

CASE STUDY

Air Balance Problems Resolved at Northern New Jersey Church



At the onset of summer, a Northern New Jersey church faced a significant problem: The left side of the building was uncomfortably hot, leading to numerous complaints from congregants, and the choir loft and infant care room were sweltering. After one HVAC company refused the job and another proposed installing a ductless mini-split system in the choir loft – a band-aid solution that would leave the underlying problems unaddressed – the facility manager turned to MSC. Our service team convened to discuss the complaints, developed a game plan, and dispatched a senior service technician to the church.

The Choir Loft

As our team had expected, our service technician discovered a failed fusible link in a fire damper, which was causing the closure of the damper shutter in the branch ductwork feeding the choir loft. Because there was no fire damper access door, our technician had to cut an opening in the sheet metal duct in the basement ceiling to gain access to the faulty link. With the fusible link replaced and the hole in the ductwork repaired, cool air circulation was restored to the choir loft.

Selective Air Balancing

To address the uneven temperature distribution, MSC prescribed and performed selective air balancing to remedy the issue. Our service technician made strategic adjustments to several volume control dampers to establish the even distribution of airflow throughout the church.

HVAC System Control Adjustments

Once the mechanical issues were resolved, MSC delved into the controls. Temperature control had long been a persistent problem, but identifying the source of the issues had eluded previous HVAC service companies for years. MSC was able to determine that minimum damper positions in the multi-zone system had been incorrectly programmed at installation, and appropriate adjustments were made.

Comprehensive Support

MSC developed a full-sized set of duct system drawings derived from digital plans supplied by the facility manager at the outset of the project. The drawings were provided to the church at no additional cost and will prove to be an invaluable asset for future maintenance and repairs.

Outcome

With careful preplanning by our service team and one day of field time, MSC brought immediate relief to church staff and parishioners and restored proper function to the system and controls, leaving behind a comfortable environment conducive to worship and community gatherings.