Testimony of Mr. David Pyzoha, P.E.

Re: HB 121 (Consider water project piping if meets engineering specifications)

November 1, 2017

Dear Chairwoman Anielski & Members of the House State & Local Government Committee,

Thank you for the opportunity to come testify before you relative to HB 121. My name is David Pyzoha, and I have been a Registered Professional Engineer for nearly 45 years, since graduating from Cleveland State University with a Bachelor's Degree (Civil Engineering) in December 1972. I became a Registered Professional Engineer in Ohio in August of 1975. I have practiced continuously since that date as a PE. My over 4 decades of experience has allowed me to develop an expertise in the fields of transportation, water resources, and utility infrastructure system design and rehabilitation. My employers include 3 national and 2 regional sized firms all with offices in Ohio. My office locations have included: Cleveland, Columbus, Cincinnati, and Dayton. I also have nearly 10 years acting in the capacity of a public authority as the Engineer for the Village of Waynesville, Ohio.

As a member of ACEC Ohio, I don't want to repeat the concerns to HB 121 as outlined by ACEC Ohio President Beth Easterday. Rather, I wish to supplement her testimony by focusing on the role of a Professional Engineer in consulting, designing, and implementing a specific project. More specifically, my comments address wording in Sec. 153.75 (B) of the proposed bill that state: "engineering specifications for the project, as determined by the design engineer, who shall be a professional engineer registered under Chapter 4733 of the Revised Code." My comments are specific to the stated role that the "specifications are determined by the design engineer."

For purposes of this testimony I will use the term Design Engineer as the registered Professional Engineer that stamps the engineering design documents provided to the public authority (client of the Design Engineer) as the instrument of service to construct the project improvements.

The role of the Design Engineer starts with a contract/scope of services to provide specific infrastructure improvements to the Public Authority. The initial meeting between the Design Engineer and the representatives of the Client establishes the project goals and objectives, identification of current design specifications approved by the Public Authority, and specific physical and operational aspects or their infrastructure that caused the need for the project.

From this beginning point the Design Engineer and Public Authority's representatives typically meet at defined project completion stages (e.g.10%, 30%, 60%, 90%, and 100%). The purpose of staged reviews offers ongoing budget checks, measure of design schedule progress, and opportunities to modify design decisions related to material specifications, construction means and methods, social impacts, public safety and environmental impacts. The final authority in all cases is the Public Authority. The Design Engineer's role is to provide technical opinions related to critical design decisions, applicability of material specifications, and maximize the use of project funds to achieve the service life expectations of the infrastructure improvement.

The best use of public funds is more complex than simply comparing unit material costs. Costs associated with differing installation methods, compatibility to the existing system, operation and maintenance costs, along with social and environmental impacts over the design life of the improvements is a much truer measure of value. The Design Engineer's role is to help the Public Authority make the choices as to what is the best use of public funds.

Madame Chair and members of the committee, I have read testimony given by proponents of the bill that all they're trying to do with this bill is free me, as a Professional Engineer, to be able to consider all materials in designing a project for a public entity client. They have cited some municipalities who have pipe preferences for their systems, which in the proponent's opinion is hindering competition, and the ability of me as the Design Engineer, to recommend alternative materials. I respectfully don't agree with their presumptions, nor appreciate their desire to legislate engineering judgment, and only on state funded water and wastewater projects. I say this for the following reasons:

- Reason One: as has been already stated by Ms. Easterday, professional engineers by their academic training, state licensure, and Code of Ethics are required to provide the best and most sound engineering design to meet their clients needs and the circumstances and conditions surrounding a project. In short, we will not recommend a material that may fail or not meet the projects specifications. However, if an alternative, suitable material is an option, we will recommend this to the client for consideration but the final decision of which material is chosen rests with the client.

- Reason Two: most of the municipalities I have provided services, especially the potable water systems, specify a distinct pipe material preference to match how their system was initially designed decades ago. Water utilities are conservative to change for this reason. This is based upon performance reliability, it is what their employees are trained to be able to repair/replace during a main break, and what they are most comfortable maintaining. It is not easy, from an engineering standpoint, to recommend mixing and matching pipe materials throughout a pressurized water system and assure performance. Public water system failures can be dramatic and impact public confidence.

- Reason Three: even though Public Authorities that manage water and sewer systems may appear partial to only specific types of material, that does not mean they are not receptive to utilizing other materials and installation methods. This includes various types of plastic based products where they are confident it solves or eliminates a problem. Let me provide a couple of examples where I, as the design engineer, have worked with the Public Authority to achieve a better solution:

    a. **Cincinnati MSD Combined Sewer Separation**- reinforced concrete pipe was the standard specification for large diameter sewer pipe. The Design Engineer recommended MSD consider using HOBAS Pipe (Plastics based product) even though HOBAS Pipe was not an MSD approved specification product. Through consultation with MSD staff it was shown that for this project it was easier, safer to install than

concrete pipe in a high-traffic areas, offered affordable miter sections to minimize use of full depth manholes required for concrete pipe, and could be installed by open-cut or Jack & Bore w/o a carrier pipe due to the pipe strength. It also saved considerable public funds. MSD worked with the Design Engineer to discuss all aspects of the change. MSD accepted the change and it was successfully installed. HOBAS is now an approved pipe material by MSDGC.

b. **Columbus Division of Water** – typically installs ductile iron pipe to replace old cast iron water mains for new and rehabilitation/replacement projects. The Design Engineer saw opportunities to mitigate construction time, surface disruption, traffic congestion, and provide acceptable system performance if the Division would allow HDPE pipe material to be installed by directional drilling methods. This is now considered a standard specification option. For another water main replacement project, the Design Engineer recommended a plastic material based CIPP liner specification that was EPA approved but not widely used in the USA. The plastic liner would be installed inside the old cast iron pipe. Installation would reduce construction impacts on the surface, provide proven performance characteristics, and potentially reduce costs. The process also allowed service lines to be reinstated internally. This has been a successful alternative to main rehabilitation in Canada and Europe for over a decade.

Chairwoman Anielski, it is for these reasons that ACEC Ohio opposes HB 121. We ask that Professional Engineers be allowed to use their education, training, experience, and know how to continue to work with public authorities to design and repair water and wastewater systems in a manner that is efficient, cost effective, safe, and meets the needs of the local community it is being designed for. Again, we respectfully ask that you don't support this bill which seeks to legislative, via state statute, our engineering judgment.

Thank you for your time this morning. I will be happy to attempt to answer any questions you may have.