

SUMMARY



Osborn Engineering – October 21, 2017

West Shoreway Reconstruction & W 28th/W 45th Street Safety Improvements



**OSBORN
ENGINEERING**

Osborn Engineering, Cleveland's oldest engineering firm, was founded on July 1, 1892 by Frank C. Osborn. Over 125 years have passed since Frank Osborn founded the company which still bears his name. Mr. Osborn believed that an engineering firm's reputation was built on the character of its employees and by providing the latest advancements in engineering to its clients. As such, Osborn developed new methods for concrete testing.

With over 125 years of service, Osborn Engineering has enjoyed the privilege of designing innovative engineering solutions for landmark projects across the country. At Osborn, you'll find multi-disciplinary teams with the ability to identify, formulate and solve engineering problems.

Their structural, mechanical, electrical, process, civil and transportation engineering professionals are inspired by the challenge of problem-solving in complex systems that require sophisticated, practical, innovative—even artful—engineering solutions. By applying our specialized knowledge in engineering, technology, and materials, we're able to design systems, components and processes that help our clients succeed.

One of Osborn's projects is the West Shoreway Reconstruction & W 28th/W 45th Street Safety Improvements involves:

West Shoreway Reconstruction

- Replacement of the existing West Shoreway mainline pavement from Lake Avenue/Clifton Boulevard to the Main Avenue Bridge (includes the ramps to/from West Boulevard).
- Installation of the West Shoreway eastbound exit ramp to West 73rd Street and Edgewater Park (previously closed with the West 73rd Street project due to design criteria).
- Replacement of the West Shoreway eastbound exit ramp to West 45th Street as well as the ramps on the north side of the West Shoreway.
- Reconstruction of the Main Avenue/West 25th Street corridor to better accommodate trucks.
- Installation of a new multipurpose trail along the West Shoreway from West Boulevard to West 28th Street.
- Wetland mitigation.
- The reduction in speed limit from 50 mph to 35 mph adds less than 75 seconds of additional drive time along this section of the West Shoreway.

West 28th Street & West 45th Street Safety Improvements

- Pedestrian crossing improvements near the West 28th Street entrance ramp to SR 2 west to improve safety for those walking and biking in the area.
- Reconstruction of the West 45th Street entrance ramp to the West Shoreway to better accommodate West 28th Street traffic.
- Improvement to turn at West 45th Street and Detroit intersection.

Last summer crews worked to pour concrete near West 45th Street. The \$41.5 million safety improvements and Shoreway reconstruction are underway. Major work is set to be complete in the fall of 2017. Minor operations – including landscaping – will continue thru summer 2018.



**Northeast Ohio
Regional Sewer District**

Program Sponsors:

Cleveland Water, 1201 Lakeside Avenue, Cleveland, Ohio 44114

Northeast Ohio Regional Sewer District, 3900 Euclid Avenue, Cleveland, Ohio 44115

HOMEWORK



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*****This homework is due at the next session, November 18, 2017*****

www.clevelandwater.com/ClevelandSTEP

Name _____ Grade _____ Date _____

You must write in COMPLETE SENTENCES.



1. Who is Osborn Engineering? What do they do?
2. Why is civil engineering important?
3. Name three other types of engineers: _____, _____, _____
4. Describe the project scope (description) for the West 28th Street & West 45th Street Safety Improvements project; name a few details about the project i.e. cost, what are they doing? Why?
5. As you have learned today, this project takes a lot of concrete to complete. Solve the problem below which is like what civil engineers would have used for this project. **The concrete truck pictured below holds 8 yards of concrete. If you need 12 yards for a roadway, how many trucks will you need to lay the roadway?**



6. Complete the sample conversion calculation below that a civil engineer may use for a project using the
Conversion factor: 1 yard =3 feet
7. **If you ordered 35 feet** of concrete for the project, will it take **1 or more of the 8 yard trucks** (pictured above) to deliver the load of concrete requested?



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The Journal is due at the end of TODAY

Name _____ **Grade** _____

Date _____

You must write in COMPLETE SENTENCES. Each response must be 5 sentences long. Use the back of this sheet if you need more room.

Please write about the following:

What is one thing you learned today that you did not know before today's session?

What careers discussed today did you find most interesting and why?

What did you learn today that is important to a STEM career?



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