

## St Pius X Church Structural Arches

The church structural arches were inspected and varying amounts of rot were discovered in all four outside (south and north) wall arches and de-lamination was evident in three of the four outside arches.

Examination of the church structural arches led to test boring into timber to determine extent of rot. A detailed engineering computer analysis of the strength of the remaining wood in the timber arches determined reinforcement of the southeast arch was required to make the church is structurally sound under all Alberta building code conditions of snow and wind loading as well as with full people loads in the balcony. The reinforcement of the southeast arch has been completed.

However, there is still a need to stop the rot in all arches and to reinforce all of the existing timber arch-to-foundation connections. This remedial work requires warmer weather and will be completed in spring 2017.

The anticipated costs for 2016 will be about \$17,000 with an additional \$43,000 required for 2017 to complete the repairs.

The good news is that the arch deterioration was discovered early enough that restoration can be done without costing significantly more money and without having to close the church. Approval of the repairs by the Bishop emphasizes the full support of the Calgary Diocese for the continued long life of St Pius X church



*Figure 1 - Timber arch delamination*



*Figure 2 - Timber arch rot inside support shoe*