

SITE: AerovoxBREAK: 2.2OWNER: 461006**ROOF INSPECTION REPORT**

Prepared by:

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**FACILITY:**

Aerovox Building  
740 Belleville Avenue  
New Bedford, MA

At the request of the Massachusetts Department of Environmental Protection's Southeast Regional Office, a visual inspection was conducted of the existing conditions of the roofs on various levels of the Aerovox Factory Complex at 740 Belleville Avenue, New Bedford. The inspection was conducted in cooperation with the US Department of Environmental Protection, the City of New Bedford Environmental Department and Aerovox Corporation.

The architectural of the roofing areas on the sprawling Aerovox Building complex on Belleville Avenue can be categorized as two types: Flat Roof or Saw-toothed roof areas.

The a walk on inspection of the lower to the two upper flat roof areas on the main factory complex and a visual inspection of the adjoining lower saw-tooth and flat areas adjoining were conducted. No detailed seam inspection or close visual assessment of the conditions of membrane roof areas was possible due to lack of accessibility. The main upper roof level of the main factory complex was also inaccessible during the inspection, but was described by an Aerovox representative as being in relatively the same condition as the built-up tar and gravel roofing level, which was able to be closely examined.

The Saw-toothed roof areas were originally designed as rows of fixed skylights on the pitched side and operable widow on the vertical. The pitched skylight have since been sheathed over and covered with a thermal plastic membrane roofing membrane. The flat areas of the valleys between the rows of the saw-toothed skylights have been roofed with EPDM membrane roofing. The smaller lower flat roof areas adjoining the Saw-toothed complex were covered with an EPDM roofing membranes, as well.

**Existing Roof and Flashing Conditions:**

**Saw-tooth Roof Areas:** The rubber and thermal plastic roofing membrane systems are estimated to be between 10 to 15 years old. No major seam failure was visible on either the single-ply thermoplastic or rubber roofing systems from the vantage point on the upper flat roof area. The flashing and parapets appeared intact. A couple of vertical windows on the saw-tooth roof areas appeared to be popped open. Based upon locations and descriptions of where roof leaks were experience in under saw-tooth roof, the possible back-up of rain water in the valleys due to snow and ice blockage of the roof drains many have resulted water over flowing the vertical window sills. In addition, water puddling was observed appeared in locations below the open skylights

The main factory building had a two level flat roof design with a tar and gravel roofing system. The tar and gravel roofing system was estimated to be approximately fifteen to twenty years old. The parapet on top of the common wall between the main factor building and saw toothed building area was capped with baked



glazed ceramic clay capstones. An approximate 4 foot section of the capstones was broken exposing the top to the up protected masonry wall section to water infiltration. There were multiple penetrations of various roof areas for mechanical ductwork, and piping vents. Many areas of the metal ductwork appeared to be rusted and susceptible to water filtration.

The parameter the tar and gravel roofs area on the main building appear wind scowled down to the bare wood nailers. No sign of blister was apparent on these roof areas. In general the deterioration of the roofing systems appears to be consistent with their estimated age.

### Interior Roof Infiltration and Recommended Action

Water puddling and dripping appears to localized in several pockets rather than through out the building. The repair rather than replacement of the existing roof is recommended.

#### Recommendations:

1. Repair broken windows and insure that they can be closed tight.
2. Replace the broken section of capstone along the parapet wall.
3. Higher a roofing to closely inspect and patch holes in the thermal Plastic roof membrane
4. Spray Apply a liquid elastomeric coating on the flat roof around the parameter edges of flat roof section an area of an estimated width of 3 feet.

It is recommended that the Repair of the leaks in thermal plastic membrane on the sawed toothed roof area be performed on a T&M basis by roofing contractor.

Estimated 40 man-hours @ \$80/hr, based on the State Service Contract:	\$ 3,200
Plus materials	\$5,000

Replacement of broken cap stones	\$2,500
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Spray coat the flat roof area round the entire Perimeter \$3.00/SF or \$9.00 LF (3'wide) Based on a 150' x 600' roof area (actual dimensions to be field measured) 1500 LF X \$9/LF	<u>13,500</u>
<b>Net Cost</b>	<b>\$ 24,500</b>

Since the structure is not publicly owned, it is recommended that roof be made watertight outside the public Procurement (bid) process, as a roof repair rather than, roof replacements project. If the intent is to maintain this building water tight for 5 years a minimum amount of \$50,000 plus the cost of a design consultant should be adequate, barring major future roofing failures materializing. This figure does not address any rusted metal ductwork, penetrations and flashing, which I am unable to access. If the work is to be performed in the public sector under prevailing wage and public Bid laws and under the supervision of Design services. The total cost could exceed \$100,000 to just perform the repairs if performed publically.

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