Glenfield was a mission of Constableville from 1914-1917 and of Martinsburg from 1919-1921. On November 20, 1917, the missions of Maple Ridge, Martinsburg and Glenfield were united into a new parish, St. Mary’s of the Immaculate Conception Church. In 1918, Mrs. Nellie Connors of Glenfield requested that regular church services be performed in Glenfield. Bishop Joseph H. Conroy sent Rev. A. J. Dumont to Glenfield to say Mass in Mike Fries' hotel until a church could be built.

St. Mary’s was incorporated on January 24, 1919 with Rev. A. J. Dumont named as pastor. Trustees were Frank Ossont and Michael Norton. On June 17, 1919, the property of Mr. and Mrs. George Smith was purchased for the parish house for $4,000. The property included a large lawn where the church was erected later that year. St. Mary’s Church was built under the supervision of Rev. Dumont and the formal dedication was held on July 7, 1920 with Bishop Conroy celebrating the Mass. Rev. Dumont took up residence in Glenfield in 1922.

As of 2020, there are 190 families listed for St. Mary’s Church, many of whom are summer parishioners from Brantingham and the surrounding area.

The following priests have served as pastors:

1918-21    Rev. A.J. Dumont
1921-37    Rev. George Brisson
1937-39    Rev. Robert J. Booth
1939-40    Rev. Cuthbert Dittmer
1940-41    Rev. JB Donavan Administrator
1941-44    Rev. Leon Laporte
1944-46    Rev. Francis Parisian
1946-47    Rev. Harold Skelly
1947-55    Rev. Francis Desrosiers
1955-64    Rev. Charles Flaherty
1964-73    Rev. Albert Salmon
1973-77    Rev. Edward Papp
1977-85    Rev. Charles Cotter
1985-96    Msgr. Bernard Christman
1996-2002  Rev. David E. Wisniewski
2002-09    Rev. Timothy Soucy
2009-09    Rev. Christopher Looby, Administrator
2009-17    Rev. Christopher C. Carrara
2017-      Rev. James W. Seymour