DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF PPMD

November 26, 2014

Mrs. Gina von Eiff
220 Jefferson Avenue
Mamaroneck, New York 10543

Dear Mrs. von Eiff:

The U.S. Corps of Engineers (USACE) received your letter dated October 6, 2014 regarding the new Jefferson Avenue Bridge near your residence in Mamaroneck, New York. The letter states your concerns about a few items, namely the bridge's impact on upstream flooding and, consequently, potential hindrances on future flood risk management projects. We would like to take this time to address your concerns.

We have reviewed the bridge as-builts and compared them to the original bridge. The superstructure you referred to was designed to supplement support from the center pier that was removed to help reduce flooding and allow for future widening and deepening of the channel as coordinated with USACE. The new bridge is about 0.5 feet higher over the river and the new roadway is about 1.0 foot higher. The net result is a 0.5 foot "thicker" bridge. The parapet appears to be more "open" to flow, the abutment, wing wall, and parapet intersection areas are larger, as noted in your letter.

However, USACE New York District has determined that these alterations to the Jefferson Avenue Bridge will not increase levels of flooding. Changes were documented in a working 1-D steady flow HEC-RAS hydraulic model of the Mamaroneck River. An analysis of the impacts of the new bridge on the existing conditions flood levels was performed. (See attached table.)

The bridge appears to have no effective impact on the water surface elevation upstream or downstream of the bridge. The computed results indicate that the new design decreases flood elevations upstream for the 1- to 25-year events by approximately 0.25 inches. The results also indicate that the new design increases flood elevations upstream for the 50-year event by a similarly small amount. This analysis did not involve obtaining a new survey of the bridge and does not address localized flow velocities around the wing walls and parapets. Yet, the results would not be expected to change if these parameters were addressed.

The reason we believe the new bridge truly does not impact flood elevations is because flooding in the area of the Jefferson Avenue Bridge is caused by the low capacity of the Railroad and Halstead Avenue Bridges and by the energy losses associated with the two 90 degree turns located just downstream of the Station Plaza Bridge.

If and when the proposed USACE Flood Risk Management Project is implemented, the flood risk caused by the aforementioned 90 degree turns will decrease by three or four feet.

I hope we have addressed your main concerns about the new bridge and have sufficiently proposed sound analyses and solutions. If you have any questions concerning this effort, do not hesitate to contact me at (917) 790-8579.

Sincerely,

Florence W. Mak, P.E., P.M.P.
Project Manager

Enclosure

RJA 11/25/14
CAS 11/26/14

PS 11/26 SANTANGELO / CENAN-EN-H

AT 11/25 TROTTO / CENAN-EN-~~HYC~~

MVR 11/26 ROVI / CENAN-EN

MFC 11/26 CONNOLLY / CENAN-EN

MFL TUMMINELLO / CENAN-PP-E

Mamaroneck River - Jefferson Bridge Station - Re-examination of Flood Risk			
Storm Event	**Jefferson Avenue Bridge**	**Water Surface Elevation (WSE)**	**WSE Difference**
		(ft)	(ft)
1 YR	New Design	18.13	-0.02
1 YR	Old Design	18.15	
2 YR	New Design	19.52	-0.02
2 YR	Old Design	19.54	
5 YR	New Design	20.66	-0.03
5 YR	Old Design	20.69	
10 YR	New Design	21.8	-0.02
10 YR	Old Design	21.82	
25 YR	New Design	23.53	-0.01
25 YR	Old Design	23.54	
50 YR	New Design	25.06	0.01
50 YR	Old Design	25.05	
100 YR	New Design	26.49	0
100 YR	Old Design	26.49	
200 YR	New Design	27.81	0
200 YR	Old Design	27.81	
250 YR	New Design	28.3	0
250 YR	Old Design	28.3	
500 YR	New Design	29.79	-0.01
500 YR	Old Design	29.8	