



CONGRESS PASSES HISTORIC INFRASTRUCTURE BILL INCLUDING BILLIONS IN NEW FEDERAL WATER FUNDS

(Forwarded from NRWA to All State Rural Water Associations on 11-8-2021)

**December 2021
Newsletter**

Submitted By: Don Craig, IRWA Deputy Director

Rural Water’s small and rural community membership secured a massive legislative victory on Friday, November 5th...when the House passed the Infrastructure Investment and Jobs Act (H.R. 3684), by a 228-206 vote. The \$1.2 trillion infrastructure bill passed the Senate back in August. The President is expected to sign the bill, at the time of this press release.

The historic legislation includes \$55 billion for drinking water and wastewater infrastructure and the funding is mainly appropriated through the following state revolving fund provisions:

- The **Drinking Water State Revolving Fund** (DWSRF) is funded for a total of \$11.713 billion over five years: \$1.902 billion for Fiscal Year (FY) ‘22, \$2.202 billion for FY ‘23, \$2.403 billion for FY ‘24, and \$2.603 billion for FY ‘25-’26. FY ‘22 and FY ‘23 funds require a 10% state match while FY ‘24-’26 require a 20% match. 49% of the funds shall be used to provide additional subsidy to eligible recipients in the form of assistance agreements with 100% principal forgiveness or grants or a combination of the two. Up to 3% of FY ‘22 funding and 2% of FY ‘23-’26 funding is for salaries and administration.
- A **new dedicated lead service line replacement fund** within the DWSRF is funded for a total of \$15 billion through the DWSRF, \$3 billion for each of five fiscal years (FY ‘22-’26). Eligible activities include identification, planning, design, and replacement of lead service lines with 49% of the funds dedicated entirely for principal forgiveness or grants. Funds provided under this new program are not subject to the matching or cost-share requirements. Up to 3% of FY ‘22 funding and 2% of FY ‘23-’26 funding is directed to salaries and administration.
- A **new dedicated fund within the DWSRF for emerging contaminants focuses on PFAS** and is funded for a total of \$4 billion (\$800 million for each of

five fiscal years, FY ‘22-’26). There is no matching requirement for the states. 100% of the funds are dedicated to principal forgiveness or grants or a combination of the two. Up to 3% of FY ‘22 funding and 2% of FY ‘23-’26 funding is for salaries and administration.

- A **new dedicated fund for grants to Small and Disadvantaged Communities to target emerging contaminants** is funded for a total of \$5 billion (\$1 billion each for each fiscal year, FY ‘22-’26). EPA’s Small and Disadvantaged Communities’ program is defined in subsections (a) through (j) of section 1459A of the Safe Drinking Water Act. No state match is required, and up to 3% of FY ‘22-’26 funding is to be used for salaries and administration.
- The **Clean Water State Revolving Fund (CWSRF)** is provided with a total of \$11.7 billion over five years, \$1.902 billion for FY ‘22, \$2.202 billion for FY ‘23, \$2.403 billion for FY ‘24, and \$2.603 billion for FY ‘25-’26. FY ‘22 and FY ‘23 funds require a 10% state match while FY ‘24-’26 require a 20% match. 49% of the funds shall be used to provide additional subsidy to eligible recipients in the form of assistance agreements with 100% principal forgiveness or grants or a combination of the two. Up to 3% of FY ‘22 funding and 2% of FY ‘23-’26 funding is for salaries and administration.

A new dedicated fund for grants within the CWSRF to address emerging contaminants is included in the bill with \$100 million for FY ‘22 and \$225 million for FY ‘23-26. No state match is required. 100% of the funds are dedicated to principal forgiveness or grants or a combination of the two. Up to 3% of FY ‘22 funding and 2% of FY ‘23-26 funding is for salaries and administration.

IRWA’S MISSION STATEMENT

“Protecting and preserving the water and wastewater resources of Rural Illinois through education, representation and on-site technical assistance”

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Class C & D Math Review

By: Roger Noe, IRWA Circuit Rider

1. Convert 216,000 GPD to MGD.

2. Find the volume in gallons of a tank 18' wide by 40' by 8' deep.

3. How many gallons can be held in a tank 62'6" in diameter by 300" high?

4. Find the volume in gallons of a 10 inch in diameter water main 2400 feet long?

5. A full water tank has a water level 150 feet high. What is the pressure in psi at the base?

6. A 1.7 CFS flow rate is equal to how many GPM?

7. How may MGD can be delivered by a 12-inch diameter water main if the velocity of flow is 3.5 fps?

8. How many pounds of chlorine are required to disinfect a 6 inch water main 1000 feet long with a 50 mg/L chlorine dosage?

9. How many pounds of HTH (70% chlorine) are required to disinfect a 10 inch water main 3600 feet long with a 50 mb/L chlorine dosage?

10. A pump is operating, and the discharge pressure gauge read 8.7 psi. What is the discharge head in feet?

11. A pump is pumping water into a rectangular basin and the basin effluent valve is closed. The basin is 40 feet long by 20 feet wide, and the water level in the basin is rising one foot every 6 minutes. What is the capacity in gpm from the pump?

12. A water plant fed 15 gallons of bleach having 12% available chlorine while treating 175,000 gallons of water. What was the chlorine dosage in mg/L?

Answers

1. $216,000 = .216$

(Move the decimal over 6 places or divide by 1,000,000)

2. $18' \times 40' \times 8' = 5,760$

$5,760 \times 7.48 = 43,085 \text{ gal}$

($W \times L \times H \times 7.48 = \text{gallons}$)

3. $.785(62.5) (62.5) \times 25 = 76,660$

$76,660 \times 7.48 = 573,418 \text{ gal}$

($.785 \times D \times D \times H \times 7.48 = \text{gallons}$)

4. $.785(.833) (.833) \times 2400 = 1,307$

$1,307 \times 7.48 = 9,779 \text{ gal}$

($.785 \times D \times D \times L \times 7.48 = \text{gallons}$)

(10 inch diameter pipe converts to .833 ft)

5. 150 divided by 2.31 = **64.9 psi**

(1 psi = 2.31 ft)

6. $1.7 \times 7.48 \times 60 \text{ sec} = 763 \text{ gpm}$

7. $.785(1) (1) \times 3.5 = 2.75$

$2.75 \times 7.48 \times 60 \text{ sec} = 1234.2$

$1234.2 \times 1440 \text{ min} = 1,777,248$

1,777,248 convert to mgd = **1.78 MGD**

8. $.785(.5) (.5) \times 1000 = 196.25$

$196.25 \times 7.48 = 1,468 \text{ convert to MGD}$

$.001468 \times 8.34 \times 50 = .612$

($.785 \times D \times D \times L = \text{gal}$)

($\text{MGD} \times 8.34 \times \text{mg/L} = \text{dosage}$)

9. $.785(.833) (.833) \times 3600 = 1,961$

$1,961 \times 7.48 = 14,668 \text{ gal convert to MGD}$

$.014668 \times 8.34 \times 50 = 6.12$

6.12 divided by .70 = **8.74 lbs**

($.75 \times D \times D \times L = \text{gal}$)

($\text{MGD} \times 8.34 \times \text{mg/L} = \text{mg/L}$)

($\text{mg/L} \text{ divided } \% \text{ purity}$)

10. $8.7 \times 2.31 = 20.1 \text{ feet of water}$

11. $40 \times 20 \times 1 = 800$

$800 \times 7.48 = 5,984$

5,984 divided by 6 = **997 gpm**

12. $12\% = 120,000$

$15 \times 120,000 = 1,800,000$

1,800,000 divided by 175,000 = **10.3 mg/L**



Happy
Holidays!

FROM THE ILLINOIS RURAL WATER ASSOCIATION BOARD AND STAFF



There Are No Free Lunches

By: Dave McMillan, IRWA Training Specialist

Those of you that have known me for many years have laughed at my “redneck” witticisms and we have shared many chuckles when I have unconsciously spewed forth some tired old anecdote. Unfortunately, our industry (and our state/nation) is in a “place” that I find myself constantly issuing these Knox County adages. As I start to write this article several come to mind (see how many quips you can find, it won’t cost you anything).

I believe that our industry has unintentionally undervalued what we do. Ultimately, this leads the public to undervalue the potable water we make available 24/7. From the time I was knee high to a grasshopper, my grandfather instilled in me the importance of the wells on his farm. Some of the neighbors did not have a good source of water and it affected every aspect of their daily lives- from livestock production to washing the dishes. The fact was that, when he was an adolescent, he was already farming (with horses) two locations and the place he picked to put down roots was largely based upon the availability of water. The cost of this property was obviously valued higher than that around it; however, it afforded him a significant advantage in his dairy and livestock farming business. He did not undervalue his water supply and took great measures to protect it. We now call that implementing a “Source Water Protection Program.” During my career as a regulator, I saw a mixed bag of environmental programs with respect to source water protection. Some encouraged the water industry to support source water protection (including the new Source Water Protection Plan requirement of 2019) while others applied pressure to local political figures to establish business friendly areas that essentially wrote off groundwater. This mixed message has confused the general public and encouraged us in some areas to rob from Peter (those that may have future need for the groundwater written off) to pay Paul (the business entity that needs to remain financially viable or the new enterprise that wants to locate without mitigating past environmental sins). Again, this confusion tends to send most folks down the path of under valuing the water they drink and can supply to businesses/industries down the road.

As I grew older and became a scientist (stop laughing, I am one) I learned another object lesson, the most well intended actions can have detrimental outcomes. While going to college and in my formative years with the Illinois EPA, I dealt with a series of laws, regulations and executive orders. These mandates required environmental cleanups, better planning for high-risk environmental activities and improved water and wastewater treatment measures. Early on, these measures had extremely significant impacts on our environment, the water we drink and the water we recreate in. To illustrate this, all one needs do is look at the improvements to the Illinois River. Or, when was the last time our country had a cholera outbreak? However, as I have come of age like fine wine, the cost benefit analysis of new laws and regulations are a little more difficult to quantify. For example, we are now testing for chemical compounds in the part per trillion range and are considering setting drinking water standards for some of these chemicals at those levels. We

equated this as necessary to protect one person in a hundred thousand (or some other relationship). This said, as long as you are not that person, is the additional treatment cost worth the expenditure for enhanced water treatment?

Well, the government (state or federal) is going to give my community a grant to fix the problem, so it won’t cost us anything. Beware of strangers bearing gifts. Where do you think the money comes from (either the federal government is just printing it or our tax dollars are the source)? Once the new treatment is constructed, there are costs to continually operate this new and improved process (O & M, salaries, waste disposal, etc.). What will be done with the waste generated by treating the water to this new and improved level? How will this waste impact our environment? Ultimately, the well-intentioned reduction of a contaminant in our drinking water will cost us both in the near and long term. Further, it might take moneys that might be spent improving our aging water infrastructure, could cause us to move the contaminant into another area of the water cycle and ultimately leave the environmental concern for our children and their families to deal with.

Where does that leave us? The more we know about our water supplies the more we are going to want them to be ever safer and more aesthetically pleasing. Generally, I believe that this is a good thing. Where we run into trouble is that the public believes that they are entitled to this ever-increasing improvement to their water quality. They do not understand that the incremental cost of adding treatment also increases either their water rates or their tax burden (or maybe inflation rate). To that end, we need to improve our educational programs to make our citizens understand that there are no free lunches. We need to make our customers and political leaders understand that they must not undervalue and take their water supply for granted. Overarchingly, water rich Illinois has infrastructure that is reaching the end of its useful life as we strive to make ever safer and more appealing potable water. Consumers/customers need to understand that we should have been saving for a rainy day.

Unfortunately, not many communities have invested in their future and the thunderstorm is here. We are now behind the eight ball and need to get off our backsides and make people understand the value of water and the need to invest in our future. We need to make a conscious decision to pay our way to keep an adequate supply of safe and aesthetically pleasing water for future generations (not to mention ourselves today). It is my belief that this is not a birth right that we are entitled to, it is something that we must pay for and continually invest in. We need to begin educating everyone we encounter that, **the water industry is the most important industry in the United States and we need to invest.**

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40th Annual Technical Conference
February 15-17, 2022
Keller Convention Center - Effingham, IL
Exhibitor registration is open.
Attendee information will be available soon!
We are planning a full, back to normal conference for 2022. This includes all the classes, vendors and activities that you expect from an IRWA conference!

COUNT ON US!