SEWER COMMISSION
PUBLIC HEARING
THURSDAY, October 25, 2007

PUBLIC HEARING - EAST-WEST INTERCEPTOR SEWER

The Public Hearing regarding the proposed East-West Interceptor Sewer was held by the Board of Sewer Commissioners on Thursday, October 25, 2007, at 70 West River Street in Conference Room B on the second floor.

Members Present: Chairman Paul Austin; Vice Chairman Donald Anderson; Commissioners Robert Carroll and Louis D'Amato

Also Present: Robert Brinton, City Engineer; Raymond Macaluso, Westcott and Mapes, Inc.; Jim Cooper, Acting Wastewater Superintendent

Chairman Austin opened the Public Hearing at 5:00 P.M.

Chairman Austin declared open the public hearing at 5:00 p.m. by the City of Milford Sewer Commission acting as the Water Pollution Control Authority on the project consisting of the construction of sanitary sewers, as described in an ordinance entitled "An Ordinance Appropriating $3,300,000 For The East/West Interceptor Replacement and Authorizing The Issuance of $3,300,000 Bonds Of The City To Meet Said Appropriation and Pending the Issuance Thereof The Making of Temporary Borrowings For Such Purpose", copies of which were available for distribution to members of the public.

Chairman Austin read the Notice of Public Hearing on the project (a copy of which is attached hereto), which was published in the New Haven Register on October 14, 2007:

LEGAL NOTICE
PUBLIC HEARING

The City of Milford hereby gives notice of a public hearing to be held on Thursday, October 25, 2007 at 5:00 P.M. in Conference Room B (2nd floor), in the Parsons Government Building, 70 West River Street, Milford, by the Sewer Commission with reference to consideration of replacing the East-West Interceptor Sewer on Pearl Hill, Clark, Hill and Washington Streets, Erna Avenue, Boston Post Road and West Avenue. Plans are available for review in the office of the City Engineer.
Board of Sewer Commissioners
City of Milford, CT 06460
October 12, 2007

At 5:05 p.m., Chairman Austin recessed for 10 minutes to allow for arrival of the public.

At 5:10 p.m. Chairman Austin called the meeting to order.

No one from the public attended the Public Hearing regarding the East/West Interceptor.

Raymond Macaluso, President, Westcott and Mapes, Inc. gave the following overview regarding the East/West Interceptor:

The East/West Interceptor is the major sanitary sewer interceptor pipe in the City of Milford. Currently, this pipe handles greater than 60% of the total land area of the City of Milford and, this percentage will increase to approximately 70% with the completion of future sewered areas in the north and west portion of Milford. On average, the East/West Interceptor carries a flow of 5.44 million gallons per day and has experienced recorded peak flows of greater than 18 million gallons per day. The East/West Interceptor transports more than 80% of the total wastewater flow that goes to the Housatonic Treatment Plant.

The East/West Interceptor is almost 5,000 feet in length. More specifically, the East/West Interceptor is comprised of approximately 114 lineal feet of 42" inside diameter and 4,712 lineal feet of 36" inside diameter, cement lined ductile iron, gravity sewer pipe, with sixteen (16) special manhole chambers. The system begins at Pearl Hill Street, the pipe continues downstream through Clark Street, Hill Street, Washington Street, Erna Avenue, Boston Post Road, and down West Avenue to the West Avenue Pump Station.

Although the East West interceptor was installed only approximately 25 years ago, and there have been concerns with its condition overtime, most recent observations have emphasized the severity of the condition of the system and the urgency with upon which corrective measures must be taken. Our initial observations of the exterior of the pipe were made, in the past year. A contractor exposed the top of the 36" pipe in West Avenue for purposes of a potential sewer connection. The pipe was found to have multiple cracks and shows a general fragile condition. Also, cursory manhole chamber interior observations, at that time, revealed problems as well. Based upon these discoveries it was determined that formal documentation of the problem, as well as, limits of the extent of the problem should be made. Therefore, bids were solicited by the City of Milford, for T.V. pipe inspections and manhole chamber inspections of the entire East/West Interceptor. Mac Vac Environmental was awarded the inspection contract.

All sixteen-manhole chambers were inspected. The manhole chamber inspections of the upstream four manholes showed a heavy gray, grease and grime build-up on the interior of the walls. In many cases the coating was observed within three to five feet of the cover, possibly indicating surcharged conditions. However, throughout all the inspections the flow was contained within the invert of the chambers and no surging was observed. Upon jetting and cleaning the walls, the concrete was exposed, to generally reveal extensive spalling, a badly deteriorated chipped concrete appearance, rough exposed aggregate, and some exposed steel and deteriorated benches or missing or lose bricks in the benches. All manholes within the East/West Interceptor, except those previously lined, show deterioration. Further deterioration could be the source of groundwater infiltration and possible structural failure. Most disturbing was observed, in some chambers, fractured, broken and missing pieces of pipe at the top or crown of the pipe where it protrudes into and out of the manhole chambers. This demonstrates the brittle and delicate nature of the pipe.

Due to the high velocity (fast current) of the wastewater in the system along with the metered toxic concentrations of hydrogen sulfide gas and the configuration of the access holes into the chambers resulted in difficulties for the contractor's pipe T.V.ing operations. Therefore, the entire East/West Interceptor was not televised rather only the upstream and down stream limits and portion in the middle of the system was televised. The results were a visual indication of deposits of the grease and grime buildup on the interior crown of the pipe, particularly in the upstream portion of the system, deteriorated, spalled or obsolete cement lining throughout most of the pipe observed, an invert obstruction in the mid-portion of the system, and cracks and breaches in the pipe in the lower portion of the system. The most downstream segment of the 36" diameter Interceptor on West Avenue showed the greatest amount of infiltration with three distinct holes in the pipe gushing with groundwater into the sanitary system.

Based upon the report of findings, we conclude that the entire East/West Interceptor, all non-lined Manhole Chambers and the entire existing pipe system in great disrepair. Under the current flow conditions, it is only a matter of time before a point in the system will experience failure. The hydrogen sulfide and the materials in contact are the problem. The hydrogen sulfide combines with air and moisture in the system to create sulfuric acid. Both concrete and iron do not standup well under these conditions. The sulfuric acids attacks and breaks-down the integrity of the concrete and reinforcing in the manhole chambers and the cement lining and then exposed ductile iron of the sewer pipe. Deteriorated pipes and/or manholes can reach a point of failure allowing extreme quantities of ground into the system. Failure of pipes and manholes could result in the potential for soil migration into the system in turn creating a void or sinkhole, or a portion of system collapse. Further concerns under this scenario are the contamination and lose of sewage into the environment and the effect of non-service the majority of the City of Milford.

Fortunately, polyvinyl chloride (PVC) and other polymers are not effected by the hydrogen sulfide, therefore the proper pipe and manhole materials should be used accordingly. Based upon the heavy deposits in the pipe, the spalled rugged interior, apparent brittleness, high velocity of flow, and infiltration, it is not prudent to attempt to line the existing pipe system. Therefore, we recommend replacing the entire system, with a PVC or other non-susceptible material thereby alleviating concerns of system deterioration or failure for the future along with a slight increase in pipe size to provide for an increase in capacity for future flows.

The entire interceptor will be replaced with a new 36" and 42" polyvinyl chloride (PVC) pipe. Most of the interceptor will be abandoned in place with the exception of three (3) locations on Pearl Hill Street and West Avenue, and will be removed and replaced, because of conflicts with utilities.

Contract Documents have been sent to DOT and DEP for review and approval. Bids will be received in the beginning of the new year and construction is anticipated to last for one year.

Vice Chairman Donald Anderson **MADE A MOTION** as follows:

The Sewer Commission, acting as the Water Pollution Control Authority of the City of Milford, having reviewed the proposal for the planning and design of the replacement of the East/West Interceptor, hereby approves the aforesaid proposal.

The Motion was seconded by Commissioner Robert Carroll and was unanimously carried.

Commissioner Robert Carroll **MADE A MOTION** to adjourn the Public Hearing at 5:20 p.m.. The motion was seconded by Vice Chairman Donald Anderson, and was unanimously carried.

Respectfully submitted,

Cynthia N. Valeo, Secretary
Sewer Commission