

# **Glass and Garden Community Church (The Garden Church)**

## **Historic Significance and Integrity Assessment Report**

8620 E. McDonald Drive, Zoning Cases 14-ZN-2012 and 5-HP-2012

Approved by City Council June 18, 2013, Ordinance No. 4090

### **Background on Places of Worship Study**

As part of an ongoing effort to record and preserve Scottsdale's post-World War II built environment, the City of Scottsdale Historic Preservation Office (HPO) conducted a survey of extant historic places of worship. The survey results and associated research were then incorporated into the 2010 historic context report. The study provides city staff and the council-appointed Historic Preservation Commission with an understanding of the story relating to the development of post-war religious institutions in Scottsdale, and provides a context for nominating individual properties to be listed on the Scottsdale Historic Register. The research findings are summarized below prior to describing the specific property proposed for designation.

The places of worship study focused on the religious structures constructed during the post-war period of 1945 to 1973 since the sole remaining intact pre-World War II religious structure in Scottsdale has already been documented and designated - the OLPH Mission Church on Brown Avenue. A post-war population and building boom in Arizona and Scottsdale continued into the 1950s, through the 1960s, and into the early 1970s but the severe recession of 1973 to 1975 greatly slowed housing construction and other economic activity. The field survey process involved an on-the-ground analysis of 28 extant Scottsdale houses of worship and campuses of buildings with construction dates from 1945-1973. Essential historical and architectural information relating to subject properties was recorded on survey forms and additional research documented the context of religious institution development during the subject period.

### **International Trends**

Until the dawn of World War I, churches and other places of worship in Europe and North America typically followed older traditional styles of architecture. A very dramatic departure from traditional forms is evident in a very personal version of Art Nouveau by Antonio Gaudi in the incomplete Sagrada Familia in Barcelona, Spain. Gaudi took over design of this church in 1884. The Modern Movement that started in Europe rocked the traditional architecture of churches and other types of buildings following the Arts and Crafts Movement and the Art Nouveau period. The tenets of the Modern movement to reject the past and ornament led to a major decline in the use of revival styles of architecture for places of worship by the end of World War II. Another early departure from the dominant traditional styles was the Unity Temple in Chicago by Frank Lloyd Wright in 1906. Wright used concrete to form a sanctuary in the shape of a cube and designed concrete ornamental columns for the exterior.

Attitudes of religious groups in the West were also changing to more modern, egalitarian, socially involved doctrines in the 20<sup>th</sup> century. Views on the role of the laity, congregation, or community of worshipers in the planning for religious buildings changed as some religious organizations became less hierarchical. Local Catholic laity took the reforms of the Second Vatican Council as a sign that modern architecture was now acceptable for church design and that traditional styles like Gothic Revival were no longer prescribed. While architects generally rejected ornament as contrary to the

rules of the International Style or other sub-styles of modern architecture, churches and other sacred buildings still included the symbols of the specific religious traditions embodied in the structure whether it be in the windows, altars, floor plans, or roof forms.

### **International Innovations in Concrete Construction**

Architects and engineers have been using concrete to cover large public spaces for a long time. The oldest standing large concrete dome is the Pantheon in Rome completed around AD 125. Other early well-known places of worship with large concrete domes include; 1) 537 Hagia Sophia in Istanbul, Turkey, 2) 1626 St. Peter's Basilica in Rome, and 3) 1708 St. Paul's Cathedral in London, by Sir Christopher Wren. Concrete and domes have been used in places of worship for a very long time as a roof form to inspire worshipers.

The leading European firms and practitioners of innovative concrete structures during the Modern architectural era were centered in Italy, Spain and Germany beginning as early as the 1920s. Pier Luigi Nervi and Pietro Belluschi from Italy gained acclaim by designing large ribbed concrete vaults to cover aircraft hangars and stadiums, such as their two 1960 Olympic Stadiums in Rome. Felix Candela from Spain left Spain for political reasons to practice in Mexico. Felix Candela was a master designer of thin shell concrete churches in the fifties including the Church of Santa Maria Miracolosa in 1954 and Lomas de Cuernavaca Chapel in 1959. His hyperbolic paraboloid roof forms and other sculptural curved shell designs in Mexico proved that thin shell concrete structures were stable and cost effective. German engineers at Dyckerhoff and Widmann designed the 1922 Zeiss Planetarium concrete dome in Jena, Germany and the 1931 market halls in Budapest, Hungary covered with large-scale thin shell concrete barrel vaults.

Perhaps the most influential church built in Europe with a Modern architectural style is the Notre Dame Du Haut Chapel in Ronchamp, France by Le Corbusier in 1955. The expressive sculptural forms for the walls, towers and roof of this chapel created a worship space from concrete like no other. Le Corbusier designed many other building in concrete, including curved forms, but his chapel in Ronchamp gained international acclaim and probably inspired other architects to use concrete in expressive ways. Another well-known sculptural concrete building from the last century is both revered and notorious – the Sydney Opera House, completed in 1973 in Sydney, Australia and designed by Jorn Utzon to resemble sails on the harbor. The severe cost overruns for this opera house made up of multiple thin shell concrete double curved forms required substantial increases in public funds to be completed. These financial problems to construct an innovative and expressive thin shell concrete design may have discouraged future publicly funded projects using similar construction methods.

To contain costs for concrete construction, some designers turned to factory made concrete wall and roof sections that could be quickly assembled on site. Construction methods using factory manufactured or precast parts has been called by different names including prefabrication (prefab) and system building with the intent being to save time and money on construction.

### **National Trends**

The American way of life transformed dramatically following World War II since the outbreak of World War II required the full attention of the citizenry and leadership of the nation. While the war effort fully remedied the economic doldrums that had been plaguing the population for over a decade

since the Great Depression, the material restrictions imposed during the war years constrained the purchasing ability of the American consumer. Thus, the end of hostilities unleashed a torrent of consumerism that would shape the remainder of the twentieth-century. The horrors of World War II and the fears of the Cold War fostered strong religious sentiment in the United States during the immediate post-war era. Americans turned to religion in record numbers, aware of the tremendous suffering brought about by years of worldwide combat and suspicious of the official atheism espoused by the leaders of Communist nations. Lured by employment opportunities, temperate climates, and quality-of-life concerns, many Americans began to leave the crowded industrial centers of the East for the open lands of the West. The region west of the Rockies experienced unprecedented growth following the war peopled by a rush of Americans taking part in a great Westward migration. Though claiming just 5% of the national population in 1900, the Western region of the United States boasted nearly 17% of the nation's residents by the year 1970. By necessity, the American religious community began an aggressive building campaign to house the new congregants. Faced with a swelling population moving to previously undeveloped areas religious sects raced to build new structures to accommodate the faithful.

The international architectural trends by the mid-century described previously had their U.S. parallels. After the Modern Movement gained a strong hold in 1945, later American churches reflect the international trend towards Modern architecture, including using new materials in innovative ways for religious buildings. Many American architects were just as willing to reject past historical styles and ornamentation as their European contemporaries. Architects also collaborated with structural engineers to build religious buildings for large numbers of worshipers.

### **Drive-in Churches**

An interesting sub-set in the design of places of worship in America was the advent of some drive-in churches as another indication of how auto-oriented Americans were becoming after World War II. Drive-in places of worship were also an innovative and creative way for religious leaders to attract attendees that may have been reluctant to step inside a sanctuary in a traditional setting.

A well-known religious leader in a drive-in church was Robert H. Schuller. He attended Western Theological Seminary of the Reformed Church in America in Holland, MI before opening Garden Grove Community Church in 1955 in California in a drive-in movie theater. As the congregation grew, Schuller purchased 10 acres for a walk-in, drive-in church. Acclaimed architect Richard Neutra designed the new church for 500 cars, completed in 1961. Time magazine included the nondenominational church in an article called 'Drive-in Devotion' on November 3, 1967. The Time article stated that more than 70 walk-in, drive-in churches were then operating in America. The drive-in format is still available in some communities for worship.

The Garden Grove congregation continued to grow and more land was purchased. A much larger "Crystal Cathedral" designed by another Modern architect, Philip Johnson opened in 1980. Schuller began broadcasting a weekly hour long *Hour of Power* television program in 1970 from the Crystal Cathedral, expanding his role from pastor to televangelist. The 1980 Crystal Cathedral property is now owned by the Catholic Church.

### **Thin Shelled Concrete Construction in America**

Early thin shelled concrete structures in America are often credited to one design engineer, Anton Tedesko who was sent to Chicago, IL in 1932 from his German firm of Dyckerhoff and Widmann. He was sent to market their innovative patented technology on thin shell concrete roof design, including stress calculations for doubly curved shells like domes. In Germany, Walter Bauersfeld designed a light-weight structural steel framework in 1922 to construct the Zeiss Planetarian dome in Munich. Barrel vaults and domes had been built in Germany for a couple of decades before Tedesko came to America so the technology and construction methods used by German firms had been successfully tested in Europe. Roberts and Schaefer, the engineering firm that Anton Tedesko joined became a leader in the design and construction of thin shell concrete roofs in America after the Great Depression.

One of the first major thin shelled concrete buildings to demonstrate and test this technology was the 1936 Hershey Sports Arena in Hershey, PA built with company labor. The Tedesko engineered hockey arena was 232 feet wide by 340 feet long consisting of a barrel vault shell with stiffening ribs. World War II resulted in opportunities for the Roberts and Schaefer firm to use thin shell concrete structures for military airplane hangars and warehouses. The materials for concrete shells were inexpensive with very little steel needed for reinforcing the shells during war time when metal was scarce. The structures could also span large distances and cover large areas without any interior columns. Tedesko designed two 340 foot wide airplane hangars in 1948, the largest concrete barrel shells at the time in the world. The German firm of Dyckerhoff and Widmann, and their engineer Franz Dischinger had been testing ribless barrel vaults in Europe in the thirties. In 1950 Roberts and Schaefer also decided to design and test ribless shells in Illinois using Tedesko's computations in consultation with Dischinger. Thin shell concrete roof system designs in America are now credited with two major innovations in concrete construction; the wide-spanning, short barrel shell, and the ribless shell.

Thin shell concrete construction continued in America after World War II with many landmark structures being built from the fifties to the seventies. A few of the most noteworthy buildings from the period include: 1) the 1953 Kresge Auditorium by Eero Saarinen at MIT in Cambridge, MA, 2) the 1959 May D&F hyperbolic paraboloid canopy in Denver, CO by I. M. Pei (demolished), 3) the 1959 Guggenheim Museum by Frank Lloyd Wright in New York, NY with a giant spiral form, 4) the domed 1961 Annunciation Greek Orthodox Church by Frank Lloyd Wright in Wauwatosa, WI, 5) the 1962 Trans World Airlines (TWA) Terminal at JFK International Airport in New York, NY by Eero Saarinen, 6) the 1970 St. John's Abbey in Collegeville, MN by Marcel Breuer, and 7) the 1971 Saint Mary's Cathedral in San Francisco, designed by Pier Luigi Nervi with a hyperbolic shell roof. Another award winning building utilizing opposing parabolic concrete arches is the 1952 J. S. Dorton Arena in Raleigh, NC by Matthew Nowicki. The hyperbolic paraboloid roof is suspended between the arches and is supported by steel cables in suspension.

Thin shell concrete structures were less common after the seventies. This probably resulted from several factors including changing public tastes in materials, problems with maintenance or weatherproofing for some concrete buildings, structures becoming obsolete, increasing costs for labor or for building complex forms, declining expertise of engineers in designing complex structures, conflicts between engineers, contractors, and building code officials over structural integrity, and the end of the initial Modern architectural era. Another factor that may have turned the public and

clients against concrete buildings was the Modern architectural style called 'Brutalism'. This style is characterized by using raw concrete with an unfinished exterior surface in structures lacking any decorative elements. Examples of Brutalism include; 1) the 1963 Yale Art and Architecture Building in New Haven, CN by Paul Rudolph, 2) the 1966 Whitney Museum in New York by Marcel Breuer, 3) 1968 Boston City Hall by Kallmann McKinnell & Knowles, and 4) the 1971 Orange County Government Center in Goshen, NY by Paul Rudolph. There have been some active public debates in recent years over whether to keep or demolish some of these concrete Brutalist style buildings.

Historic preservationists and structural engineers are now taking an interest in preserving some of the most noteworthy thin shell concrete structures from this era after some buildings have been demolished. The 1975 Seattle Kingdome was demolished and the TWA terminal in New York by Eero Saarinen has been threatened.

### **Arizona and Scottsdale Trends**

The war and post-war periods brought about tremendous economic and demographic changes to the state. The wartime boom, followed by the post-war population shift that brought vast numbers of Americans to the Sunbelt, would forever alter the state. Nonetheless, religious institutions played an important role in the social fabric of post-war Arizona. Drawing influence from local materials, Modernist principles, historical regional styles, or a combination of the three, many houses of worship within the state stand as architectural landmarks representing the Modern architecture movement. The 1957 Chapel of the Holy Cross rising from a rock outcropping in Sedona and designed by Anshen and Allen is one such structure. However, a Frank Lloyd Wright designed church in Phoenix constructed after Wright's 1959 death embodies the spirit of many post-war Scottsdale church designs surveyed for this report. The First Christian Church on 7<sup>th</sup> Avenue was completed in 1973 with 'desert masonry' concrete and stone walls like those used at Taliesin West.

Scottsdale began as a small community originally founded by Baptist minister Winfield Scott in 1888. The strong religious beliefs held by community members during the early years of settlement were demonstrated through informal home based church services and the prohibition of alcohol in the community in May of 1897. However, the climate and natural surroundings were soon to act as magnets that would draw in outsiders and shift the focus of the community. The dry air, pleasant winter climate, and stunning vistas soon lured tourists, part-time residents and tuberculosis patients alike, as documented in the 2004 "Historic Context for Scottsdale's Development as an Arts Colony and Tourist Destination" report by Debbie Abele and Liz Wilson. Recognized as a haven for affluent tourists by the end of the pre-World War II period, Scottsdale differed greatly from the small town settlement known by Winfield Scott. By the early 1950s, Scottsdale boasted an intriguing mix of residents and visitors. Scottsdale was noted for its appealing lifestyle, climate, and surroundings. Town leaders decided incorporation was necessary to direct inevitable future growth that would expand the population. The Maricopa County Board of Supervisors approved Scottsdale's bid for incorporated status on June 25, 1951.

The newly incorporated town boasted six churches, all of which had been constructed prior to the war. While new congregations had formed during the years following the war, none had yet mustered the resources to build a new house of worship. Scottsdale churches built during the 1950s continued to employ rather traditional sanctuary designs. The design of the 1956 Our Lady of Perpetual Help campus incorporated Spanish-themed building materials while the 1956 Scottsdale Methodist

Church, 1958 Scottsdale Presbyterian Church and the First Baptist Church of Scottsdale were built with desert masonry elements. These structures were discernible as architectural descendants of traditional design for houses of worship. Beyond service contributions to the community, religious structures brought aesthetic appeal to the growing town. Scottsdale congregations set about erecting a string of architecturally notable facilities during the 1960s and early 1970s. The 1966 Los Arcos Methodist Church, a 12-sided thin shell concrete paraboloid creation located east of the former Los Arcos Mall site, served as a stunning example of the new style of architecture embraced by Scottsdale congregations of the era. Unfortunately the Los Arcos Methodist Church closed and was demolished in 2012 for a housing redevelopment project.

After having lost numerous annexations battles with Phoenix to the west, Scottsdale leaders were left with no choice but expand to the north through a series of annexations. Thus, the chronological pattern of church development tends to trend northward as housing continued to expand into land far north of the original town site. The recession of 1973-1975 severely curtailed new housing activity in Scottsdale. Accordingly, no new houses of worship were constructed on new locations in Scottsdale between the 1973 and 1978 with one exception - the 1975 Church of Jesus Christ of Latter Day Saints on 82<sup>nd</sup> Street near Saguaro High School.

### **Description**

The Glass and Garden Community Church property at 8620 E. McDonald Drive was initiated for HP overlay zoning consideration by the City's Historic Preservation Commission (HPC) on December 13, 2012. The 1966 sanctuary building continues to be used for church services and is now called The Garden Church. The church was originally a walk-in, drive-in church with speakers on posts in the parking lot. The proposed HP overlay includes 198,202+/- square feet, 4.55+/- acres.

### **History**

Our research has identified this church as a 1966 drive-in church designed by E. Logan Campbell, architect with a round cylindrical form and a concrete domed roof. It was the only known drive-in church in Scottsdale, and possibly in Arizona. The walls have attached concrete columns with integral green stone aggregate and with an inverted elliptical shape formed by each pair of columns. The top of the walls at the edge of the dome roof have a band of decorative concrete trim with a precast sculptural form. The east side of the church has a large wall of glass that faces the outdoor parking area used for the drive-in church. Posts formerly holding speakers in the parking lot have been removed; worshipers can now tune to a radio station to hear the service from their vehicles.

A booklet on the church written by Dr. Floyd W. Goulooze, the founding pastor describes the design of the church and why it was planned as a drive-in church. Dr. Goulooze attended the same theological seminary, Western Theological Seminary in Holland, MI as Robert H. Schuller. Dr. Schuller was the pastor of the 1955 drive-in Garden Grove Community Church in California and later became a televangelist broadcasting his *Hour of Power* television program from Crystal Cathedral. The Glass and Garden Community Church was affiliated with the Reformed Church in America and was established by The National Board of Church Extensions. The booklet stresses the ecumenical aims of the church: "We desire to serve and are already serving people from all religious backgrounds as well as those who have no religious background" (page 2). The church building was dedicated on May 22, 1966 and the separate Family and Youth Center on the north side of the sanctuary was dedicated on October 10, 1972.

According to Goulooze, the church was “designed with the aim that a Church building should reflect what the Church believes and thus present a sermon thru its architecture” (page 3). He describes the circular form for the building as appropriate since the circle is a symbol of eternity and also a Chinese symbol representing the family. The pastor and church laity worked as a team with the architect, E. Logan Campbell to design a modern building to show that they were up to date. The design “expresses creativity with a purpose” but it does not copy “building forms of the historical past from civilizations long since dead” (page 4). The congregation was clearly ready to embrace Modern architecture. The precast concrete columns around the cylindrical form sweep upwards from the base. The entrance portal is covered by a projecting concrete barrel vault of a half-circle. The lava rock wall around the building “shows the strength of God who can melt a mountain if He chooses” (page 4).

The concrete spherical roof in a shallow dome is a thin shell roof poured in one day. The large-span 136’ diameter dome is 6” thick with steel reinforcing bars every 12”. The structural engineer for this building, John K. Parsons was responsible for other thin shell concrete church buildings in Scottsdale including Los Arcos Methodist Church (demolished) and Saint Maria Goretti Catholic Church, nearby on Granite Reef Road. Parsons was also the engineer for the Skydome at NAU in Flagstaff that has a large wooden dome roof. There is a blue stained glass skylight at the dome’s center point. A tower at the top of the dome roof is an open lattice sculpture of metal topped by a cross. The large circular main sanctuary building has over 10,000 square feet of space and can seat over 1000 people. The entrance is covered by a concrete arch canopy with a decorative scalloped edge. The floor-to-ceiling glass wall on the east side of the building enables worshipers parked outside the building in the parking area in their cars the opportunity to watch the service. The precast concrete form from the edge of the roof is repeated on a railing located on the east side of the building. This same railing continues into the interior of the sanctuary through the glass wall so the pastor could move from the inside to the outside of the sanctuary to address worshippers in their cars. The 1972 education building north of the sanctuary contains 6,000 square feet.

The booklet answers the question: “What is a Drive-in Church? It is exactly what the name implies, a Church that you attend in your car by simply driving in” (page 11). Worshipers were also welcome to walk into the sanctuary. The reasons listed why some may prefer a Drive-In Church included those who were invalid or aged, who were unable to be in crowds, who liked to be outdoors in nature, who were recovering from illness, who wanted to be with their baby, who desire to be alone, or who just want to be different (page 11).

### **Significance**

The church is proposed for recognition and considered eligible for listing under Section 6.113.A.3. in Scottsdale’s ordinance (National Register Criterion C) as representing the work of a master, possessing high artistic value or utilizing special types of construction. This drive-in church is the only one of this type in Scottsdale and probably in Arizona. The use of a large-span shallow thin shell concrete dome is unique for Scottsdale. This method of construction is related to national and international precedents in architecture and engineering from this period. The architectural design has been recognized by the July 2012 Phoenix Magazine, Modern Phoenix web site and others for the high artistic value of E. Logan Campbell’s design. The engineer, John K. Parsons is even better

known for the structures he engineered than the architect, including the structural engineering for numerous other thin shell concrete buildings.

### **Summary Statement of Significance**

The Glass and Garden Community Church (The Garden Church) has maintained the integrity of its design and construction by E. Logan Campbell, architect and John K. Parsons, engineer. The design demonstrates the collaboration between the pastor, laity and the architect in designing an appropriately symbolic religious form and building to reflect the beliefs of the congregation. The walk-in, drive-in church concept was a unique and rather novel idea for worship in the sixties in Arizona. The design of the circular sanctuary with a shallow dome roof shows a creative and innovative use of reinforced concrete to enclose and span a large public space. Other details of the exterior like the inverted elliptical columns, the decorative concrete trim around the top of the cylinder and the covered entrance contribute to the overall design as well as having artistic merit.

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