

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF
GIBSON WATER AUTHORITY FOR
AUTHORITY TO ISSUE LONG-TERM DEBT
AND ADJUST ITS RATES AND CHARGES

CAUSE NO. 45535

VERIFIED DIRECT TESTIMONY AND EXHIBITS OF JOHN W. WETZEL, P.E.

Direct Testimony of John W. Wetzel, P.E.

Petitioner's Exhibit 10

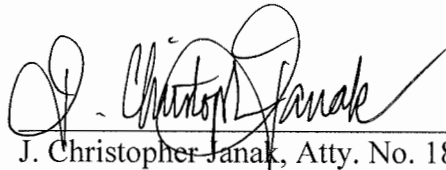
July, 2019 Construction Cost Index

Petitioner's Exhibit 11

March, 2021 Construction Cost Index

Petitioner's Exhibit 12

Respectfully submitted,



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STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**IN THE MATTER OF THE PETITION OF
GIBSON WATER AUTHORITY FOR
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CAUSE NO. _____

VERIFIED DIRECT TESTIMONY

OF

JOHN W. WETZEL, P.E.

ON BEHALF OF PETITIONER,

GIBSON WATER AUTHORITY

PETITIONER, GIBSON WATER AUTHORITY
IURC Cause No. _____
Verified Direct Testimony of John W. Wetzel, P.E.

I.
Introduction

1
2
3
4 **1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

5 A. My name is John W. Wetzel and my business address is Midwestern Engineers,
6 Inc., 802 West Broadway Street, Loogootee, Indiana 47553.

7 **2. Q. WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU**
8 **EMPLOYED?**

9 A. I am a Professional Engineer, registered in the State of Indiana since 1998,
10 specializing in Civil Engineering with an emphasis on water and wastewater.
11 Since 1996, I have been employed by Midwestern Engineers, Inc.
12 ("Midwestern"), and I currently serve as its President. For almost twenty-five (25)
13 years, I have also served Midwestern and our clients as a Senior Project Engineer.

14 **3. Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND,**
15 **RELEVANT EXPERIENCE, AND PROFESSIONAL AFFILIATIONS.**

16 A. I graduated from Purdue University in 1993 with a Bachelor of Science degree in
17 Civil Engineering. After graduation, I worked for Commonwealth Engineers from
18 May of 1993 to November of 1996, before joining Midwestern in November of
19 1996. Over the course of my career, I have been the lead Senior Project Engineer
20 on numerous water and wastewater projects throughout the State of Indiana. I
21 have personally completed preliminary engineering reports, developed funding
22 alternatives, aided our clients in obtaining grant and loan funds from various state
23 and federal agencies, designed and prepared plans and specifications, and

1 overseen construction and engineering on these projects. A sampling of these
2 projects include the Patoka Lake Regional Water & Sewer District Phase VI, VII,
3 and VIII water improvement projects, the Patoka Lake Regional Water & Sewer
4 District Phase V sewer improvement project, the Morgan County Rural Water
5 Corporation "Western Expansion Project" and "Connection to the City of
6 Indianapolis Project," the Decatur County Rural Water Corporation Phase III, IV,
7 and V water improvement projects, the Washington Township Water Authority
8 water system relocations and improvements along the I-69 Corridor, and
9 numerous water improvement projects for the Stucker Fork Conservancy District.
10 In addition, I am a member of various professional organizations, including the
11 American Water Works Association ("AWWA"), American Council of
12 Engineering Companies of Indiana, and Chi Epsilon Civil Engineering Honor
13 Society. Other members of my firm and I are also active in the Alliance of Indiana
14 Rural Water.

15 **4. Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION**
16 **PRIOR TO THIS CAUSE?**

17 A. Yes, I have. Various other members of my firm and I have previously offered
18 testimony and exhibits to the Commission on behalf of Gibson Water, Inc. (now
19 known as Gibson Water Authority; "Gibson Water"), Stucker Fork Conservancy
20 District, Washington Township Water Corporation of Monroe County, the City of
21 Boonville, Indiana, and other clients.

5. Q. HOW LONG HAS MIDWESTERN BEEN ENGAGED AND PROVIDING ENGINEERING SERVICES IN INDIANA?

A. In 1959, Midwestern was founded with a primary focus on providing water and wastewater advice and design and construction engineering services to municipalities, regional water and sewer districts, conservancy districts, and nonprofit rural water and wastewater utility corporations throughout the State of Indiana.

II. Experience and Background in Working with Gibson Water

6. Q. CAN YOU DESCRIBE YOUR AND MIDWESTERN'S EXPERIENCE IN WORKING WITH GIBSON WATER?

A. Midwestern has provided engineering services to Gibson Water since the 1970's. Midwestern was the engineer of record for the initial Gibson Water construction project in the late 1970's which brought potable water to many rural areas in Gibson County. This project consisted of a master meter pit connection to the City of Evansville, Indiana ("Evansville"), located south of the Southwest corner of the I-64/U.S. 41 Intersection, a 16" main from the meter pit to a booster station located along CR 1250 S, a 12" main from the booster station northward to a 300,000 gallon elevated water storage tank located approximately 3 miles north of the Town of Fort Branch, Indiana, and approximately 110 miles of distribution and transmission main. Midwestern also completed engineering work on two (2) distribution system expansions in the 1980's, one in 1984 and another in 1987, as

1 well as engineering on an additional 300,000 gallon standpipe in 1989. Next, in
2 1996 Midwestern provided engineering on a number of water main relocation
3 projects that were necessary due to road and railroad improvements related to the
4 development of the Toyota Manufacturing Facility ("Toyota") site between Fort
5 Branch and Princeton. Also undertaken in 1996 was a system expansion project
6 aimed at increasing available potable water flows for Toyota. This project
7 included a new 20" transmission main from County Road 1200 South northward
8 to the west side of the Toyota site and a new 1.5 million gallon ("mg") elevated
9 water storage tank. Next, in 2008 Midwestern completed engineering on both a
10 water main relocation project necessitated by the construction of the new I-69 and
11 a distribution system expansion project which made potable water available to the
12 unincorporated community of East Mount Carmel. Also, in 2012 Midwestern
13 completed engineering on distribution system improvements that ran potable
14 water to the Gibson County Coal Company facilities. We have also completed
15 various miscellaneous consulting engineering type services for Gibson Water
16 since its inception. Most recently, we worked with Gibson Water to prepare and
17 present its case in Cause Nos. 45080 and 45080 S1.

18 7. Q. **BASED ON YOUR EXPERIENCE, ARE YOU FAMILIAR WITH GIBSON**
19 **WATER'S SYSTEM AND ITS ANTICIPATED OPERATIONAL,**
20 **MAINTENANCE, AND CAPITAL NEEDS?**

21 A. Yes, I am.

22 8. Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CAUSE?**

1 A. The purpose of my testimony is to discuss: (i) the updated cost data for periodic
2 maintenance expenses; (ii) the status of the capital improvement projects
3 approved in Cause Nos. 45080 and 45080 S1 that are still in progress ("Pending
4 Capital Projects"); and (iii) the updated cost estimates for the Pending Capital
5 Projects.

6 **III.**
7 **Periodic Maintenance Expense Update**

8 **9. Q. IN SUPPORT OF ITS REQUEST TO ADJUST ITS RATES AND**
9 **CHARGES, IS GIBSON WATER INCLUDING EXPENSES OR**
10 **AMOUNTS FOR PERIODIC MAINTENANCE?**

11 A. Yes, it is. The details and individual components of Gibson Water's revenue
12 requirement are discussed in much greater detail in the pre-filed testimony and
13 accounting papers of Mr. Miller.

14 **10. Q. DO YOU AGREE WITH THE PERIODIC MAINTENANCE ITEMS AND**
15 **AMOUNTS SET FORTH IN MR. MILLER'S PRE-FILED TESTIMONY**
16 **AND EXHIBITS?**

17 A. Yes, I do. I have reviewed the periodic maintenance items and amounts contained
18 on page 14 of Mr. Miller's Accounting Report, and I believe these items and
19 amounts are consistent with the expenses that Gibson Water will incur.

20 **11. Q. CAN YOU EXPLAIN THE PROCESS YOU USED IN UPDATING THE**
21 **ESTIMATES FOR GIBSON WATER'S ANTICIPATED PERIODIC**
22 **MAINTENANCE?**

1 A. Yes, I can. In general, I conducted a review of Gibson Water's utility system to
2 identify the facilities that Gibson Water will have to periodically maintain. Once
3 I identified those facilities, I considered Gibson Water's historical costs for
4 periodically maintaining these facilities, I evaluated whether such historical costs
5 are still accurate, and I contacted a contractor to obtain a quote for certain costs. I
6 then worked with Mr. Miller to use this updated information to estimate the
7 amount of periodic maintenance expenses that Gibson Water could expect to
8 incur on a prospective basis. After discussions with Mr. Miller and Mr. Jenkins,
9 the periodic maintenance expenses were finalized and then included on page 14 of
10 Mr. Miller's Accounting Report.

11 **12. Q. CAN YOU DESCRIBE ANY RELEVANT INFORMATION YOU HAVE**
12 **REGARDING THE INDIVIDUAL AMOUNTS FOR PERIODIC**
13 **MAINTENANCE?**

14 A. Yes, I can.

15 **i. SCADA Instrumentation and 6" and 8" Compound Meter**

16 The periodic maintenance amounts for SCADA instrumentation and maintenance
17 of the 6" and 8" compound flow meters are the same as the amounts that were
18 approved in Cause No. 45080. Although these estimates are now almost three
19 (3) years old, I still believe they are accurate estimates of what Gibson Water
20 will incur to perform periodic maintenance on these items.
21

1 **ii. High Service Pumps and VFDs**

2 I was responsible for providing the estimated amount for the periodic
3 maintenance associated with Gibson Water's high service pumps and variable
4 frequency drives ("VFD"). In developing this estimate, I contacted Deig Bros.,
5 the contractor who installed a recent booster station upgrade for Gibson Water, to
6 obtain a quote for the cost of Gibson Water's three (3) high service pumps and
7 VFD's. This cost was \$128,000. I believe this cost will be incurred over a fifteen
8 (15) year period. Based on this quote, the annual periodic maintenance expense
9 for the high service pumps and VFD's is estimated to be \$8,533 (i.e. $\$128,000 \div$
10 15 years). I would note that the amount for periodic maintenance of the Gibson
11 Water's high service pumps and VFD's has increased from \$2,070 per year (in
12 Cause No. 45080) to \$8,533 per year in this Cause. The increase is due to the fact
13 that the new pumps and VFD's are much larger and more expensive.

14 **iii. 300,000 Gallon Water Storage Facilities**

15 In estimating the periodic maintenance expense for its three (3) water storage
16 tanks, Gibson Water used the quotes from its tank contractor, Suez, Inc. ("Suez").
17 As noted in his testimony, Mr. Jenkins provided the estimates for maintaining the
18 300,000 gallon stand pipe and elevated storage tanks based on the amounts for
19 tank maintenance set forth in the existing Suez contracts. I understand that
20 Mr. Miller then averaged the annual cost of maintaining each tank over the
21 remaining term of each contract to arrive at an annual figure for periodic
22 maintenance for Gibson Water's stand pipe and elevated tank. Based on Mr.

1 Miller's calculation, the periodic maintenance for the 300,000 elevated tank is
2 \$44,865 per year and the periodic maintenance for the 300,000 stand pipe tank is
3 \$20,133 per year.

4 **iv. Toyota Tank**

5 Unlike the 300,000 gallon water storage facilities, Gibson Water does not yet
6 have a maintenance agreement with Suez for the Toyota tank. Gibson Water,
7 however, is proposing to enter into an agreement with Suez for the Toyota tank
8 that is similar to its existing agreements, provided the IURC approves such
9 expense. Suez has provided a proposed tank maintenance contract and price
10 matrix (i.e., Petitioner's Exhibit 9) that show the cost of maintaining the Toyota
11 tank over a 20-year period. I understand that Mr. Miller has averaged the cost of
12 maintaining the Toyota tank over the length of the contract to arrive at a proposed
13 annual maintenance cost of \$103,772 per year.

14 **v. Turbine Flow Meters**

15 Finally, I considered maintenance costs for Gibson Water's large-flow meters.
16 Gibson Water has five (5) turbine-type flow meters, which have an estimated
17 maintenance cost of \$11,000 each every fifteen (15) years, resulting in an annual
18 periodic maintenance expense of \$3,667. I would note that in Gibson Water's last
19 rate case, Cause No. 45080, Gibson Water listed periodic maintenance for only
20 two (2) turbine flow meters. Unfortunately, we inadvertently omitted three (3) of
21 its turbine flow meters from its periodic maintenance calculation. In addition to
22 the two (2) turbine flow meters referenced in Cause No. 45080, Gibson Water has

1 three (3) turbine flow meters in its Toyota water meter vault. While the amount
2 of maintenance for each meter has not changed from the last case, Mr. Miller's
3 accounting report (i.e. page 14) accurately reflects that Gibson Water is
4 maintaining five (5) turbine flow meters, not two (2).

5 **13. Q. DO YOU BELIEVE THE AMOUNTS FOR PERIODIC MAINTENANCE**
6 **ARE APPROPRIATE AND REASONABLE?**

7 A. Yes, I do. Based on the quotes from Suez for tank maintenance and my research
8 on the estimated costs of the remaining periodic maintenance expense items, I
9 believe the items and amounts detailed in Mr. Miller's accounting report are an
10 accurate reflection of the type and amount of expenses that Gibson Water will
11 experience. Accordingly, I support Gibson Water's request of \$193,170 for
12 annual periodic maintenance expense as set forth on page 14 of Mr. Miller's
13 Accounting Report.

14 **IV.**
15 **Carryover Projects from Cause Nos. 45080 and 45080 S1**

16 **14. Q. HAS GIBSON WATER COMPLETED ALL OF THE PROJECTS FOR**
17 **WHICH THE COMMISSION AUTHORIZED THE ISSUANCE OF LONG-**
18 **TERM DEBT IN CAUSE NOS. 45080 AND 45080 S1?**

19 A. Not entirely. While the projects funded by the loan from the Indiana State
20 Revolving Loan Fund Program ("SRF") have been completed and are in service,
21 Gibson Water has not yet closed on the loan with the United States Department of
22 Agriculture -- Rural Development ("RD"). Therefore, some of the proposed

1 projects (i.e. the Pending Capital Projects) to be funded by the proposed long-term
2 debt authorized in Cause Nos. 45080 and 45080 S1 are still pending.

3 **15. Q. PLEASE SUMMARIZE BRIEFLY THE PROJECTS THAT ARE STILL**
4 **PENDING.**

5 A. The remaining RD-financed improvements (i.e. the Pending Capital Projects) to
6 be completed by Gibson Water can be summarized as follows: (i) County Road
7 225 West water main extension; (ii) State Road 68 water main extension; (iii)
8 County Roads 350 West and 200 South water main projects; (iv) State Road 64
9 water line project; and (v) parallel booster station transmission main. These
10 improvements and their specific costs are identified on pages 3 and 5 of Mr.
11 Miller's accounting report.

12 **V.**

13 **Increased Cost of Completing Pending Capital Projects**

14
15 **16. Q. DO YOU HAVE A GENERAL OPINION ON THE COST OF**
16 **COMPLETING CAPITAL PROJECTS SINCE THE ISSUANCE OF THE**
17 **ORDER IN CAUSE NO. 45080 S1?**

18 A. Yes, I do. Unfortunately, the cost of completing water-related projects in
19 southwestern Indiana has increased since issuance of the Order in Cause No.
20 45080 S1. These increases are due to several factors, including volatile (and
21 higher) pipe prices and the large number of projects being completed by other
22 utilities in this area of the state. With higher pipe prices and contractors who are
23 already busy with other projects, I anticipate that the bids for the Pending Capital
24 Projects will be higher than the original estimates (presented in Cause No. 45080

1 S1). To make matters worse, I understand that there will now be large sums of
2 (grant) money from the recently enacted American Rescue Plan that will be
3 dedicated to sewer and water projects. I fear that the additional funds available
4 for the water-related projects will now result in an abundance of projects going
5 out to bid which will only exacerbate the problem of rising costs associated with
6 completing sewer and water projects. For this reason, I believe that the cost
7 estimates for the Pending Capital Projects will be more expensive.

8 **17. Q. WERE YOU RESPONSIBLE FOR PROVIDING NEW COST ESTIMATES**
9 **FOR THE PENDING CAPITAL PROJECTS IN THIS CAUSE?**

10 A. Yes, I was. I calculated these estimates and provided them to Mr. Miller who, in
11 turn, included the new estimates on pages 3 and 5 of his accounting report.

12 **18. Q. MR. WETZEL, HOW DID YOU CALCULATE THE NEW COST**
13 **ESTIMATES FOR THE PENDING CAPITAL PROJECTS?**

14 A. In preparing an updated estimate of the cost to construct the Pending Capital
15 Projects, I compared the Engineering News Construction Cost Index Value for
16 July of 2019 and the Engineering News Construction Cost Index Value for
17 March of 2021. For the Commission's convenience, I am attaching a copy of
18 both Indexes as Petitioner's Exhibits 11 and 12, respectively. I then calculated
19 the inflation factor by dividing the March 2021 Index Value by the July, 2019
20 Value (i.e. 11749.75/11292.80). The resulting inflation factor is 1.0404. I then
21 multiplied the original cost (as attached in Cause No. 45080 S1) of the Pending

1 Capital Projects by the inflation factor of 1.0404 to arrive at the new updated
2 estimate of completing the remaining project.

3 **19. Q. CAN YOU EXPLAIN WHY YOU USED THE CONSTRUCTION COST**
4 **INDEX VALUES FROM THE ENGINEERING NEWS AS A BASIS FOR**
5 **UPDATING THE COST OF COMPLETING THE PENDING CAPITAL**
6 **PROJECTS.**

7 A. Yes, I can. The Engineering News publishes an Index Value that represents the
8 cost of completing Capital Projects at a particular time. By comparing the value
9 from July 2019 (i.e. the time of the original estimates that were included in my
10 prefiled testimony and exhibits in Cause No. 45080 S1) to the Index Value for
11 completing the same projects in 2021, I was able to determine the updated costs
12 of completing the Pending Capital Projects based upon an identifiable standard.

13 **20. Q. IN PREPARING YOUR UPDATED ESTIMATES FOR COMPLETING**
14 **THE PENDING CAPITAL PROJECTS, DID YOU CONSIDER ANY OF**
15 **THE GENERAL CONCERNS THAT YOU HIGHLIGHTED IN YOUR**
16 **RESPONSE TO QUESTION 16.**

17 A. No, I did not. I prepared the updated cost for completing the Pending Capital
18 Projects based only on the Index Values published by the Engineering News.
19 While I believe that the concerns I raised in my response to Question 16 could
20 lead to even higher construction prices over the coming months, I wanted to rely
21 upon a specific, defined standard in preparing my cost estimate.

1 **21. Q. DO YOU BELIEVE YOUR METHOD OF CALCULATING THE**
2 **CONSTRUCTION COST ESTIMATES FOR THE PENDING CAPITAL**
3 **IMPROVEMENTS IS REASONABLE?**

4 A. Yes, I do.

5 **22. Q. DID YOU PROVIDE YOUR NEW, UPDATED ESTIMATES TO MR.**
6 **MILLER?**

7 A. Yes, I did. After preparing my updated estimates for completing the Pending
8 Capital Projects, I provided the estimates to Mr. Miller who incorporated the
9 estimates into his accounting report on pages 3 and 5. Pages 3 and 5 of Mr.
10 Miller's accounting report accurately reflect my estimate that the construction
11 cost to complete the Pending Capital Projects will increase from \$2,601,150 to
12 \$2,705,000.

13 **23. Q. IN ADDITION TO INCREASES IN CONSTRUCTION COSTS, HAVE**
14 **THERE BEEN OTHER INCREASED COSTS ASSOCIATED WITH**
15 **COMPLETING THE PENDING CAPITAL PROJECTS?**

16 A. Yes. As referenced by Mr. Jenkins and Mr. Miller in their respective
17 testimonies, there have been increases in the costs associated with easement
18 acquisition, easement preparation, easement negotiation, and crop damage.
19 These increases, coupled with the increases I referenced above, result in an
20 increase in the total estimated cost to complete the Pending Capital Projects from
21 \$3,655,000 to (the current estimate of) \$4,230,000.

1 **24. Q. WHAT IS THE AMOUNT OF THE BORROWING AUTHORITY**
2 **REQUESTED BY GIBSON WATER IN THIS CASE?**

3 A. The total cost of all the projects originally presented in Cause Nos. 45080 and
4 45080 S1 is now estimated at \$5,204,000. Because Gibson Water has already
5 borrowed \$994,000 from the SRF Program (and completed a portion of the
6 projects), Gibson Water seeks authority from the Commission to incur
7 indebtedness of \$4,230,000 (plus the 20% contingency explained by Mr. Miller
8 in his testimony; pp. 20-21) to Rural Development so that it can complete the
9 Pending Capital Projects. When considering the 20% contingency or additional
10 conditional authority of \$540,000, Gibson Water seeks a total amount borrowing
11 authority of \$4,770,000.

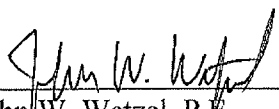
12 **V.**
13 **Conclusion**

14 **25. Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

15 A. Yes, it does.

VERIFICATION

I affirm under the penalties of perjury that the foregoing testimony is true to the best of my knowledge, information, and belief as of the date here filed.

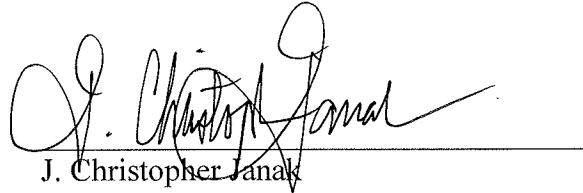


John W. Wetzel, P.E.
Midwestern Engineers, Inc.

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing “Verified Direct Testimony and Exhibits of John W. Wetzel, P.E.” was served upon the following by electronic mail this 26th day of April, 2021:

Indiana Office of Utility Consumer Counselor
infomgt@oucc.in.gov


J. Christopher Janak

Bose McKinney & Evans LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
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Petitioner's Exhibit 11

CONSTRUCTION ECONOMICS

July 2019

ENR's 20-city average cost indexes, wages and material prices. Historical data and details for ENR's 20 cities can be found at ENR.com/economics

Construction Cost Index

+1.6%
JULY 2019

1913=100	INDEX VALUE	MONTH	YEAR
CONSTRUCTION COST	11292.80	+0.2%	+1.6%
COMMON LABOR	23814.86	+0.3%	+2.0%
WAGE \$/HR.	45.68	+0.3%	+2.0%

The Construction Cost Index's annual escalation rate fell to 1.6% this month, with the monthly component increasing 0.2%.

Building Cost Index

+1.5%
JULY 2019

1913=100	INDEX VALUE	MONTH	YEAR
BUILDING COST	6131.42	+0.2%	+1.5%
SKILLED LABOR	10524.89	+0.4%	+2.4%
WAGE \$/HR.	58.17	+0.4%	+2.4%

The Building Cost Index is up 1.5%, while the monthly component increased 0.2%.

Material Cost Index

0.0%
JULY 2019

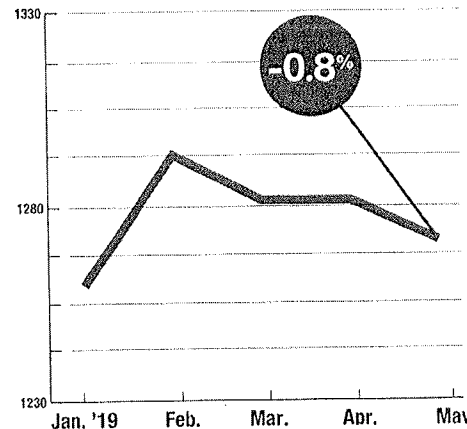
1913=100	INDEX VALUE	MONTH	YEAR
MATERIALS COST	3444.09	0.0%	+2.2%
CEMENT \$/TON	137.85	+1.6%	+19.4%
STEEL \$/CWT	54.55	0.0%	+2.3%
LUMBER \$/MBF	585.11	-0.6%	-7.9%

The MCI held steady this month, while the annual escalation rate is 2.2%.

The dollar value of total construction put-in-place showed a seasonally adjusted monthly escalation rate of **-0.8% in May**, following a flat rate in April, according to the U.S. Dept. of Commerce's seasonally adjusted data. On a yearly basis, total construction was 2.3% lower than May 2018. The private sector saw a 6.3% decrease from a year ago, while public work experienced a 10.8% increase. Non-residential construction in the public market increased 11.2% over the past year, while non-residential in the private market decreased 0.1% in the same time period.

TOTAL CONSTRUCTION

Seasonally adjusted rate in (\$ billions)



PERCENT CHANGE OCT. '18 VS. OCT. '17.

SOURCE: DEPT. OF COMMERCE

Total Construction | 498.78 2019 MAY | **500.27** 2018 MAY | **+6.1%** % CHG. MONTH | **-0.3%** % CHG. YEAR

CONSTRUCTION VALUE YEAR-TO-DATE, \$ BIL.	2019 MAY	2018 MAY	% CHG. MONTH	% CHG. YEAR	CONSTRUCTION VALUE YEAR-TO-DATE, \$ BIL.	2019 MAY	2018 MAY	% CHG. MONTH	% CHG. YEAR
TOTAL PRIVATE	380.03	393.94	+4.3	-3.5	TOTAL PUBLIC	118.75	106.33	+11.5	+11.7
RESIDENTIAL BUILDINGS	183.78	180.13	+5.5	-8.2	RESIDENTIAL BUILDINGS	2.43	2.59	+3.5	-6.4
LODGING	13.36	12.36	+2.0	+8.1	OFFICE	4.18	3.67	+2.6	+14.2
OFFICE	27.04	24.93	+2.0	+8.5	COMMERCIAL	1.76	1.33	+7.8	+32.4
COMMERCIAL	31.48	34.85	-0.4	-9.7	HEALTH CARE	3.55	3.67	+1.9	-3.2
HEALTH CARE	13.81	13.27	+5.1	+4.1	EDUCATIONAL	28.87	26.75	+8.6	+7.9
EDUCATIONAL	8.02	8.34	+2.4	-3.8	PUBLIC SAFETY	3.81	3.49	+4.5	+9.1
RELIGIOUS	1.14	1.21	-5.0	-6.0	AMUSEMENT AND RECREATION	5.05	4.23	+7.1	+19.4
AMUSEMENT AND RECREATION	5.86	5.73	+2.7	+2.3	TRANSPORTATION	13.84	12.59	+8.8	+6.8
TRANSPORTATION	7.11	6.23	18.7	+14.2	POWER	2.34	2.35	-0.2	-0.2
COMMUNICATION	9.19	38.21	3.2	-7.6	HIGHWAY AND STREET	33.60	28.47	+21.5	+18.0
POWER	38.60	29.98	2.0	+1.0	SEWAGE AND WATER DISPOSAL	9.39	8.20	+9.7	+14.6
MANUFACTURING	27.59	24.80	4.7	+11.3	WATER SUPPLY	5.96	5.04	+6.0	+18.2
					CONSERVATION AND DEVELOPMENT	3.34	2.92	+2.9	+14.3

SOURCE: DEPT. OF COMMERCE. NON-SEASONALLY ADJUSTED CONSTRUCTION PUT-IN-PLACE. DETAILS MAY NOT ADD UP TO TOTAL SINCE ALL TYPES OF CONSTRUCTION ARE NOT SHOWN SEPARATELY.

Petitioner's Exhibit 12

CONSTRUCTION ECONOMICS

March, 2021

ENR's 20-city average cost indexes, wages and material prices. Historical data and details for ENR's 20 cities can be found at ENR.com/economics

Construction Cost Index

+3.1%
MAR. 2021

ANNUAL INFLATION RATE

1913=100	INDEX VALUE	MONTH	YEAR
CONSTRUCTION COST	11749.75	+0.4%	+3.1%
COMMON LABOR	24157.25	0.0%	+1.0%
WAGE \$/HR.	46.42	0.0%	+1.0%

The Construction Cost Index's annual escalation is up 3.1%, while the monthly component rose 0.4%.

Building Cost Index

+5.3%
MAR. 2021

ANNUAL INFLATION RATE

1913=100	INDEX VALUE	MONTH	YEAR
BUILDING COST	6545.22	+0.8%	+5.3%
SKILLED LABOR	10800.69	0.0%	+1.6%
WAGE \$/HR.	59.70	0.0%	+1.6%

The Building Cost Index is up 5.3% on an annual basis, while the monthly component increased 0.8%.

Materials Cost Index

+2.1%
MAR. 2021

MONTHLY INFLATION RATE

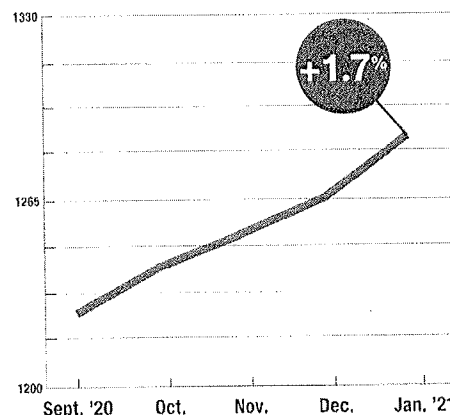
1913=100	INDEX VALUE	MONTH	YEAR
MATERIALS COST	3916.98	+2.1%	+11.1%
CEMENT S/TON	149.61	+0.8%	+3.7%
STEEL S/CWT	57.87	+1.9%	+4.0%
LUMBER S/MBF	780.64	+2.7%	+29.0%

The MCI rose 2.1% on a monthly basis, while the annual escalation rate increased 11.1%.

The dollar value of total construction put-in-place showed a seasonally adjusted monthly escalation rate of 1.7% in January, according to the U.S. Dept. of Commerce's seasonally adjusted data. On a yearly basis, total construction was 5.8% higher than in January 2020. Yearly private-sector construction rose 6.8%, while public work was up 2.9%. Non-residential construction in the private market declined 10.1% over the past year, while public non-residential work rose 2.4%.

TOTAL CONSTRUCTION

Seasonally adjusted rate in (\$ billions)



PERCENT CHANGE JAN. '21 VS. DEC. '20.

SOURCE: DEPT. OF COMMERCE

Total Construction | 106.31 2021 JAN | **101.12** 2020 JAN | **-6.2** % CHG. MONTH | **+5.1** % CHG. YEAR

CONSTRUCTION VALUE YEAR-TO-DATE, \$ BIL.	2021 JAN	2020 JAN	% CHG. MONTH	% CHG. YEAR
TOTAL PRIVATE	83.87	78.99	-4.8	+6.2
RESIDENTIAL BUILDINGS	49.86	40.86	-2.7	+22.0
LODGING	1.85	2.43	-5.3	-24.0
OFFICE	5.19	5.44	-5.5	-4.6
COMMERCIAL	5.48	6.01	-9.6	-8.9
HEALTH CARE	2.80	3.00	-6.5	-6.6
EDUCATIONAL	1.20	1.45	-1.6	-17.2
RELIGIOUS	0.23	0.26	-8.7	-12.5
AMUSEMENT AND RECREATION	0.84	1.12	-6.5	-24.4
TRANSPORTATION	1.17	1.19	-11.5	-1.5
COMMUNICATION	1.59	1.68	-24.9	-5.2
POWER	8.60	9.54	-5.3	-9.8
MANUFACTURING	4.96	5.89	-8.0	-15.9

CONSTRUCTION VALUE YEAR-TO-DATE, \$ BIL.	2021 JAN	2020 JAN	% CHG. MONTH	% CHG. YEAR
TOTAL PUBLIC	22.44	22.14	-11.0	+1.4
RESIDENTIAL BUILDINGS	0.64	0.53	-10.3	+21.1
OFFICE	0.79	0.82	-7.0	-4.6
COMMERCIAL	0.26	0.27	-18.8	-2.6
HEALTH CARE	0.72	0.67	-6.6	+6.7
EDUCATIONAL	5.99	5.95	-5.8	+0.6
PUBLIC SAFETY	1.18	0.96	-8.9	+21.9
AMUSEMENT AND RECREATION	0.95	0.99	-11.3	-4.3
TRANSPORTATION	2.77	2.80	-12.8	-1.0
POWER	0.47	0.50	-11.3	-7.0
HIGHWAY AND STREET	4.98	4.79	-17.8	+3.9
SEWAGE AND WATER DISPOSAL	1.82	1.77	-10.8	+2.6
WATER SUPPLY	1.25	1.24	-6.0	+0.7
CONSERVATION AND DEVELOPMENT	0.53	0.71	-9.8	-24.3

SOURCE: DEPT. OF COMMERCE. NON-SEASONALLY ADJUSTED CONSTRUCTION PUT-IN-PLACE. DETAILS MAY NOT ADD UP TO TOTAL SINCE ALL TYPES OF CONSTRUCTION ARE NOT SHOWN SEPARATELY.