	ID	Account Description		
1.	1020	Organization	4.00%	4.00%
2.	1025	Franchises	4.00%	4.00%
3.	1030	Land & land rights pump	0.00%	0.00%
4.	1035	Land & land rights water tr.	0.00%	0.00%
5.	1040	Land & land rights trans.	0.00%	0.00%
6.	1045	Land & land rights gen. plt.	0.00%	0.00%
7.	1050	Struct & improv. src. supply	2.67%	2.67%
8.	1055	Struct & improv. wtr. trt. plt.	2.67%	2.67%
9.	1060	Struct & improv. trans. dist.	2.67%	2.67%
10.	1065	Struct & improv. gen. plt.	2.67%	2.67%
11.	1080	Wells & springs	3.33%	3.33%
12.	1085	Infiltration gallery	3.33%	3.33%
13.	1090	Supply mains	1.60%	1.60%
14.	1095	Power generation equip.	4.00%	4.00%
15.	1100	Electric pump equip. src. plt.	5.00%	5.00%
16.	1105	Electric pump equip. wtp.	5.00%	5.00%
17.	1110	Electric pump equip. trans.	5.00%	5.00%
18.	1115	Water treatment equip.	3.64%	3.64%
19.	1120	Dist. resv. & standpipes	2.22%	2.22%
20.	1125	Trans. & distr. mains	1.60%	1.60%
21.	1130	Service lines	2.50%	2.50%
22.	1135	Meters	2.25%	2.25%
23.	1140	Meter installations	2.22%	2.22%
24.	1145	Hydrants	1.90%	1.90%
25.	1150	Backflow prevention devic.	2.50%	2.50%
26.	1160	Other plt. & misc. equip. src. su.	2.86%	2.86%
27.	1165	OTH PLT&MISC EQUIP WTP	2.86%	2.86%
28.	1175	Office struct & improv.	2.67%	2.67%
29.	1180	Office furn. & equip.	4.22%	4.22%
30.	1185	Stores equipment	5.00%	5.00%
31.	1190	Tool shop & misc. equip.	5.43%	5.43%
32.	1195	Laboratory equipment	5.71%	5.71%
33.	1200	Power operated equip.	7.20%	7.20%
34.	1205	Communication equip.	9.00%	9.00%
35.	1210	Misc . equipment	2.86%	2.86%
36.	1215	Water plant allocated	2.86%	2.86%
37.	1220	Other tangible plt. water	2.86%	2.86%
38.				
39.	1555	Transportation Equipment	12.86%	12.86%
40.	1580	Mainframe Computer	4.44%	4.44%
41.	1585	Mini Computers	4.44%	4.44%
42.	1590	Comp Sys Cost	4.44%	4.44%
43.	1595	Micro Sys Cost	4.44%	4.44%
44.				
45.	3350	CIAC - Meters	2.25%	2.25%
46.	3430	CIAC - Other Tangible Plant WTR	2.86%	2.86%
47.	3435	CIAC - Water Taps	2.50%	2.50%

Application

Exhibit 13

Exhibit 13

Water Service Corporation of Kentucky uses Microsoft Office, Oracle JD Edwards, and Oracle Customer Care & Billing as the software in preparation of this rate case.

Application

Exhibit 14

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Income Statement Rolling 13 Months
For the Twelve Months Ending March 31, 2020

Exhibit 14

Description	March	April	May	June	July	August	September	October	November	December	January	February	March
5480 CHLORINE	1,064	2,336	2,949	1,927	6,733	3,563	4,730	4,853	1,956	6,103	2,110	201	2,123
5485 ODOR CONTROL CH	-	-	-	-	-	-	-	-	-	-	-	-	-
5490 OTHER TREATMENT	14,336	1,028	4,779	6,122	8,253	12,835	9,871	2,703	5,130	7,297	3,299	6,420	6,010
5475 CHEMICALS	15,400	3,364	7,729	8,049	14,985	16,398	14,601	7,556	7,086	13,401	5,409	6,621	8,133
5495 METER READING	-	-	-	-	-	-	-	-	-	-	-	-	-
5500 BAD DEBT EXPENSE	-	-	-	-	-	-	-	-	-	-	-	-	-
5505 AGENCY EXPENSE	26	41	41	17	16	26	23	19	32	25	23	40	35
5510 UNCOLLECTIBLE A	4,075	3,446	2,453	1,363	1,054	4,133	56,236	3,650	6,405	947	2,772	2,737	149
5515 UNCOLL ACCOUNTS	(330)	197	2,159	3,208	2,410	2,058	(43,207)	(49)	(1,569)	4,587	2,646	3,233	4,311
5500 BAD DEBT EXPENSE	3,771	3,684	4,653	4,588	3,479	6,218	13,052	3,619	4,868	5,558	5,441	6,009	4,495
5520 BILLING & CUSTOM	-	-	-	-	-	-	-	-	-	-	-	-	-
5525 BILL STOCK	-	-	-	-	-	-	-	-	-	-	-	-	-
5530 BILLING COMPUTE	-	7	-	-	-	-	-	-	-	-	-	-	-
5535 BILLING ENVELOP	-	-	-	-	-	-	-	-	-	-	-	-	-
5540 BILLING POSTAGE	(1,456)	234	238	474	(1,165)	185	565	(202)	(95)	(284)	460	(6)	(286)
5545 CUSTOMER SERVIC	5,566	3,142	3,256	2,890	5,743	5,463	1,942	4,699	2,710	3,796	3,217	2,438	3,718
5580 CORPORATE ALLOC	(24,772)	-	-	-	-	-	-	-	-	-	-	-	-
5520 BILLING & CUSTOM	(20,661)	3,384	3,494	3,364	4,578	5,648	2,506	4,497	2,615	3,512	3,677	2,432	3,432
5620 EMPLOYEE BENEFIT	-	-	-	-	-	-	-	-	-	-	-	-	-
5625 401K	1,826	3,082	2,018	2,140	2,598	1,926	2,007	2,009	2,004	2,936	2,123	2,139	2,144
5630 HEALTH ADMIN AN	2,357	2,323	2,352	2,285	2,333	2,342	2,350	2,353	2,351	2,379	3,061	2,622	2,669
5635 DENTAL	515	501	499	479	415	475	481	468	474	415	460	456	454
5640 EMP BENEFITS	-	-	-	-	-	-	-	-	-	-	-	-	-
5645 EMPLOYEE INS DE	(3,525)	(3,526)	(3,876)	(3,488)	(4,685)	(3,781)	(3,485)	(3,739)	(3,980)	(4,890)	(3,658)	(3,600)	(3,663)
5650 HEALTH COSTS &	-	3	9	3	52	1	-	10	2	5	-	1	-
5655 HEALTH INS CLAI	13,723	12,773	17,407	10,458	14,948	14,547	14,339	14,465	15,883	12,736	16,509	12,330	22,715
5660 OTHER EMP BENEF	119	99	110	67	266	51	120	120	97	752	100	75	64
5665 401K MATCH	1,721	2,017	1,956	1,992	2,753	1,855	1,572	1,833	2,014	1,809	1,685	1,928	1,937
5670 TERM LIFE INS	1,308	980	991	1,082	777	1,222	809	1,213	804	1,291	789	1,219	1,055
5675 TERM LIFE INS-O	(208)	(209)	(215)	(204)	(279)	(204)	(203)	(207)	(211)	(287)	(244)	(238)	(235)
5680 DEPEND LIFE INS	(99)	(101)	(103)	(100)	(122)	(96)	(96)	(93)	(93)	(121)	(93)	(92)	(92)
5685 SUPPLEMENTAL LI	-	-	-	-	-	-	-	-	-	-	-	-	-
5690 TUITION	-	74	1,224	-	-	149	-	-	-	1,292	-	-	-
5620 EMPLOYEE BENEFIT	17,737	18,017	22,372	14,715	19,055	18,487	17,893	18,430	19,345	18,316	20,732	16,840	27,048
5695 INSURANCE EXPENS	-	-	-	-	-	-	-	-	-	-	-	-	-
5700 INSURANCE-VEHIC	-	-	-	-	-	-	-	-	-	-	1,296	1,296	1,296
5705 INSURANCE-GEN L	4,804	4,806	4,777	4,780	4,778	4,877	4,770	5,325	6,484	9,807	4,209	4,400	4,206
5710 INSURANCE-WORKE	-	-	-	-	-	-	-	-	-	-	1,014	929	1,094
5715 INSURANCE-OTHER	278	1,148	497	1,164	207	889	891	737	286	257	449	326	54
5695 INSURANCE EXPENS	5,083	5,954	5,274	5,944	4,986	5,766	5,661	6,062	6,770	10,064	6,968	6,950	6,649
5730 IT DEPARTMENT	-	-	-	-	-	-	-	-	-	-	-	-	-
5735 COMPUTER MAINTN	2,359	2,616	3,816	2,945	2,264	2,673	3,727	3,256	3,024	2,877	2,121	2,745	4,438
5740 COMPUTER SUPPLI	(8)	-	-	1	-	-	-	-	-	-	-	2	-
5745 COMPUTER AMORT	-	-	-	-	-	-	-	-	-	-	-	-	-
5750 INTERNET SUPPLI	357	360	658	729	510	709	1,055	535	594	647	921	1,097	281

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Income Statement Rolling 13 Months
For the Twelve Months Ending March 31, 2020

Exhibit 14

Description	March	April	May	June	July	August	September	October	November	December	January	February	March
6025 LEGAL FEES	273	178	1,728	61	4	8	3	6	-	310	78	6	54
6030 CORPORATE ALLOC	37,158	12,366	4,623	12,360	12,365	4,607	12,236	12,247	13,775	17,970	13,410	13,390	13,267
6035 PAYROLL SERVICE	250	304	436	262	264	281	301	406	401	358	96	48	88
6040 TAX RETURN REVI	473	472	472	343	451	448	446	447	446	454	532	531	526
6045 TEMP EMPLOY - C	-	-	-	-	-	-	161	97	50	445	195	299	509
6050 OTHER OUTSIDE S	923	1,083	1,110	180	1,461	753	512	3,166	973	2,236	327	1,229	4,390
6000 OUTSIDE SERVICE	39,947	15,285	9,240	14,072	15,411	6,957	14,515	17,224	16,501	19,893	15,373	16,237	19,562
6060 REGULATORY COMMI	-	-	-	-	-	-	-	-	-	-	-	-	-
6065 RATE CASE AMORT	2,433	4,095	4,095	4,095	4,095	4,095	4,095	4,095	4,095	4,095	4,102	4,102	4,102
6070 MISC REG MATTER	-	-	-	-	-	-	-	-	-	3,166	276	-	-
6075 WATER RESOURCE	-	-	-	-	-	-	-	-	-	-	-	-	-
6080 MISC RATE CASE	-	-	-	-	-	-	-	-	-	-	-	-	-
6060 REGULATORY COMMI	2,433	4,095	4,095	4,095	4,095	4,095	4,095	4,095	4,095	7,261	4,378	4,102	4,102
6085 RENT EXPENSE	-	-	-	-	-	-	-	-	-	-	-	-	-
6090 RENT	2,456	3,998	3,480	2,819	2,417	3,953	4,021	1,483	1,860	1,855	4,442	1,804	3,385
6085 RENT EXPENSE	2,456	3,998	3,480	2,819	2,417	3,953	4,021	1,483	1,860	1,855	4,442	1,804	3,385
6100 SALARIES & WAGES	-	-	-	-	-	-	-	-	-	-	-	-	-
6105 SALARIES-SYSTEM	-	-	-	-	-	-	-	-	-	-	-	-	-
6110 SALARIES-ACCOUN	2,381	2,498	2,511	2,452	2,549	2,488	2,438	2,484	2,561	3,030	2,500	2,651	2,407
6115 SALARIES-ADMIN	491	540	795	523	565	545	530	555	526	556	551	538	508
6120 SALARIES-OFFICE	4,050	4,251	4,098	4,106	3,371	2,660	4,028	4,059	4,199	1,448	4,593	3,581	3,826
6125 SALARIES-HR	658	736	666	779	820	805	817	823	851	819	1,140	998	1,011
6130 SALARIES-IT	1,278	1,390	1,430	1,459	1,460	1,466	1,492	1,513	1,615	1,744	1,541	1,527	1,491
6135 SALARIES-LEADER	11,106	11,420	10,457	10,749	11,702	11,847	11,014	11,921	11,638	12,961	11,148	10,940	11,471
6140 SALARIES-HSE	593	611	464	453	274	269	267	273	266	269	408	402	392
6145 SALARIES-CUSTOM	2,719	2,918	2,968	2,704	3,219	3,485	2,439	2,689	2,491	2,406	2,682	2,530	2,428
6146 SALARIES-BILLIN	1,089	1,176	1,772	1,165	1,191	1,134	1,135	1,171	999	1,125	1,080	1,016	966
6147 SALARIES-COM /	408	399	399	399	399	397	395	395	395	394	204	303	300
6150 SALARIES-OPERAT	35,222	38,668	47,505	41,313	44,979	40,471	40,845	44,339	42,176	44,875	47,593	44,985	43,237
6155 SALARIES-OPERAT	6,437	6,792	7,162	6,849	6,786	6,856	6,839	6,920	6,662	6,682	6,780	6,575	6,734
6160 SALARIES-CHGD T	1,072	622	968	965	965	960	940	943	945	1,417	1,059	1,058	1,047
6165 CAPITALIZED TIM	(5,596)	(1,936)	(4,118)	(4,623)	(2,777)	(6,750)	(3,787)	(4,795)	(8,014)	(7,596)	(4,507)	(14,269)	(2,528)
6170 CAPITALIZED TIM	-	-	-	-	-	-	-	-	-	-	-	-	-
6100 SALARIES & WAGES	61,909	70,084	77,076	69,293	75,505	66,631	69,391	73,289	67,311	70,128	76,772	62,835	73,293
6180 TRAVEL EXPENSE	-	-	-	-	-	-	-	-	-	-	-	-	-
6185 TRAVEL LODGING	358	1,377	998	359	1,189	899	1,165	626	497	1,793	221	294	373
6190 TRAVEL AIRFARE	114	463	270	225	667	171	448	472	436	1,098	466	987	528
6195 TRAVEL TRANSPOR	98	91	96	111	54	12	156	238	286	628	205	131	55
6200 TRAVEL MEALS	622	435	538	51	478	190	261	328	431	495	238	351	219
6205 TRAVEL ENTERTAI	-	13	1	-	31	3	2	48	33	(131)	3	26	1
6207 TRAVEL OTHER	118	(74)	121	73	222	171	172	56	186	1,064	(479)	(278)	114
6180 TRAVEL EXPENSE	1,310	2,304	2,024	820	2,641	1,446	2,203	1,769	1,869	4,947	654	1,510	1,290
6210 FLEET TRANSPORTA	-	-	-	-	-	-	-	-	-	-	-	-	-
6215 FUEL	1,869	2,078	2,078	1,872	1,900	1,604	2,075	2,217	1,817	1,515	1,720	1,544	1,755
6220 AUTO REPAIR/TIR	4,038	2,059	361	1,158	782	1,620	2,253	770	661	1,173	249	1,217	305

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Income Statement Rolling 13 Months
For the Twelve Months Ending March 31, 2020

Exhibit 14

Description	March	April	May	June	July	August	September	October	November	December	January	February	March
7385 AMORT-OFFICE ST	-	-	-	-	-	-	-	-	-	-	-	-	-
7390 AMORT-OFFICE FU	-	-	-	-	-	-	-	-	-	-	-	-	-
7395 AMORT-STORES EQ	-	-	-	-	-	-	-	-	-	-	-	-	-
7400 AMORT-TOOL SHOP	-	-	-	-	-	-	-	-	-	-	-	-	-
7405 AMORT-LABORATOR	-	-	-	-	-	-	-	-	-	-	-	-	-
7410 AMORT-POWER OPE	-	-	-	-	-	-	-	-	-	-	-	-	-
7415 AMORT-COMMUNICA	-	-	-	-	-	-	-	-	-	-	-	-	-
7420 AMORT-MISC EQUI	-	-	-	-	-	-	-	-	-	-	-	-	-
7425 AMORT-OTHER TAN	-	-	-	-	-	-	-	-	-	-	-	-	-
7430 AMORT-SEWER-TAP	-	-	-	-	-	-	-	-	-	-	-	-	-
7435 AMORT-SWR MGMT	-	-	-	-	-	-	-	-	-	-	-	-	-
7437 AMORT-SWR LINE	-	-	-	-	-	-	-	-	-	-	-	-	-
7440 AMORT-SWR RES C	-	-	-	-	-	-	-	-	-	-	-	-	-
7445 AMORT-SWR PLT M	-	-	-	-	-	-	-	-	-	-	-	-	-
7450 AMORT-SWR PLT M	-	-	-	-	-	-	-	-	-	-	-	-	-
7200 AMORT EXP-CIA-SE	-	-	-	-	-	-	-	-	-	-	-	-	-
7465 AMORT EXP-REUSE	-	-	-	-	-	-	-	-	-	-	-	-	-
7470 AMORT-REUSE SER	-	-	-	-	-	-	-	-	-	-	-	-	-
7475 AMORT-REUSE MTR	-	-	-	-	-	-	-	-	-	-	-	-	-
7480 AMORT-REUSE DIS	-	-	-	-	-	-	-	-	-	-	-	-	-
7485 AMORT-REUSE TRA	-	-	-	-	-	-	-	-	-	-	-	-	-
7465 AMORT EXP-REUSE	-	-	-	-	-	-	-	-	-	-	-	-	-
7495 AMORT OF EXCESS	-	-	-	-	-	-	-	-	-	-	-	-	-
6430 DEPRECIATION & AM	\$ 25,328	\$ 25,374	\$ 25,466	\$ 27,419	\$ 33,716	\$ 32,715	\$ 32,722	\$ 32,070	\$ 33,145	\$ 61,085	\$ 33,202	\$ 34,915	\$ 33,699
7500 TAXES OTHER THAN	-	-	-	-	-	-	-	-	-	-	-	-	-
7505 PAYROLL TAXES	-	-	-	-	-	-	-	-	-	-	-	-	-
7510 FICA EXPENSE	4,663	5,874	5,221	4,747	5,088	4,797	4,717	4,936	4,604	4,710	5,543	5,472	5,331
7515 FEDERAL UNEMPLO	32	20	17	26	35	17	36	40	10	115	360	161	36
7520 STATE UNEMPLOYM	137	49	24	25	32	39	31	(253)	2	95	541	347	174
7505 PAYROLL TAXES	4,832	5,943	5,262	4,799	5,154	4,853	4,783	4,722	4,616	4,920	6,444	5,980	5,542
7530 PROPERTY & OTHER	-	-	-	-	-	-	-	-	-	-	-	-	-
7535 FRANCHISE TAX	-	13	58	-	11	-	2	-	-	40	-	-	7
7540 GROSS RECEIPTS	-	-	-	-	-	-	-	-	-	-	-	-	-
7545 PERSONAL PROPER	876	-	11,371	-	-	-	-	550	5,198	-	5	802	13,693
7550 PROPERTY/OTHER	(13,682)	7,292	(61,568)	7,341	1,477	7,347	7,352	6,556	980	22,291	61	11,915	(69,599)
7555 REAL ESTATE TAX	20,138	-	57,496	-	938	-	-	229	1,134	77,002	-	1,095	62,843
7560 SALES/USE TAX E	-	-	-	-	-	-	-	-	-	-	-	-	-
7565 SPECIAL ASSESSM	-	-	-	-	-	-	-	-	-	-	-	-	-
7570 UTILITY/COMMISS	-	-	-	-	4,947	-	-	-	-	305	-	-	-
7530 PROPERTY & OTHER	7,333	7,305	7,358	7,341	7,373	7,347	7,354	7,335	7,312	99,637	65	13,812	6,944
7500 TAXES OTHER THAN	\$ 12,164	\$ 13,248	\$ 12,619	\$ 12,140	\$ 12,527	\$ 12,200	\$ 12,138	\$ 12,057	\$ 11,928	\$ 104,558	\$ 6,509	\$ 19,792	\$ 12,485
7580 INCOME TAXES	-	-	-	-	-	-	-	-	-	-	-	-	-
7585 AMORT OF INVEST	-	-	-	-	-	-	-	-	-	-	-	-	-
7590 DEF INCOME TAX-F	-	-	-	-	-	-	-	-	-	-	-	-	-
7595 DEF INCOME TAX-F	-	-	-	-	-	-	-	-	-	26,161	-	-	-

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Income Statement Rolling 13 Months
For the Twelve Months Ending March 31, 2020

Exhibit 14

Description	March	April	May	June	July	August	September	October	November	December	January	February	March
7720.22 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7720.23 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7720.24 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7720.25 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7720.26 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7720.27 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7720.28 L/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7715 LONG TERM INTERE	-	-	-	-	-	-	-	-	-	-	-	-	-
7725 LOSS ON DEBT REF	-	-	-	-	-	-	-	-	-	-	-	-	-
7730 SHORT TERM INTER	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.10 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.11 S/T INT EXP	121	124	122	118	119	114	113	117	117	117	75	76	73
7735.12 S/T INT EXP	(32)	(30)	(45)	(46)	18	(27)	1	10	(3)	19	(226)	43	23
7735.13 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.14 INT INC/EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.15 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.16 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.17 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.18 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7735.19 S/T INT EXP	-	-	-	-	-	-	-	-	-	-	-	-	-
7730 SHORT TERM INTER	88	94	77	72	137	87	113	127	114	136	(151)	119	96
7700 INTEREST EXPENSE	43,334	94	77	41,602	137	87	38,319	127	114	41,554	(151)	119	38,492
7745 ALLOW FUNDS USED	-	-	-	-	-	-	-	-	-	-	-	-	-
7750 INTEREST DURING	(17)	(17)	(17)	(18)	(243)	(262)	(287)	(651)	(731)	(743)	(915)	(1,030)	(1,402)
7745 ALLOW FUNDS USED	(17)	(17)	(17)	(18)	(243)	(262)	(287)	(651)	(731)	(743)	(915)	(1,030)	(1,402)
7760 GAIN/LOSS ON DISP	-	-	-	-	-	-	-	-	-	-	-	-	-
7765 SALE OF UTILITY	-	-	-	-	-	-	-	-	-	-	(144)	-	-
7770 TAX EFFECT OF CA	-	-	-	-	-	-	-	-	-	-	-	-	-
7775 CURRENT TAX-FIT	-	-	-	-	-	-	-	-	-	-	-	-	-
7780 DEFERRED TAX-FI	-	-	-	-	-	-	-	-	-	-	-	-	-
7785 CURRENT TAX-SIT	-	-	-	-	-	-	-	-	-	-	-	-	-
7790 DEFERRED TAX-SI	-	-	-	-	-	-	-	-	-	-	-	-	-
7795 TAX EFFECT OF C	-	-	-	-	-	-	-	-	-	-	-	-	-
7770 TAX EFFECT OF CA	-	-	-	-	-	-	-	-	-	-	-	-	-
7760 GAIN/LOSS ON DISP	-	-	-	-	-	-	-	-	-	-	(144)	-	-
7695 OTHER EXPENSE	43,316	77	59	41,584	(106)	(175)	38,032	(524)	(617)	40,812	(1,211)	(911)	37,090
7620 TOTAL OTHER INCOME	\$ 42,997	\$ (242)	\$ (260)	\$ 41,584	\$ (106)	\$ (175)	\$ 38,032	\$ (843)	\$ (617)	\$ 38,258	\$ (1,211)	\$ (911)	\$ 37,090
Net Income (Loss)	\$ (2,444)	\$ 53,416	\$ 1,718	\$ 19,365	\$ 42,657	\$ (7,803)	\$ (44,698)	\$ 32,194	\$ 18,491	\$ (215,625)	\$ 13,950	\$ 17,548	\$ (42,525)

Application

Exhibit 15

Water Service Corporation of Kentucky
Docket 2020-00160
Allocated Income Statement & Balance Sheet
For the Test Year Ended March 31, 2020

Exhibit 15

	A	B	C	D	E	F	G
<u>Line</u>	<u>Account Number</u>	<u>Account Description</u>	<u>Shared Services (WSC) Cost Center</u>	<u>President Cost Center</u>	<u>Midwest Cost Center</u>	<u>State Cost Center</u>	<u>Per Books Allocations</u>
<i>Income Statement</i>							
1.	5505	AGENCY EXPENSE	\$ 338	\$ -	\$ -	\$ -	\$ 338
2.	5530	BILLING COMPUTER SUPPLI	7	-	-	-	7
3.	5540	BILLING POSTAGE	118	-	-	-	118
4.	5545	CUSTOMER SERVICE PRINTI	271	-	-	40,529	40,800
5.	5625	401K	5,601	4,410	995	16,120	27,126
6.	5630	HEALTH ADMIN AND STOP L	4,137	2,103	592	22,589	29,421
7.	5635	DENTAL	782	398	118	4,276	5,575
8.	5645	EMPLOYEE INS DEDUCTIONS	(6,784)	(3,289)	(986)	(35,313)	(46,373)
9.	5650	HEALTH COSTS & OTHER	87	-	-	-	87
10.	5655	HEALTH INS CLAIMS	25,229	12,793	3,580	137,507	179,109
11.	5660	OTHER EMP BENEFITS	223	188	27	1,483	1,921
12.	5665	401K MATCH	4,352	4,421	1,205	13,374	23,352
13.	5670	TERM LIFE INS	1,714	874	257	9,386	12,231
14.	5675	TERM LIFE INS-OPT	(384)	(195)	(57)	(2,098)	(2,734)
15.	5680	DEPEND LIFE INS-OPT	(168)	(86)	(26)	(923)	(1,203)
16.	5690	TUITION	297	2,442	-	-	2,739
17.	5700	INSURANCE-VEHICLE	6	-	-	3,882	3,888
18.	5705	INSURANCE-GEN LIAB	5,079	1,427	433	56,280	63,220
19.	5710	INSURANCE-WORKERS COMP	628	379	121	1,908	3,036
20.	5715	INSURANCE-OTHER	-	-	-	6,905	6,905
21.	5735	COMPUTER MAINTENANCE	34,215	1,039	-	1,250	36,504
22.	5740	COMPUTER SUPPLIES	3	-	-	-	3
23.	5750	INTERNET SUPPLIER	8,098	-	-	-	8,098

Water Service Corporation of Kentucky

Exhibit 15

Docket 2020-00160

Allocated Income Statement & Balance Sheet

For the Test Year Ended March 31, 2020

	A	B	C	D	E	F	G
Line	Account Number	Account Description	Shared Services (WSC) Cost Center	President Cost Center	Midwest Cost Center	State Cost Center	Per Books Allocations
24.	5785	ADVERTISING/MARKETING	9	-	-	-	9
25.	5790	BANK SERVICE CHARGE	2,825	-	-	-	2,825
26.	5795	CONTRIBUTIONS	1	-	-	-	1
27.	5805	LICENSE FEES	28	9	-	52	89
28.	5810	MEMBERSHIPS	729	468	-	320	1,516
29.	5820	TRAINING EXPENSE	452	1,225	-	606	2,282
30.	5825	OTHER MISC EXPENSE	(155)	731	87	1,376	2,039
31.	5855	ANSWERING SERVICE	997	-	-	-	997
32.	5860	CLEANING SUPPLIES	17	-	-	-	17
33.	5865	COPY MACHINE	137	-	-	-	137
34.	5870	HOLIDAY EVENTS/PICNICS	358	37	11	50	456
35.	5875	KITCHEN SUPPLIES	289	-	-	-	289
36.	5880	OFFICE SUPPLY STORES	481	89	-	246	816
37.	5885	PRINTING/BLEUPRINTS	27	-	-	-	27
38.	5890	PUBL SUBSCRIPTIONS/TAPE	6	-	-	-	6
39.	5895	SHIPPING CHARGES	1,156	7	-	116	1,279
40.	5900	OTHER OFFICE EXPENSES	586	-	-	159	745
41.	5930	OFFICE ELECTRIC	272	-	-	-	272
42.	5935	OFFICE GAS	112	-	-	-	112

Water Service Corporation of Kentucky

Exhibit 15

Docket 2020-00160

Allocated Income Statement & Balance Sheet

For the Test Year Ended March 31, 2020

	A	B	C	D	E	F	G
Line	Account Number	Account Description	Shared Services (WSC) Cost Center	President Cost Center	Midwest Cost Center	State Cost Center	Per Books Allocations
43.	5940	OFFICE WATER	19	-	-	-	19
44.	5945	OFFICE TELECOM	20,230	623	-	11,125	31,979
45.	5950	OFFICE GARBAGE REMOVAL	48	-	-	-	48
46.	5955	OFFICE LANDSCAPE / MOW	79	-	-	-	79
47.	5960	OFFICE ALARM SYS PHONE	240	-	-	-	240
48.	5965	OFFICE MAINTENANCE	203	-	-	-	203
49.	5970	OFFICE CLEANING SERVICE	119	-	-	-	119
50.	5975	OFFICE MACHINE/HEAT&COO	19	-	-	-	19
51.	5980	OTHER OFFICE UTILITIES	4	-	-	-	4
52.	6010	AUDIT FEES	7,204	-	-	-	7,204
53.	6015	EMPLOY FINDER FEES	26	-	-	-	26
54.	6025	LEGAL FEES	590	-	-	-	590
55.	6030	MANAGEMENT FEES	142,615	-	-	-	142,615
56.	6035	PAYROLL SERVICES	3,244	-	-	-	3,244
57.	6040	TAX RETURN REVIEW	5,568	-	-	-	5,568
58.	6045	TEMP EMPLOY - CLERICAL	1,756	-	-	-	1,756
59.	6050	OTHER OUTSIDE SERVICES	10,712	-	-	-	10,712
60.	6070	MISC REG MATTERS COMM E	-	-	-	1,062	1,062
61.	6090	RENT	15,039	-	-	-	15,039
62.	6110	SALARIES-ACCOUNTING	30,567	-	-	-	30,567
63.	6115	SALARIES-ADMIN	6,731	-	-	-	6,731
64.	6120	SALARIES-OFFICERS/STKHL	44,220	-	-	-	44,220
65.	6125	SALARIES-HR	10,266	-	-	-	10,266
66.	6130	SALARIES-IT	18,128	-	-	-	18,128
67.	6135	SALARIES-LEADERSHIP OPS	891	137,468	(1,128)	-	137,231

Water Service Corporation of Kentucky
Docket 2020-00160
Allocated Income Statement & Balance Sheet
For the Test Year Ended March 31, 2020

Exhibit 15

	A	B	C	D	E	F	G
Line	Account Number	Account Description	Shared Services (WSC) Cost Center	President Cost Center	Midwest Cost Center	State Cost Center	Per Books Allocations
68.	6140	SALARIES-HSE	4,347	-	-	-	4,347
69.	6145	SALARIES-CUSTOMER SERVI	32,960	-	-	-	32,960
70.	6146	SALARIES-BILLING	13,931	-	-	-	13,931
71.	6147	SALARIES-CORP SERVICE A	4,379	-	-	-	4,379
72.	6150	SALARIES-OPERATIONS FIE	153	3,136	25,318	1,948	30,554
73.	6155	SALARIES-OPERATIONS OFF	-	-	8,760	-	8,760
74.	6160	SALARIES-CHGD TO PLT-WS	-	11,889	-	-	11,889
75.	6165	CAPITALIZED TIME ADJUST	(5,021)	960	(47)	(37)	(4,145)
76.	6185	TRAVEL LODGING	2,907	2,235	-	3,808	8,949
77.	6190	TRAVEL AIRFARE	3,247	2,986	-	-	6,232
78.	6195	TRAVEL TRANSPORTATION	658	1,180	7	216	2,061
79.	6200	TRAVEL MEALS	1,427	783	-	1,712	3,921
80.	6205	TRAVEL ENTERTAINMENT	(1)	30	-	-	29
81.	6207	TRAVEL OTHER	1,051	283	-	13	1,348
82.	6215	FUEL	17	514	-	21,596	22,127
83.	6220	AUTO REPAIR/TIRES	64	497	-	11,875	12,436
84.	6225	AUTO LICENSES	1	-	-	463	463
85.	6230	OTHER TRANS EXPENSES	14	75	-	2,729	2,818
86.	6285	WATER-MAINT SUPPLIES	-	-	-	77	77
87.	6355	DEFERRED MAINT EXPENSE	33	-	-	-	33
88.	6360	COMMUNICATION EXPENSE	-	-	63	-	63

Water Service Corporation of Kentucky

Exhibit 15

Docket 2020-00160

Allocated Income Statement & Balance Sheet

For the Test Year Ended March 31, 2020

	A	B	C	D	E	F	G
Line	Account Number	Account Description	Shared Services (WSC) Cost Center	President Cost Center	Midwest Cost Center	State Cost Center	Per Books Allocations
89.	6385	UNIFORMS	-	16	53	2,039	2,108
90.	6390	WEATHER/HURRICANE/FUEL	-	-	-	1,027	1,027
91.	6580	DEPREC-OFFICE STRUCTURE	34,013	-	-	-	34,013
92.	6585	DEPREC-OFFICE FURN/EQPT	2,815	-	-	-	2,815
93.	6595	DEPREC-TOOL SHOP & MISC	12	-	-	508	521
94.	6610	DEPREC-COMMUNICATION EQ	1,400	-	173	-	1,573
95.	6905	DEPREC-AUTO TRANS	29	1,696	1,337	39,009	42,071
96.	6920	DEPREC-COMPUTER	51,338	535	-	5,686	57,559
97.	7510	FICA EXPENSE	10,462	8,484	2,114	39,979	61,040
98.	7515	FEDERAL UNEMPLOYMENT TA	96	49	9	718	872
99.	7520	STATE UNEMPLOYMENT TAX	272	215	41	578	1,106
100.	7535	FRANCHISE TAX	129	-	-	-	129
101.	7545	PERSONAL PROPERTY/ICT T	5	-	-	-	5
102.	7550	PROPERTY/OTHER GENERAL	(1,194)	-	-	-	(1,194)
103.	7555	REAL ESTATE TAX	2,031	-	-	-	2,031
104.	7595	DEF INCOME TAX-FEDERAL	(8,498)	-	-	-	(8,498)
105.	7600	DEF INCOME TAXES-STATE	(4,385)	-	-	-	(4,385)
106.	7610	INCOME TAXES-STATE	23	-	-	-	23
107.	7665	EXTRAORDINARY GAIN/LOSS	0	-	-	-	0
108.	7710	INTEREST EXPENSE-INTERCO	159,550	-	-	-	159,550
109.	7735	S/T INT EXP BANK ONE	(263)	-	-	-	(263)
110.	7750	INTEREST DURING CONSTRUC	(5,895)	-	-	-	(5,895)
111.	7765	SALE OF UTILITY PROPERTY	-	-	-	(144)	(144)
112.		Total Income Statement	\$ 712,798	\$ 203,119	\$ 43,060	\$ 426,067	\$ 1,385,043

Water Service Corporation of Kentucky

Exhibit 15

Docket 2020-00160

Allocated Income Statement & Balance Sheet

For the Test Year Ended March 31, 2020

	A	B	C	D	E	F	G
<u>Line</u>	<u>Account Number</u>	<u>Account Description</u>	<u>Shared Services (WSC) Cost Center</u>	<u>President Cost Center</u>	<u>Midwest Cost Center</u>	<u>State Cost Center</u>	<u>Per Books Allocations</u>
	<i>Balance Sheet</i>						
1.	1045	LAND & LAND RIGHTS GEN	\$ (69)	\$ -	\$ -	\$ -	\$ (69)
2.	1175	OFFICE STRUCT & IMPRV	76,744	-	-	-	76,744
3.	1180	OFFICE FURN & EQPT	20,624	-	-	-	20,624
4.	1190	TOOL SHOP & MISC EQPT	(15)	-	-	-	(15)
5.	1205	COMMUNICATION EQPT	(260)	-	(18)	-	(277)
6.	1555	TRANSPORTATION EQPT WTR	1,181	(461)	(87)	477	1,110
7.	1580	MAINFRAME COMPUTER WTR	(788)	-	-	-	(788)
8.	1585	MINI COMPUTERS WTR	56,194	-	-	-	56,194
9.	1590	COMP SYS COST WTR	38,390	4,555	-	-	42,946
10.	1595	MICRO SYS COST WTR	(408)	-	-	-	(408)
11.	1745	WIP-CAP TIME OFFICE RE	3,820	35	33	37	3,925
12.	1970	ACC DEPR-OFFICE STRUCTU	(18,998)	-	-	-	(18,998)
13.	1975	ACC DEPR-OFFICE FURN/EQ	(754)	-	-	-	(754)
14.	1985	ACC DEPR-TOOL SHOP & MI	8	-	-	(508)	(500)
15.	2000	ACC DEPR-COMMUNICATION	(602)	-	(117)	-	(718)
16.	2300	ACC DEPR-TRANSPORTATION	(983)	(1,435)	(1,301)	(39,009)	(42,728)
17.	2320	ACC DEPR-MAINFRAME COMP	786	-	-	-	786
18.	2325	ACC DEPR-MINI COMP WTR	(23,571)	-	-	-	(23,571)
19.	2330	COMP SYS AMORTIZATION W	(5,366)	(525)	-	(5,686)	(11,576)
20.	2335	MICRO SYS AMORTIZATION	408	-	-	-	408
21.	2710	A/R ASSOC COS	(873,723)	(205,412)	(41,569)	(398,795)	(1,519,499)
22.	2920	RATE CASE BEING AMORT	-	-	-	17,417	17,417
23.	3000	DEF CHGS-OTHER WTR & SW	350	-	-	-	350
24.	3155	AMORT - OTHER WTR & SWR	(44)	-	-	-	(44)

Water Service Corporation of Kentucky
Docket 2020-00160
Allocated Income Statement & Balance Sheet
For the Test Year Ended March 31, 2020

Exhibit 15

	A	B	C	D	E	F	G
Line	Account Number	Account Description	Shared Services (WSC) Cost Center	President Cost Center	Midwest Cost Center	State Cost Center	Per Books Allocations
25.	4367	ACCUM DEF INCOME TAX-FE	8,402	99	-	-	8,501
26.	4387	DEF FED TAX - DEPRECIAT	970	26	-	-	996
27.	4389	DEF FED TAX - NOL	(637)	(37)	-	-	(674)
28.	4417	ACCUM DEF INCOME TAX -	4,173	10	-	-	4,183
29.	4427	DEF ST TAX - DEF MAINT	-	-	-	-	-
30.	4437	DEF ST TAX - DEPRECIATI	19	-	-	-	19
31.	4439	DEF ST TAX - NOL	85	(3)	-	-	82
32.	4560	AMORT DEF CREDITS	45	28	-	-	73
33.	4612	ACCRUED TAXES GENERAL	1,173	-	-	-	1,173
34.	4616	ACCRUED FRANCHISE TAX A	-	-	-	-	-
35.	4628	ACCRUED REAL EST TAX	65	-	-	-	65
36.	4635	ACCRUED USE TAX	0	-	0	-	0
37.	4661	ACCRUED ST INCOME TAX	(19)	-	-	-	(19)
38.		Total Balance Sheet	\$ (712,798)	\$ (203,119)	\$ (43,060)	\$ (426,067)	\$ (1,385,043)

Application

Exhibit 16

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020-00160
Income Statement - Combined Operations
Test Year Ended 3/31/2020

Exhibit 16

Line No.	A	B
		3/31/2020 Per Books
1.	Operating Revenues	
2.	Service Revenues - Water	\$ 2,790,125
3.	Service Revenues - Sewer	-
4.	Miscellaneous Revenues	56,138
5.		
6.	Total Operating Revenues	\$ 2,846,263
7.		
8.	Maintenance Expenses	
9.	Salaries and Wages	\$ 751,780
10.	Purchase Water/Sewer	124,772
11.	Purchased Power	121,782
12.	Maintenance and Repair	182,342
13.	Maintenance Testing	37,939
14.	Meter Reading	-
15.	Chemicals	113,330
16.	Transportation	38,064
17.	Operating Exp. Charged to Plant	(65,701)
18.	Outside Services - Other	183,711
19.		
20.	Total	\$ 1,488,019
21.		
22.	General Expenses	
23.	Salaries and Wages	\$ 165,529
24.	Office Supplies & Other Office Exp.	97,266
25.	Regulatory Commission Exp.	49,159
26.	Pension & Other Benefits	231,250
27.	Rent	35,517
29.	Insurance	77,049
30.	Office Utilities	41,709
31.	Uncollectible Accounts	65,664
32.	Miscellaneous	37,623
33.		
34.	Total	\$ 800,767
35.		
36.	Depreciation	\$ 418,692
37.	Amortization of PAA	(3,660)
38.	Taxes Other Than Income	238,690
39.	Expense Reduction Related to Clinton Sewer Operations	(147,351)
40.	Income Taxes - Federal	(20,890)
41.	Income Taxes - State	(4,145)
42.	Amortization of CIAC	(9,505)
43.		
44.	Total	\$ 471,830
45.		
46.	Total Operating Expenses	\$ 2,760,617
47.		
48.	Net Operating Income	\$ 85,646
49.		
50.	Other Income	\$ (144)
51.	Interest During Construction	(6,316)
52.	Interest on Debt	160,572
53.		
54.	Net Income	\$ (68,465)

WATER SERVICE CORPORATION OF KENTUCKY

Exhibit 16

Case No. 2020-00160

Balance Sheet

Test Year Ended 3/31/2020

Line No.	ASSETS	A	B	LIABILITIES AND OTHER CREDITS	C	D
1.	Plant In Service			Capital Stock and Retained Earnings		
2.	Water		\$ 13,384,685			
3.	Sewer		-	Common Stock and Paid In Capital	\$	5,068,438
4.			<u> </u>	Retained Earnings		525,965
5.	Total		\$ 13,384,685			
6.			<u> </u>	Total	\$	<u>5,594,403</u>
7.	Accumulated Depreciation-Water		(6,388,934)	Current and Accrued Liabilities		
8.	Accumulated Depreciation-Sewer		-	Accounts Payable-Trade		456,536
9.			<u> </u>	Taxes Accrued		44,773
10.	Total		\$ (6,388,934)	Deferred Credits		57,340
11.			<u> </u>	Customer Deposits - Interest		1,274
12.				A/P - Assoc. Companies		1,264,517
13.	Net Utility Plant		\$ 6,995,752	Deferred Revenue		-
14.			<u> </u>			
15.				Total	\$	<u>1,824,440</u>
16.				Advances In Aid of Construction		
17.	Plant Acquisition Adjustment-Water		(119,881)	Water		0
18.	Plant Acquisition Adjustment-Sewer		-	Sewer		-
19.			<u> </u>			
20.	Total		\$ (119,881)	Total	\$	<u>0</u>
21.			<u> </u>			
22.				Contributions In Aid of Construction		
23.	Construction Work In Process-Water		44,057	Water		269,718
24.	Construction Work In Process-Sewer		-	Sewer		-
25.			<u> </u>			
26.	Total		\$ 44,057	Total	\$	<u>269,718</u>
27.			<u> </u>			
28.	Current Assets			Accumulated Deferred Income Tax		
29.	Cash		12,954	Unamortized ITC		-
30.	Accounts Receivable - Net		1,247,431	Deferred Tax - Federal		802,424
31.	Other Current Assets		14,677	Deferred Tax - State		(91,961)
32.			<u> </u>			
33.	Total		\$ 1,275,062	Total	\$	<u>710,462</u>
34.			<u> </u>			
35.				TOTAL LIABILITIES AND OTHER CREDITS	\$	<u>8,399,024</u>
36.	Deferred Charges		204,035			
37.			<u> </u>			
38.	TOTAL ASSETS		\$ 8,399,024			
			<u> </u>			

Application

Exhibit 17

WATER SERVICE CORPORATION OF KENTUCKY
Case No. 2020 - 00160
Capital Spending Budget - As of December 31, 2019

Exhibit 17

Original Budget	2019 Q2	2019 Q3	2019 Q4	2020 Q1	TTM Q1 2020 Budget	2020 Q2	2020 Q3	2020 Q4	2021 Q1	TTM Q1 2021 Budget
Plant Spending	\$ 12,582	\$ 41,076	\$ 66,407	\$ 30,570	\$ 150,635	\$ 30,570	\$ 30,570	\$ 30,570	\$ 32,350	\$ 124,060
Cap Time (Plant)	\$ 11,483	\$ 10,869	\$ 16,163	\$ 10,389	\$ 48,904	\$ 10,389	\$ 10,389	\$ 10,389	\$ 10,808	\$ 41,977
Projects (Including Captive and IDC)										
Transmission Main Replacement (Middlesboro)	-	-	-	-	-	76,830	39,049	37,549	38,295	191,724
QUEENSBURY HEIGHTS WATERLINE REPLACEMENT	-	3,528	42,033	-	45,561	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	35,000	-	35,000
Total	\$ 24,065	\$ 55,473	\$ 124,602	\$ 40,959	\$ 245,099	\$ 117,790	\$ 80,008	\$ 113,508	\$ 81,454	\$ 392,760

Application

Exhibit 18

Line	A	B	C	D	E	F	G	H	J	K	L	M	N
	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	
Income Statement													
REVENUE													
1.	Water Revenue	234,107	236,167	261,859	263,438	253,132	235,349	223,141	231,861	232,900	227,689	213,392	223,078
2.	Waste-Water Revenue	-	-	-	-	-	-	-	-	-	-	-	-
3.	Purchased Service Revenue	-	-	-	-	-	-	-	-	-	-	-	-
4.	Misc Revenue	3,922	5,630	3,393	6,929	6,370	3,538	5,011	4,872	3,971	5,252	2,864	4,519
5.	Non-Reg Revenue	12,946	10,551	13,043	11,527	10,266	12,690	10,981	12,505	11,229	11,207	9,340	13,265
6.	Rate Case Revenue	-	-	-	-	-	-	-	-	-	66,750	66,750	66,750
7.	TOTAL BOOK REVENUE	250,975	252,348	278,295	281,894	269,768	251,577	239,133	249,238	248,100	310,898	292,346	307,612
O&M Expense													
8.	Purchased Services	10,267	10,267	10,380	11,169	10,283	10,267	10,267	10,267	10,267	10,267	10,267	10,267
9.	Purchased Power	9,907	8,382	7,918	8,393	8,646	6,722	9,022	7,495	10,603	11,147	10,910	10,446
10.	Chemicals	10,518	10,217	9,113	7,643	7,412	7,597	7,625	9,282	10,442	10,796	10,793	10,737
11.	Meter Reading	-	-	-	-	-	-	-	-	-	-	-	-
12.	Bad Debt	4,434	4,441	4,931	4,942	4,759	4,432	4,210	4,357	4,370	5,828	5,500	5,785
13.	Billing & Customer Service	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,767	3,767
14.	Non-Regulated COGS	-	-	-	-	-	-	-	-	-	-	-	-
15.	Employee Benefits	22,719	21,115	23,343	22,902	22,536	23,188	21,384	22,560	22,866	24,984	23,938	24,416
16.	Insurance	7,987	7,906	7,997	8,093	7,929	8,014	8,235	8,152	8,317	8,261	8,176	8,431
17.	IT Department	4,157	4,823	4,904	5,011	5,107	6,187	6,516	5,360	5,430	5,623	5,653	5,653
18.	Misc Expense	1,591	695	5,268	4,951	1,741	1,954	1,250	1,129	2,549	3,471	1,309	1,642
19.	Office Expense	800	1,142	2,163	2,085	620	898	1,567	791	1,374	1,167	827	900
20.	Office Utilities	4,421	7,401	4,446	4,984	4,887	5,202	5,101	4,689	4,800	4,311	4,413	4,639
21.	Outside Services	14,828	16,604	14,840	14,828	14,828	15,461	15,449	15,449	15,461	14,647	14,647	14,856
22.	Regulatory	-	-	-	-	-	-	-	-	-	-	-	-
23.	Rate Case Amortization	4,095	4,095	4,095	4,095	4,095	4,095	4,095	4,095	4,095	10,868	10,868	10,868
24.	Rent	3,714	3,200	2,670	2,139	3,730	3,730	4,018	2,139	2,139	3,199	3,232	2,139
25.	Salaries	87,773	80,693	83,542	86,169	81,648	83,641	83,733	81,481	85,985	83,489	81,160	88,144
26.	Cap Time	(3,784)	(3,783)	(3,784)	(3,657)	(3,656)	(3,657)	(3,650)	(3,649)	(3,650)	(3,716)	(3,716)	(3,716)
27.	Travel	4,346	1,283	2,314	2,229	2,505	2,140	1,971	1,599	1,551	1,317	1,853	2,338
28.	Fleet Transportation	3,714	3,740	3,806	3,761	3,725	3,691	3,654	3,628	3,583	3,669	3,779	3,801
29.	Maintenance Testing	3,675	3,177	2,825	3,935	3,380	2,320	3,667	2,475	2,475	7,962	2,650	2,353
30.	Maintenance	10,955	7,939	7,958	8,416	26,714	7,974	29,852	31,302	9,024	8,014	8,014	9,135
31.	Deferred Maint Amortization	1,808	1,808	1,808	1,853	1,853	1,853	2,019	2,075	2,075	2,157	2,162	2,187
32.	TOTAL BOOK O&M	211,621	198,839	204,231	207,634	216,436	199,403	223,680	218,371	207,451	221,229	210,203	218,789
D&A Expense													
33.	Water Depreciation	18,014	18,014	18,014	18,014	18,014	18,014	18,014	18,014	18,014	18,014	18,014	18,014
34.	Waste-Water Depreciation	0	0	0	0	0	0	0	0	0	0	0	0
35.	Other Depreciation	1,786	1,786	1,786	1,786	1,786	1,786	1,786	1,786	1,786	1,786	1,786	1,786
36.	Transportation Depreciation	8,986	8,986	8,986	8,986	8,986	8,986	8,986	8,986	8,986	8,986	8,986	8,986
37.	Computer Depreciation	3,852	3,852	3,852	3,852	3,852	3,852	3,852	3,853	3,853	3,853	3,853	3,853
38.	A/D CAPEX BUDGET	1,372	1,497	1,634	1,730	1,827	1,923	2,155	2,376	2,598	2,674	2,750	2,826
39.	Water AIAC Amortization	-	-	-	-	-	-	-	-	-	-	-	-
40.	Waste-Water AIAC Amortization	-	-	-	-	-	-	-	-	-	-	-	-
41.	Water PAA Amortization	(305)	(305)	(305)	(305)	(305)	(305)	(305)	(305)	(305)	(305)	(305)	(305)
42.	Waste-Water PAA Amortization	-	-	-	-	-	-	-	-	-	-	-	-
43.	Water CIAC Amortization	(669)	(669)	(669)	(669)	(669)	(669)	(669)	(669)	(669)	(669)	(669)	(669)
44.	Waste-Water CIAC Amortization	-	-	-	-	-	-	-	-	-	-	-	-
45.	Other CIAC Amortization	-	-	-	-	-	-	-	-	-	-	-	-
46.	A/A CIAC BUDGET	-	-	-	-	-	-	-	-	-	-	-	-
47.	TOTAL BOOK D&A	33,035	33,161	33,298	33,394	33,490	33,587	33,818	34,040	34,262	34,338	34,414	34,490
48.	TOTI	13,117	12,566	12,824	13,348	12,953	13,014	12,885	12,690	12,930	14,534	13,910	14,091
49.	COA	-	-	-	-	-	-	-	-	-	-	-	-
50.	Rental/Other Income	-	-	-	-	-	-	-	-	-	-	-	-
51.	INTEREST EXPENSE	14,123	14,161	14,214	14,223	14,238	14,240	14,272	14,301	14,326	14,320	14,316	14,312
52.	OTHER INCOME/EXPENSES	-	-	-	-	-	-	-	-	-	-	-	-
53.	IDC	363	363	363	753	753	753	975	975	975	1,224	1,224	1,224
54.	INCOME TAXES	(5,220)	(1,591)	3,425	3,317	(1,834)	(2,162)	(11,358)	(7,526)	(5,207)	6,606	4,866	6,469
55.	DISPOSITION	-	-	-	-	-	-	-	-	-	-	-	-
56.	Book Income	(15,338)	(4,424)	10,665	10,731	(4,763)	(5,751)	(33,190)	(21,663)	(14,687)	21,094	15,860	20,684

Application

Exhibit 19

WATER SERVICE CORPORATION OF KENTUCKY

Case No. 2020 - 00160

PF Plant - Pro Forma Summary

Test Year Ended 3/31/2020

Line	Account	Description	Category	Source	of Construction	Service Date	Total Estimated Cost	CWIP at 3/31/2020	Retirement Amount	Retirement Date	Plant Being Replaced	Cost of Removal of Plant Being Replaced	Variance to Budget	Depreciation Expense
1.	1050	Source of Supply and Pumping	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	\$ 857	\$ -	\$ (196)	N/A	N/A	N/A	N/A	\$ 23
2.	1055	Water Treatment	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	6,057	-	(704)	N/A	N/A	N/A	N/A	162
3.	1060	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	119	-	(211)	N/A	N/A	N/A	N/A	3
4.	1080	Source of Supply and Pumping	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	50	-	-	N/A	N/A	N/A	N/A	2
5.	1090	Source of Supply and Pumping	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	12	-	-	N/A	N/A	N/A	N/A	0
6.	1100	Source of Supply and Pumping	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	3,123	-	(1,104)	N/A	N/A	N/A	N/A	156
7.	1105	Water Treatment	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	13,262	-	(8,051)	N/A	N/A	N/A	N/A	663
8.	1110	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	614	-	(114)	N/A	N/A	N/A	N/A	31
9.	1115	Water Treatment	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	5,760	-	(2,420)	N/A	N/A	N/A	N/A	209
10.	1120	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	1,764	-	(1,246)	N/A	N/A	N/A	N/A	39
11.	1125	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	16,410	-	(775)	N/A	N/A	N/A	N/A	263
12.	1130	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	22,929	-	(583)	N/A	N/A	N/A	N/A	573
13.	1135	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	2,063	-	(4,450)	N/A	N/A	N/A	N/A	46
14.	1140	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	11,007	-	-	N/A	N/A	N/A	N/A	245
15.	1145	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	3,129	-	(642)	N/A	N/A	N/A	N/A	59
16.	1150	Transmission and Distribution	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	15	-	(24)	N/A	N/A	N/A	N/A	0
17.	1175	General	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	1,016	-	-	N/A	N/A	N/A	N/A	27
18.	1180	General	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	764	-	(53)	N/A	N/A	N/A	N/A	32
19.	1185	General	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	211	-	-	N/A	N/A	N/A	N/A	11
20.	1190	General	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	7,311	-	(3,501)	N/A	N/A	N/A	N/A	397
21.	1195	General	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	2,938	-	(2,832)	N/A	N/A	N/A	N/A	168
22.	1200	General	General Ledger Capital	w/p [n]	4/1/2020	10/31/2020	1,743	-	(2,901)	N/A	N/A	N/A	N/A	125
23.	1580	FUSION	Computer Asset	w/p [l]	3/1/2019	12/31/2020	14,290,000	7,577,000	-	N/A	15,066,608	-	N/A	14,822
24.	1585	BI Publisher Bill Enhancement	Computer Asset	w/p [l]	1/1/2020	9/30/2020	242,778	2,778	-	N/A	N/A	N/A	N/A	252
25.	1590	SEW Phase 2 - (Start Stop Automation	Computer Asset	w/p [l]	9/1/2020	11/30/2020	501,000	-	-	N/A	N/A	N/A	N/A	520
26.	1595	Canadian Migration	Computer Asset	w/p [l]	8/1/2019	9/30/2020	300,000	150,000	-	N/A	N/A	N/A	N/A	311